March 14, 2008

Ms. Amy Liu
Habitat Management Biologist
Fisheries and Oceans Canada
P.O. Box 358
Iqaluit, Nunavut X0A 0H0

Re: Mary River Project - Development Proposal and Application for an Authorization

Ms. Liu:

Baffinland Iron Mines Corporation (Baffinland) is pleased to submit this application supporting mine development at Mary River. Baffinland will be seeking authorization(s) from the federal Department of Fisheries and Oceans (DFO) to be issued upon completion of the regulatory approval process under the *Canadian Environmental Assessment Act (CEAA)* and the *Nunavut Land Claim Agreement (NLCA).*

This letter and the attached DFO application are accompanied by Baffinland's Development Proposal (March 2008), outlining the Company's plans for mine development. As described in the Development Proposal, the mine will consist of the following:

- An 18 million tonne per year iron ore mine developing Deposit No. 1 as an open pit
- Construction of mine support facilities at Mary River
- Construction of a 143-km long rail line from Mary River to Steensby Inlet
- Establishment of quarries and borrow areas along the rail line, as well as construction access roads, to facilitate rail construction
- Establishment of temporary camps during the construction phase
- Construction of a port consisting of rail off-loading facilities, ore stockpiles, ship loading facilities and docks, rail servicing facilities, accommodations, and an airstrip, all of which is located on Crown Land
- Use of the existing Milne Inlet tote road as a winter road, a portion of which traverses Crown Land

Works for which a DFO issued authorization(s) may be required, include but are not necessarily limited to:

- Water intake structures and sewage outfall structures for construction camps at four locations along the proposed rail line
- Water intake structures and sewage outfall structures at the mine site and port site to support operations
- Construction docks at Milne Inlet and Steensby Inlet
- Dock structures at Steensby Inlet to support ore, freight, and tug operations
- Numerous watercourse crossings, including access to the island at Steensby Inlet, as well as encroachment into lakes/ponds resulting from the railway, access roads, and site infrastructure development and operations

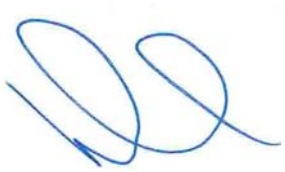
An application form and a general assessment of existing fish habitat (North/South Consultants Inc., March 5, 2008) are attached, as well as figures showing locations of all assessed fish habitat sites.

Supporting technical materials, including data sheets, conceptual dock designs, and preliminary typical drawings, are provided in Appendix E of the Development Proposal.

Baffinland looks forward to continued dialogue with the DFO with respect to these Development Plans and in further defining potential impacts to fish habitat and consequently the establishment of a conceptual No Net Loss Plan consistent with the requirements of DFO Policy objectives.

Should you have any questions, concerns or specific advice as it relates to these proposed activities, please contact the undersigned at 416-814-3171 or Derek.chubb@baffinland.com.

Best Regards,
Baffinland Iron Mines Corporation



Derek Chubb
VP, Sustainable Development

Attachments:

- Application for Authorization for Works or Undertakings Affecting Fish Habitat
- North/South Consultants Package regarding the Assessment of Existing Fish Habitat Characteristics

SCHEDULE VI/ANNEXE V1
(Subsection 58(1)/paragraphe 58(1)

Fisheries and Oceans
Pêche et Océans

Habitat File No./N° de fichier

APPLICATION FOR AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT
DEMANDE D'AUTORISATION POUR DES OUVRAGES OU ENTREPRISES MODIFIANT L'HABITAT DU POISSON

I, the undersigned, hereby request authorization to carry out the works or undertakings described on this application form. I understand that the approval of this application, if granted, is from the Minister of Fisheries and Oceans standpoint only and does not release me from my obligation to obtain permission from other concerned regulatory agencies.

Je soussigné, demande par les présentes l'autorisation d'exploiter les ouvrages ou entreprises décrits dans la formule. Je comprends que l'approbation de cette demande, le cas échéant, porte sur ce qui relève du ministre des Pêches et des Océans et ne me dispense pas d'obtenir la permission d'autres organismes réglementaires concernés.

If an authorization is granted as a result of this application, I hereby agree to carry out all activities relating to the project within the designated time frames and conditions specified in the authorization.

Si la demande est approuvée, je consens par les présentes à exécuter tous les travaux relatifs à ce projet selon les modalités et dans le laps de temps prescrits dans l'autorisation.

Applicant's Name (Please Print) Baffinland Iron Mines Corporation — Nom du requérant (lettres moulées)

Applicant's Business Address Suite 1016, 120 Adelaide Street West — Adresse d'affaires du requérant

Toronto, Ontario

M5H 1T1

Applicant's Telephone No./N° de téléphone du requérant (416) 364-8820 Date March 14, 2008

I solemnly declare that the information provided and facts set out in this application are true, complete and correct, and I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath. This declaration applies to all material submitted as part of this application.

Je déclare solennellement que les renseignements fournis et les faits énoncés dans cette demande sont véridiques, complets et exacts, et je fais cette déclaration solennelle, la croyant consciencieusement vraie et sachant qu'elle a la même force et le même effet que si elle était faite sous serment. Cette déclaration s'applique à tout document qui est présenté dans le cadre de cette demande.

Applicant's Signature (and corporate seal)

Signature du requérant (et sceau de la société)

Name of watercourse or waterbody (give coordinates)
Cours d'eau ou plan d'eau (donner les coordonnées) Various unnamed waterbodies; refer to attached letter and figures

This watercoure is a tributary of (where applicable)
Cours d'eau tributaire de (le cas échéant) Various, including Cockburn, Angajurjualuk and Mary Lakes and Steensby Inlet

Nearest Community Localité la plus proche	County Comté	Province Province
Pond Inlet		Nunavut

SCHEDULE VI---*Continued*/ANNEXE VI *(suite)*
(Subsection 58(1)/paragraphe 58(1)

Fisheries and Oceans
Pêche et Océans

Habitat File No./N° de fichier

APPLICATION FOR AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT
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Type of Activity/Genre d'activité

[✓] Bridge / Pont	[ ] Stream Realignment / Alignement de cours d'eau	[ ] Gravel Removal / Enlèvement du gravier	[✓] Stream Traverse / Traversée de cours d'eau
[✓] Culvert / Ponceau	[✓] Channelization / Canalisation	[ ] Obstruction Removal - Bypass / Enlèvement ou contournement d'obstacle	[ ] Seismic Survey / Levé sismique
[ ] Dam / Barrage	[ ] Wharf - Break water / Quai - Brise-lames	[ ] Stream Utilization - Recreation / Utilisation récéative du cours d'eau	[ ] Agriculture
[✓] Stream Diversion / Dérivation de cours d'eau	[ ] Dewatering / Assèchement	[✓] Erosion Control / Lutte contre l'érosion	[✓] Other (Specify) / Autres (préciser)
[✓] Mining / Activité minière	[ ] Aquaculture	[ ] Flood Protection / Protection contre les inondations	Water intakes and outfalls; brine discharge; docks - refer to letter and figures

List of Agencies (Federal, Provincial or Municipal) contacted or notified, or who have initiated contact with the applicant.
Liste des orgnaismes (fédéraux, provinciaux ou municipaux) contactés ou qui ont pris contact avec le requérant.

Nunavut Planning Commission, Nunavut Impact Review Board, Nunavut Water Board, Transport Canada

Indian and Northern Affairs Canada, Environment Canada, Government of Nunavut

PROVIDE DETAILS OF PROPOSED ACTIVITY INCLUDING REASONS FOR THE PROJECT AND TYPES OF EQUIPMENT TO BE USED
DONNER DES PRÉCISIONS SUR LES TRAVAUX PROJETÉS, Y COMPRIS LA JUSTIFICATION DU PROJET ET LE TYPE D'ÉQUIPEMENT À UTILISER

Mary River Project - Iron Ore Mine

Numerous water crossings (bridge or culvert) for railway as well as temporary and permanent access roads

Water intake and outfall structures

Docks (3) in the marine environment

Refer to attached letter and figures and Development Proposal

SCHEDULE VI---*Continued* /ANNEXE V1 *(suite)*
(Subsection 58(1)/paragraphe 58(1)

Fisheries and Oceans
Pêche et Océans

Habitat File No./N° de fichier

APPLICATION FOR AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT
DEMANDE D'AUTORISATION POUR DES OUVRAGES OU ENTREPRISES MODIFIANT L'HABITAT DU POISSON

SCHEDULE/CALENDRIER

	D/J	M/M	Y/A
Proposed Starting Date Date prévue du début des travaux	01	07	10
Proposed Completion Date Date prévue de l'achèvement des travaux	31	12	38

Approximate Timing of Work in shoreline, foreshore, tidal zone, or underwater areas.
Période approximative des travaux sur le rivage et les estrans ainsi que dans les zones à marées et les zones sous-marines.

	D/J	M/M	Y/A		D/J	M/M	Y/A
From/De	01	07	10	To/À	31	12	14

The following documents will assist in assessing your application and help expedite its approval. Please check which documents you have attached.		**Les documents suivants faciliteront l'évaluation de votre demande et permettront d'accélérer son approbation. Veuillez cochez les documents vous avez joints á votre demande.**
Map indicating location of project	[✓]	Carte indiquant l'emplacement du projet
Engineering Specifications	[ ]	Spécifications techniques
Scale Drawings	[✓]	Dessins à l'échelle
Dimensional Drawings	[ ]	Plans cotés
Assessment of Existing Fish Habitat Characteristics	[✓]	Évaluation des caractéristiques existantes de l'habitat du poisson
Assessment of Potential Effects of Project on Fish Habitat	[ ]	Évaluation des répercussions possibles sur l'habitat du poisson
Measures Proposed to Offset Potential Damage to Fish Habitat	[ ]	Mesures proposées pour compenser les éventuels dommages à l'habitat du poission
Other	[ ]	Autres

ENVIRONMENTAL ASSESSMENT AND REVIEW PROCESS CONSIDERATIONS

NOTE: All applications pursuant to section 35 of the Fisheries Act will be assessed in accordance with applicable federal environmental assessment requirements.

CONSIDÉRATIONS CONCERNANT LE PROCESSUS D'ÉVALUATION ET D'EXAMEN EN MATIÉRE D'ENVIRONNEMENT

REMARQUE: Toute demande en vertu l'article 35 de la Loi sur les pêches sera soumise aux exigences fédérales applicables à l'évaluation environnementale.

SCHEDULE VI---*Concluded*/ANNEXE V1 *(fin)*
(Subsection 58(1)/paragraphe 58(1)

Fisheries and Oceans
Pêche et Océans

Habitat File No./N° de fichier

APPLICATION FOR AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT
DEMANDE D'AUTORISATION POUR DES OUVRAGES OU ENTREPRISES MODIFIANT L'HABITAT DU POISSON

COMPLETE ONLY IF USE OF EXPLOSIVES IS INTENDED
À REMPLIR SEULEMENT EN CAS D'UTILISATION D'EXPLOSIFS

EXPLOSIVES CONTRACTOR (IF DIFFERENT FROM APPLICANT)/RESPONSABLE DES EXPLOSIFS (SI AUTRE QUE LE REQUÉRANT)

Name/Nom: To be determined

Address/Adresse:

Telephone No./N° de téléphone:

	D/J	M/M	Y/A		D/J	M/M	Y/A
Anticipated Starting Date Date prévue du début des travaux	01	07	2010	Completion Date Date d'achèvement	31	12	2014

DETAILS OF EXPLOSIVES/PRÉCISIONS SUR LES EXPLOSIFS

Type (including trade name)
Genre (y compris la marque) To be determined

Weight and configuration (where applicable)
Poids et forme (le cas échéant) To be determined

To be determined

Weight of individual shots and shot pattern where multiple charges are used
Poids des coups individuels et déploiement des coups, en cas de charges multiples

To be determined

Detonation depth (In the rock; note also the depth of water, if applicable)
Profondeur de détonation (dans le roc; indiquer aussi la profondeur de l'eau, s'il ya lieu)

<20 m

Method of detonation
Méthode de détonation To be determined

North/South Consultants Inc.
Aquatic Environment Specialists

05 March, 2008

Ms. Maret Tae
Knight Piésold Consulting
1650 Main Street West
North Bay, ON
Canada,
P1B 8G5

Dear Ms. Tae:

Re: Baffinland Iron Mines Corporation Mary River Project – Assessment of Existing Fish Habitat Characteristics

The attached document provides a synopsis of fish habitat assessments undertaken to date in areas of northern Baffin Island where development of Baffinland Iron Mine Corporation's (Baffinland) proposed Mary River Project would occur. Methods used to assess fish habitat are provided, as well as a brief description of observed habitat characteristics. This document is intended as a supplement to Baffinland's *APPLICATION FOR AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT* submission to Fisheries and Oceans Canada.

Please feel free to contact me at the number below if you require further information regarding this document.

Yours truly,

Warren Bernhardt

83 Scurfield Blvd., Winnipeg, Manitoba, Canada R3Y 1G4
Telephone: (204) 284-3366 Fax: (204) 477-4173 E-mail: nscons@nscons.ca

ASSESSMENT OF EXISTING FISH HABITAT CHARACTERISTICS

Introduction

As described in the Mary River Project Development Plan, development of the Mary River mine would include the construction of infrastructure to support ore extraction at the deposit site, a rail line to haul ore to a marine port, and construction of a marine port and ore loading facility. Additional roads and aggregate sources would be required to develop the mine and essential infrastructure. In combination, development activities would interact with many freshwater lakes and streams across north-central Baffin Island, as well as with marine coastal habitat in the vicinity of the port site. The following sections provide brief descriptions of fish habitat found in Project development areas.

Freshwater Fish Habitat

Methods

Fish habitat in freshwater lakes was quantified by collecting geo-referenced bathymetric and substrate data from each lake using a single beam sonar system. From the data, detailed maps of bathymetry and substrate composition were produced.

Fish habitat assessments were conducted along stream reaches, at potential water course crossings, and along lake shores where proposed project developments could occur. Rail route watercourse crossing assessments were based on the alignment as defined in August of 2007, and subsequently, the route has been re-aligned and a small number of additional watercourse crossing assessments will be required in 2008.

The general approach to assess habitat in streams was to first assess whether the water body would support fish (i.e., was fish habitat) and, if determined to be fish habitat, rank its relative importance to fish. The ranking of fish habitat was based upon the presence or absence of fish, habitat characteristics at the site (primarily water depth), fish accessibility to the site and areas downstream (i.e., how close could a fish approach the crossing site), and the area of aquatic habitat upstream of the crossing. This last point served as an indicator of production (and resultant food for fish) relative to the rest of the watercourse. In some instances, it was not possible to judge whether habitat at the site was fish habitat. Although additional information is required from those sites to determine their importance to fish, they were considered to be fish habitat as a conservative approach.

At sites where fish habitat was present, the quality of available habitat was categorized as marginal or important, based upon fish accessibility, distance to overwintering areas, and habitat characteristics at the site. In general, habitat was considered to be marginal if it was accessible to fish, but had one or more characteristics that were unsuitable for extensive fish use (e.g. low water levels, little or no cover, and large distances from overwintering habitat). Important fish habitat was determined to be easily accessible to

overwintering habitat, had abundant suitable substrate (cobble and/or boulder, deep pools) and stream morphology (riffle/pool), and was used extensively by fish for rearing, and/or spawning. At sites where effort was made to capture fish, the number of fish observed or captured was used to assist in categorizing habitat quality. Only Arctic char (*Salvelinus alpinus*) and ninespine stickleback (*Pungitius pungitius*) have been documented in freshwater lakes and streams in the vicinity of the Mary River project. Consequently, habitat requirements specific to those species were considered when ranking habitat quality at watercourse crossings and lake encroachment sites. The potential for habitat to support spawning by Arctic char or ninespine stickleback was assessed for each site.

There are many streams where fish accessibility is restricted to spring during the freshet. Although not used throughout the open water period, these sites may provide important temporary feeding areas for young char and for stickleback. Accordingly, numerous watercourse crossings were identified as seasonally marginal or seasonally important.

Results (Observations)

For the purposes here, freshwater fish habitat is described for three general areas, characterizing habitat in lakes and streams in the vicinity of the Mary River Site, lakes and streams along the proposed rail route from the mine site to the proposed marine port at Steensby Inlet, and lakes and streams in the vicinity of the port site.

Mary River Site

Aquatic habitat at the Mary River mine site includes headwater lakes, and ephemeral rivers, streams, and small drainages. There are three major lakes (Camp, Sheardown and Mary lakes) located in the immediate vicinity of the Mary River mine site that may be affected by development at Mary River. All three support resident populations of Arctic char and ninespine stickleback. Both Camp and Sheardown lakes drain into Mary Lake, and ultimately into the Ravn River watershed to the south. Numerous small and mid-sized tributaries which provide important habitat for juvenile fish during open-water periods drain into the lakes (Figure 2). Seasonal use of the tributaries by fish is generally determined by water flow. Figure 2 illustrates the currently known distribution and quality of fish habitat in the immediate vicinity of the Mary River mine site.

Camp Lake is approximately 2.1 km^2 in area, has a shoreline length of 6.2 km, and an average depth of 14.0 m. Bottom substrate in nearshore and offshore areas is composed primarily of sand and gravel. Shoreline habitat contains a greater proportion of cobble and boulders. Fisheries and habitat assessments have been conducted on two of four major tributaries entering Camp Lake. Both provide important summer habitat for juvenile Arctic char and contain riffle/pool habitat with cobble substrate near their mouths. Habitat in the streams turns into cascade/pool habitat and cobble/boulder substrate farther upstream, beyond which steep stream gradients exclude fish.

Sheardown Lake is composed of two basins: a larger basin located to the northwest that has a surface area of approximately 0.7 km^2, a shoreline length of 4.6 km, and an average depth of 12.0 m; and, a smaller basin to the southeast that has a surface area of 0.24 km^2, a shoreline length of 2.8 km, and an average depth of 7.4 m. Bottom substrate is composed mainly of sand and gravel with some areas of boulder; very little soft substrate habitat occurs in offshore areas. Shoreline habitat is composed largely of cobble and boulder, providing excellent cover and feeding habitat for juvenile Arctic char. Four major tributaries enter Sheardown Lake, at least one of which provides important summering habitat for juvenile char. Habitat ranges from primarily cobble and boulder substrate interspersed with small areas of silt to streams whose substrate is primarily sand and gravel.

Mary Lake is considerably larger than either Camp or Sheardown lakes. It has a surface area of 12 km^2 and a shoreline length of about 55.0 km. Limited bathymetric and substrate data have been collected at Mary Lake. The lake supports resident populations of Arctic char and ninespine stickleback. Mary Lake has numerous tributaries, the largest of which are the Mary and Tom rivers. Both rivers originate on an elevated plateau to the north of the mine site. Where the rivers flow off the plateau, impassable waterfalls prevent upstream fish passage. Important fish habitat occurs between Mary Lake and the waterfalls along both of those rivers during periods of open water.

Proposed Railway Alignment

The proposed route for the railway to Steensby Inlet runs south east from the Mary River ore deposits and passes around the eastern end of Angajurjualuk Lake and its tributary streams, before heading south to the Cockburn River. It then follows the Cockburn River downstream to Cockburn Lake and along the western shore of Cockburn Lake until arriving at a natural constriction in the lake. At the constriction, the route crosses Cockburn Lake and follows the eastern shore to the downstream end of the lake and then southwards to the proposed port site at Steensby Inlet (Figure 3).

Fish habitat assessments were conducted at water course crossings and locations where the rail line may run adjacent to lakes during 2007. A total of 263 stream crossings were visited and assessed for fish habitat (Figure 4), including sites along the rail alignment (n = 228), along a construction access road (n = 31), as well as those associated with borrow pit sites (n = 4) (Table 1). Twenty lake sites were also visited. In total, 99 sites were judged to be fish habitat (Table 1). Of those 99 sites, suitable spawning habitat for Arctic char occurred at 6 sites and suitable spawning habitat for ninespine stickleback occurred at 52 sites (Table 2).

In general, stream habitat at watercourse crossings along the Steensby rail corridor could be categorized into one of two types:

- Streams with a low gradient and soft substrate (often flooded terrestrial vegetation) that had an ephemeral or intermittent flow regime; or,

- Streams with a steeper gradient and gravel/cobble/boulder substrate that had a perrenial flow regime.

The ephemeral/intermittent streams generally contained little or no fish habitat, while the larger streams generally contained habitat utilized by fish. Terrestrial relief along the shores of Cockburn Lake is abrupt and consists primarily of boulder and bedrock cliffs. Consequently, most tributaries entering into Cockburn Lake are characterized by steep gradients that would preclude fish access.

Bathymetric and substrate data were collected from Cockburn Lake to quantify nearshore fish habitat where the proposed rail line will follow the shoreline. Cockburn Lake consists of two discrete basins connected by a short reach of river (a few hundred meters long) that is shallow and fast flowing. It is not known whether this reach of river freezes solid during winter. The north basin of Cockburn Lake is considerably smaller than the south basin, covering an area of about 4 km^2 and a maximum depth of about 100 m. The larger south basin covers about 37 km^2 and has a maximum depth of about 200 m. Bathymetry in the lake is characterized by rapid increases in depth from shore, reflecting the surrounding topography. Water depths greater than 25 m frequently occur less than 100 m from shore. Boulder and cobble substrates with clay or pebble matrices are the dominant substrate in Cockburn Lake. Nearshore substrate composed of boulder and cobble would provide cover and feeding habitat for juvenile char and possibly ninespine stickleback.

Steensby Inlet Port Site

Considerable infrastructure will be developed at Steensby Inlet to support the port facility. This will include the southern-most terminus of the rail line, accommodation for staff, an airstrip, a fuel tank farm, and maintenance facilities. Habitat and fish presence within waterbodies and watercourses located within the construction and operational footprint at the port site will be assessed in 2008. Aquatic investigations at the Steensby Inlet Port Site to date have ranked aquatic habitat and determined fish presence in a small number of watercourses near the airstrip access road.

Marine Habitat

The proposed marine port site is located within Steensby Inlet, on the south side of Baffin Island. Port development plans include construction of an ore loading facility, located on the offshore end of a small island, and a cargo/construction dock located on the mainland about two kilometers to the north.

Methods

Marine habitat in the vicinity of the proposed port at Steensby Inlet was mapped using a combination of technologies. Single and multi-beam sonar systems were used to collect bathymetric and substrate information, geo-referenced underwater digital video imagery was used to document mega-epibenthic organisms and validate sonar interpretations of

substrate, and digital geo-referenced video and standard photo imagery were collected from a helicopter to characterize coastal habitats (intertidal and shallow sub-tidal) and biota. Sonar and underwater imagery collections were restricted to the immediate vicinity of the Steensby port site, where most habitat interactions will occur. Airborne video imagery was collected from all of Steensby Inlet.

Results (Observations)

Marine habitat at the Steensby Inlet port site is affected by physical factors including tidal processes, meteorological processes such as wind that affect water mixing, marine currents, freshwater inputs from rivers draining into the marine environment, and ice processes. Numerous studies will be conducted during 2008 to gather information regarding these processes and provide a regional setting for the marine environment at Steensby Inlet.

Marine habitat characterizations were focused at the immediate proposed port site during 2007. Bathymetric data indicate steep offshore gradients to more than 60 m in the vicinity of the proposed ore loading dock. Off the proposed construction/freight dock site, gradients are not as steep, but depths reach more than 40 m within about 350-400 m from the shoreline. Between the islands and the mainland, water depths do not exceed 10 m and the topography is complex; similarly the area south of the proposed ore loading dock (off the southern end of the island) is a complex of shoals and small islets with water depths less than 10 m.

Interpretation of sonar data revealed that the seafloor is generally covered by scattered cobbles and boulders on a sandy gravel matrix. In nearshore areas, ice-related features are common. These include: (1) elongate, shore sub-parallel to sinuous and occasionally criss-crossing linear ridges and depressions; and, (2) nearly circular shallow depressions (5-15 m in diameter) floored by finer sediments usually devoid of cobbles and boulders. Ice wallows can be highly concentrated, yielding a patchwork of circular zones of fine sediments, in some cases overlapping, with intervening cobble/boulder zones.

In nearshore areas, concentrations of very large (4-5 m) boulders are frequently observed. While the sizes of cobbles and boulders decreases substantially in deeper water (> 20 m), the seafloor continues to consist of sandy sediments with scattered cobbles, interpreted as ice-dropped material and not winnowed glacial till.

Underwater video imagery revealed large areas of rockweed (*Fucus* sp.) algae in shallow areas (<2m) and that co-occurred with a filamentous brown algae that may be diatoms or a filamentous brown algae covered in diatoms. Small patches of barnacles were noted but were not common and several schools of small fish were observed; no other mega epifauna was observed in these shallower areas.

In deeper waters (from ~2m to ~ 15m), lush stands of large-bladed kelps dominate the survey area. Anemones were the dominant megafauna in this depth range and, although diversity of megafauna was low, sparse sea stars, sea urchins, crabs and snails were

observed. Sea urchins (likely *Strongylocentrotus droebachiensis*) are common in areas of higher exposure, along with scattered sea stars, sea cucumbers and sea lilies.

The algal community is not as lush in areas of ~15m to ~30m water depth, though a significant algal cover remains. Sea lilies and anemones, including significant numbers of tube-dwelling anemones (possibly *Pachycerianthus* sp.), are common at these depths with scattered branching corals, encrusting sponges and brittle stars in the higher exposure areas.

At the very deepest portions of the survey area (>30m), foliose red algae are dominant with filamentous red algae and trace amounts of *Agarum* sp. The highest algal cover was present in the more exposed areas of the survey. Coralline red algae was observed in low abundances in this area. Tube-dwelling anemones were the most common megafauna, with scattered sea lilies, corals, sponges, brittle stars and sea stars.

Numerous marine fishes, including Arctic cod, sculpins, and eel blennies, make use of nearshore marine habitat in the vicinity of the port site. Anadromous Arctic char are abundant along the coasts of Steensby Inlet, spawning and overwintering in large river systems in the vicinity of the port site. During September, 2007, Arctic char comprised more than 95% of the fish catch in nets set along the coast in the vicinity of the port site.

Table 1. Summary of fish habitat presence and quality in waterbodies potentially affected by construction of the proposed railway alignment.

Site Type	Identified Sites [1]	Visited Sites	Fish Habitat			Total Fish Habitat Sites [2]	Habitat Rankings				
			No	Uncertain	Yes		Important	Seasonally Important	Marginal	Seasonally Marginal	M-I [3]
Rail Route Crossing	228	228	141	42	45	87	35	1	15	26	10
Construction Access Road Crossing	31	31	31	0	0	0	0	0	0	0	0
Lake Encroachments	28	20	10	3	7	10	6	0	3	1	0
Aggregate Sources Access Road Crossing	14	4	2	1	1	2	1	0	0	1	0

1 - identified by Canarail
2 - includes sites where habitat would definitely support fish, as well as sites where it was uncertain whether the habitat would support fish
3 - marginal to important: habitat quality could not judged

Table 2. Evaluation of spawning potential at fish habitat sites along the proposed railway alignment.

Habitat rankings are: N = no; U = uncertain; and, Y = yes. Emphasis is placed upon assessing the potential for habitat to support spawning by Arctic char (ARCH) or ninespine stickleback (NNST).

Feature	Site ID	Zone	UTM Coordinates		Fish Habitat	Spawning Potential	
			Easting	Northing		ARCH	NNST
Railway Alignment Crossing							
	3	17W	563824	7911323	U	N	U
	4	17W	563996	7911084	U	N	U
	5	17W	564103	7910941	U	N	U
	6A	17W	564734	7910509	Y	N	N
	9	17W	565977	7909665	Y	N	N
	11	17W	567005	7908964	Y	N	N
	16A	17W	Not Available		Y	N	N
	16B	17W	Not Available		U	N	N
	17	17W	568608	7907928	Y	N	N
	20	17W	569015	7907692	Y	N	N
	21	17W	569365	7907464	Y	N	N
	24	17W	570144	7906949	Y	N	N
	27	17W	570790	7906516	Y	N	N
	30	17W	573122	7904914	Y	N	Y
	32	17W	574223	7904423	U	N	N
	33	17W	574973	7904087	U	N	N
	37	17W	575881	7903652	U	N	N
	39	17W	577142	7903135	Y	N	Y
	41	17W	578075	7902638	Y	N	Y
	43	17W	578855	7902210	Y	N	Y
	46	17W	579831	7901915	Y	N	Y
	48	17W	581148	7901425	U	N	N
	52	17W	582851	7900979	U	N	N
	54	17W	583242	7900892	Y	N	N
	56	17W	583535	7900806	U	N	N
	57	17W	584019	7900636	Y	N	N
	58	17W	584838	7900369	U	N	N
	61	17W	585420	7900082	Y	N	U
	62	17W	585843	7899702	U	N	N
	63	17W	586109	7899455	U	N	N
	65	17W	587092	7898544	Y	N	Y
	67	17W	587493	7898167	Y	N	N
	70	17W	588668	7896737	U	N	N
	72	17W	590489	7894987	Y	N	Y
	73	17W	591440	7893960	U	N	N
	77	17W	592860	7892727	Y	N	Y
	90	17W	596561	7885802	Y	N	Y
	92	17W	596551	7884977	Y	N	Y

Table 2. (continued).

Feature	Site ID	Zone	UTM Coordinates		Fish Habitat	Spawning Potential	
			Easting	Northing		ARCH	NNST
Railway Alignment Crossing							
	98	17W	597451	7880777	U	N	Y
	102	17W	596638	7879339	Y	N	Y
	104	17W	597216	7878322	U	N	Y
	108	17W	599471	7874418	Y	N	Y
	109	17W	599262	7872425	U	N	U
	112	17W	598586	7869549	Y	N	Y
	114	17W	599238	7867821	U	N	U
	118	17W	601043	7865435	U	N	U
	120	17W	601901	7864318	U	N	N
	124	17W	603710	7859376	U	N	U
	125	17W	603983	7858906	U	N	N
	126A	17W	604250	7858671	Y	N	Y
	126B	17W	604315	7858630	Y	N	Y
	126C	17W	604408	7858576	Y	N	Y
	127	17W	605534	7856461	Y	N	U
	128	17W	605545	7856216	U	N	N
	130 + 131	17W	605537	7855864	U	N	N
	135	17W	605517	7854932	U	N	N
	144	17W	605717	7853363	Y	N	Y
	148	17W	606017	7853036	U	N	N
	148A	17W	606029	7853015	U	N	Y
	164	17W	607916	7840822	Y	U	Y
	165	17W	608545	7840211	Y	N	N
	166	17W	608709	7839705	Y	N	N
	174	17W	599902	7830688	U	N	N
	177	17W	598287	7825670	U	N	N
	178	17W	598325	7825610	U	N	N
	179	17W	598713	7824513	U	N	N
	180	17W	598720	7824251	U	N	N
	184	17W	598641	7822251	U	N	N
	185	17W	598584	7821841	U	N	N
	186	17W	598393	7821396	U	N	N
	190	17W	598465	7819900	Y	N	Y
	191A	17W	598516	7819717	Y	N	Y
	191B	17W	598534	7819622	Y	N	Y
	191C	17W	598546	7819533	Y	N	Y
	192A	17W	598556	7819405	U	N	N
	192B	17W	598556	7819348	Y	N	U
	193	17W	598554	7819244	Y	N	Y
	194	17W	598501	7818905	U	N	N
	195	17W	598370	7818460	U	N	N
	201	17W	598620	7816078	U	N	N

Table 2. (continued).

Feature	Site ID	Zone	UTM Coordinates		Fish Habitat	Spawning Potential	
			Easting	Northing		ARCH	NNST
Railway Alignment Crossing							
	202	17W	599383	7814505	Y	N	Y
	204	17W	600838	7812200	Y	N	Y
	210	17W	598552	7809073	U	N	N
	211	17W	598663	7807981	Y	N	N
	214	17W	597527	7805030	Y	N	Y
	216	17W	596936	7803830	Y	N	Y
	217	17W	594998	7802718	U	N	U
Lake Encroachments							
	L13	17W	597763	7883336	Y	N	Y
	L20	17W	598528	7817276	Y	Y	Y
	L21	17W	598616	7817042	Y	Y	Y
	L22	17W	598606	7816295	U	N	N
	L23	17W	598613	7816093	Y	N	Y
	L24	17W	600850	7812211	U	N	U
	L25	17W	601006	7811062	Y	Y	Y
	L26	17W	598908	7809541	Y	Y	Y
	L27	17W	596925	7803847	Y	U	Y
	L28	17W	595849	7803268	U	N	U
Aggregate Sources							
	B5	17W	590946	7897624	Y	N	Y
	B13	17W	599724	7865603	U	N	U

1 - UTM coordinates Zone 17 NAD 83

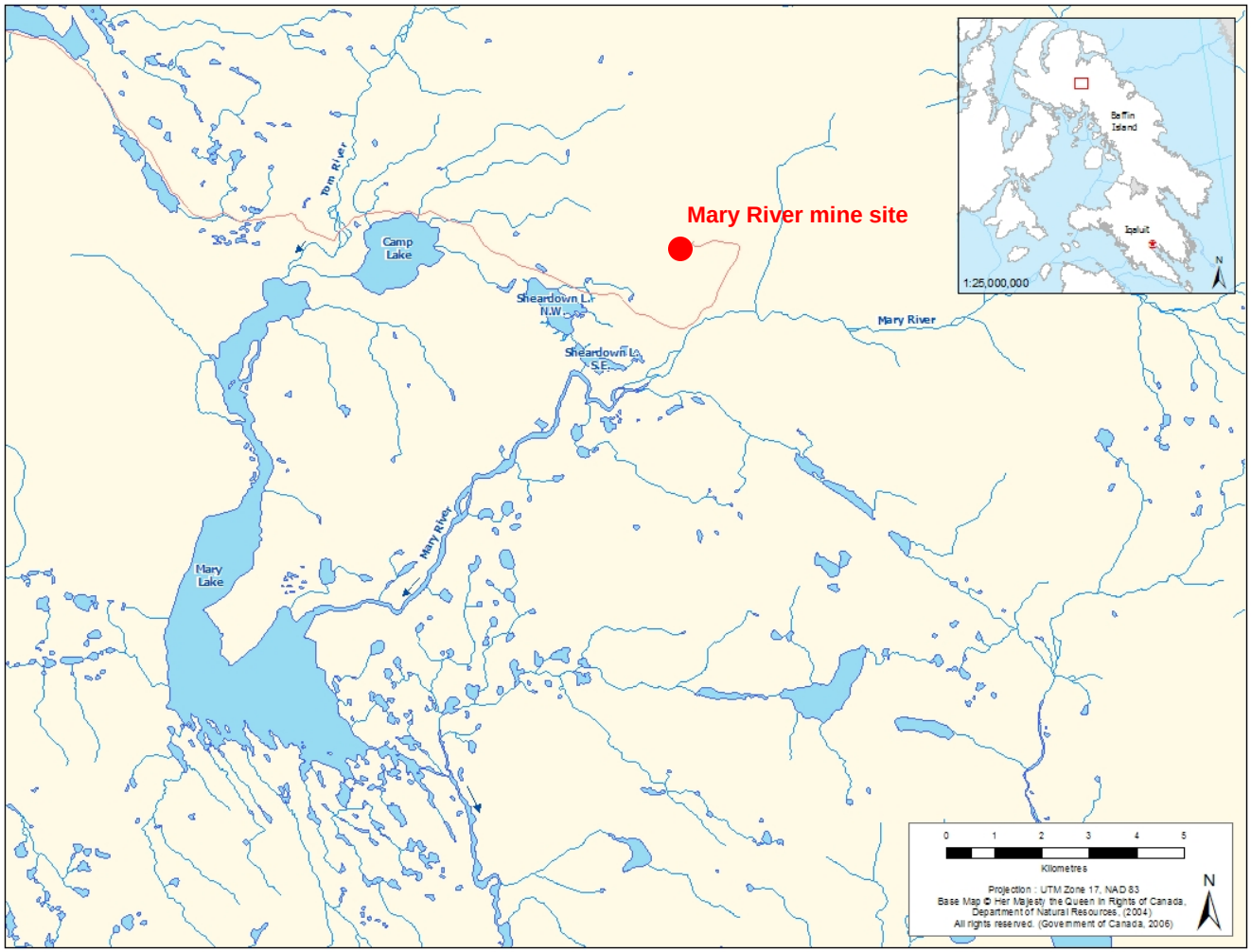


Figure 1. Major lakes and tributaries near the Mary River mine site.

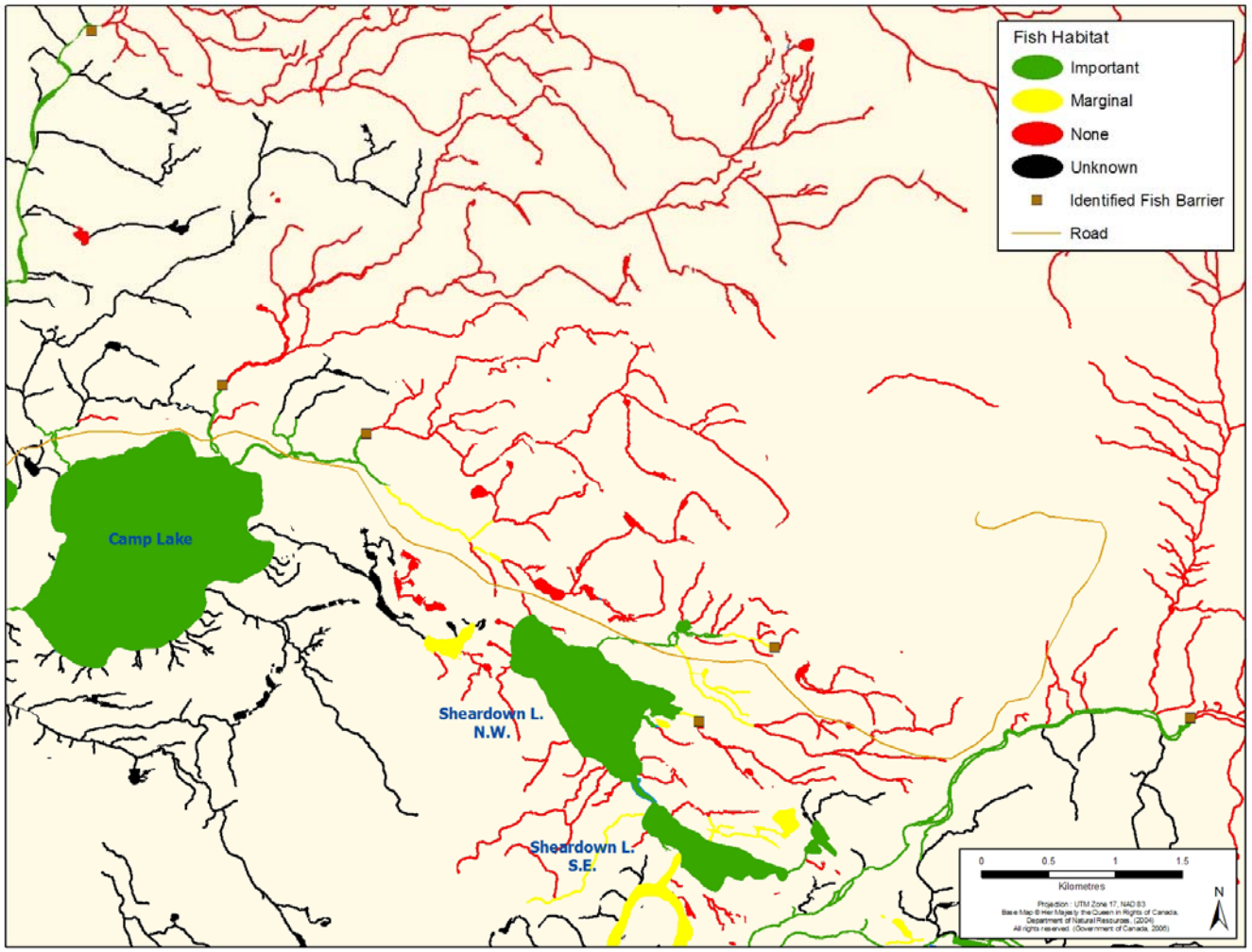


Figure 2. The distribution and quality of fish habitat near the Mary River mine site.

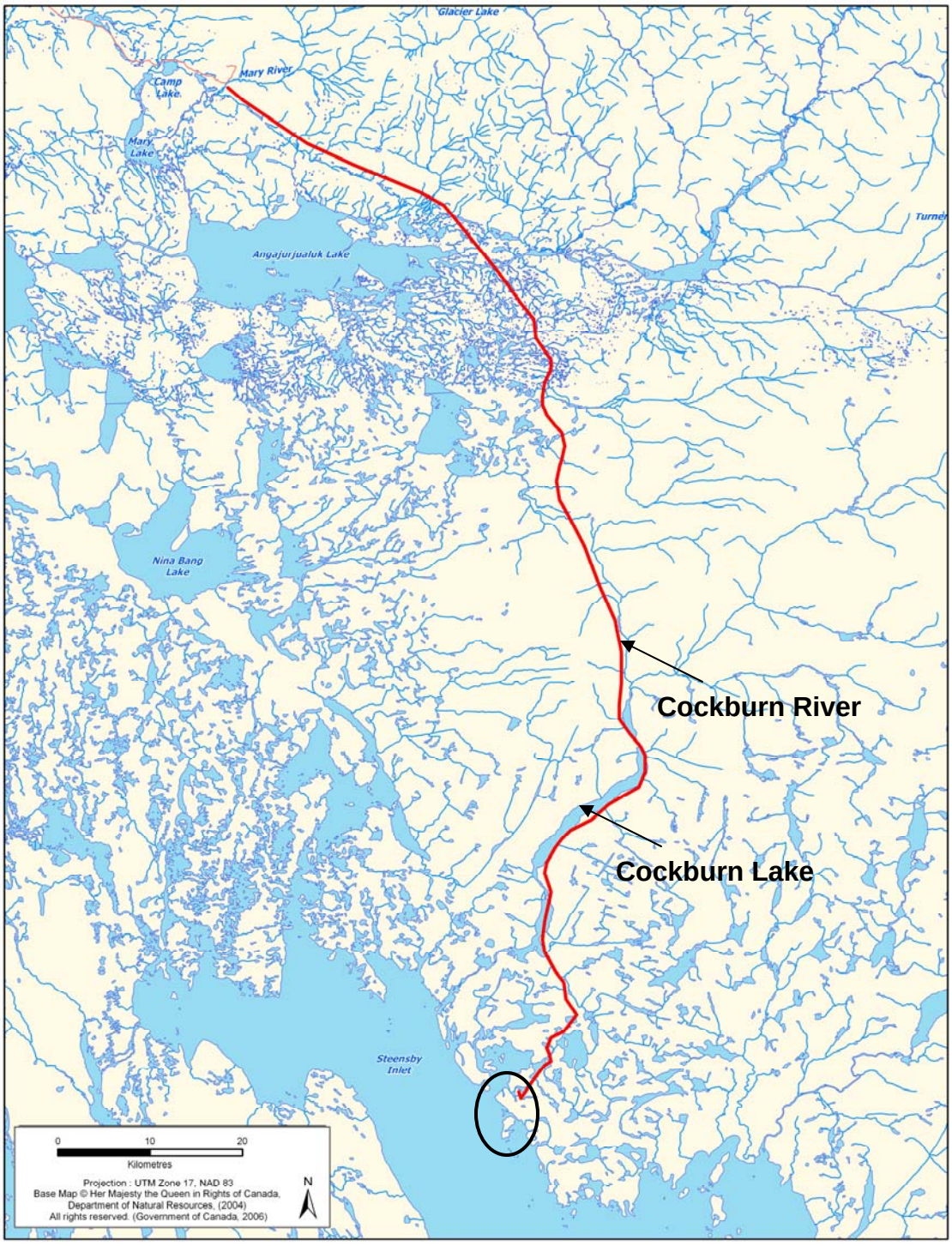


Figure 3. The proposed railway alignment (heavy red line), including the location of Cockburn Lake on the Cockburn River, and the proposed port sit location (black circle).

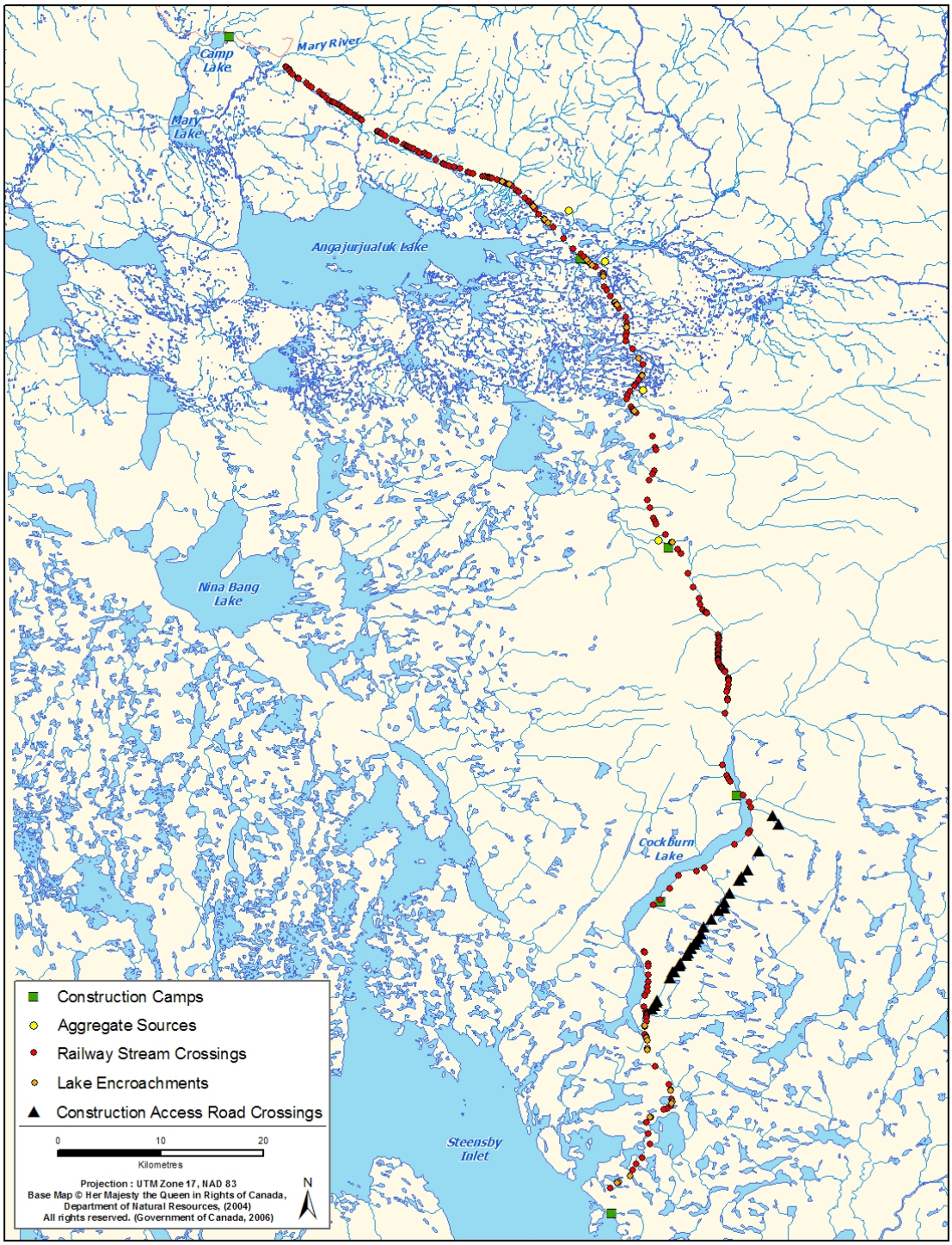
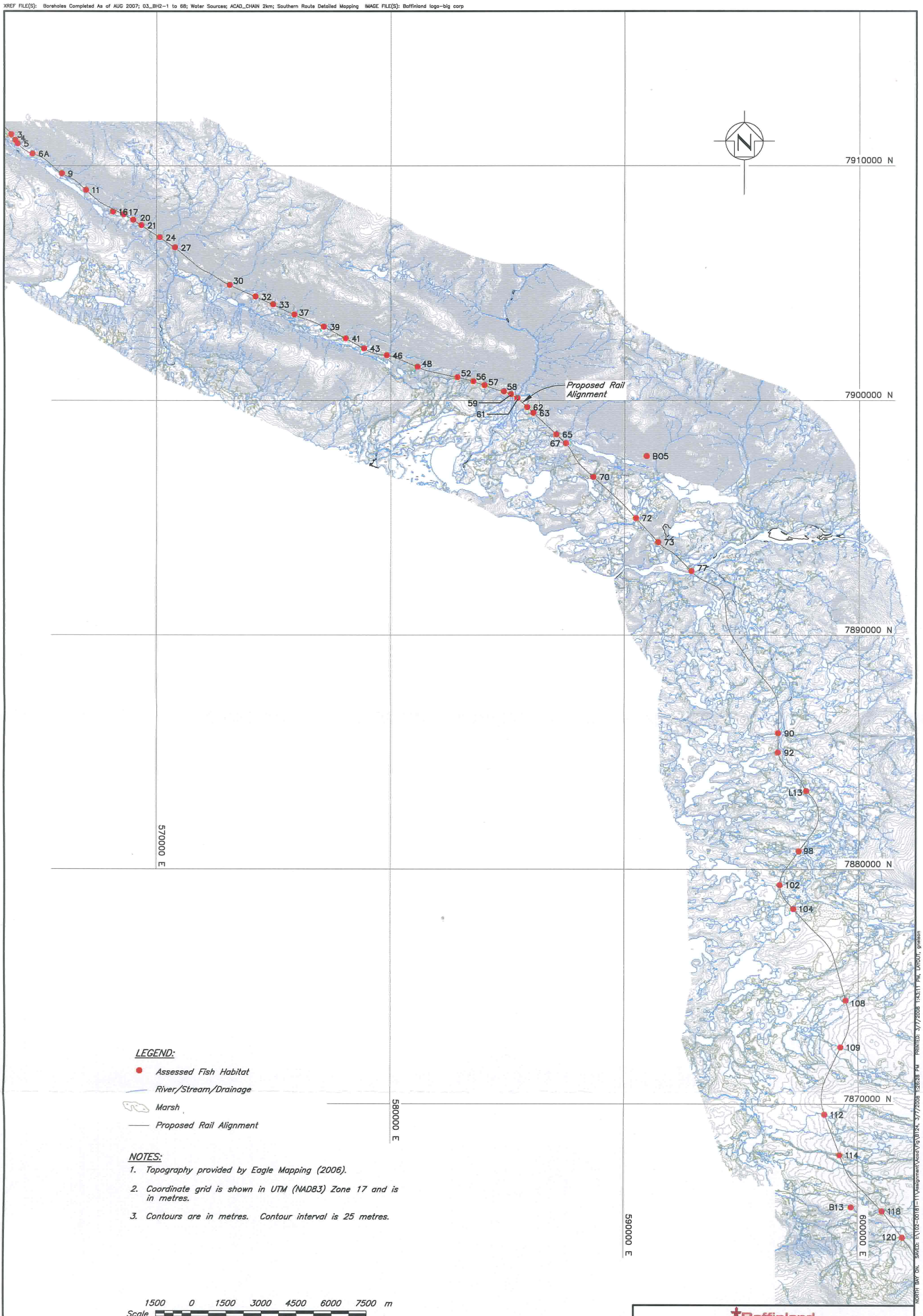


Figure 4. Aquatic habitat assessment sites and related areas along the proposed railway alignment from Mary River camp to Steensby Inlet.

XREF FILE(S): Boreholes Completed As of AUG 2007; 03_BH2-1 to 68; Water Sources; ACAD_CHAIN 2km; Southern Route Detailed Mapping IMAGE FILE(S): Baffinland logo-big corp



LEGEND:

- *Assessed Fish Habitat*
- *River/Stream/Drainage*
- *Marsh*
- *Proposed Rail Alignment*

NOTES:

1. *Topography provided by Eagle Mapping (2006).*
2. *Coordinate grid is shown in UTM (NAD83) Zone 17 and is in metres.*
3. *Contours are in metres. Contour interval is 25 metres.*

Scale 1500 0 1500 3000 4500 6000 7500 m

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

PROPOSED RAIL ALIGNMENT ASSESSED FISH HABITAT SITES (SHEET 1 OF 2)

Knight Piésold CONSULTING

P/A NO.	REF.	REV.
NB102-00181/11	NB08-00149	A

FIGURE 5

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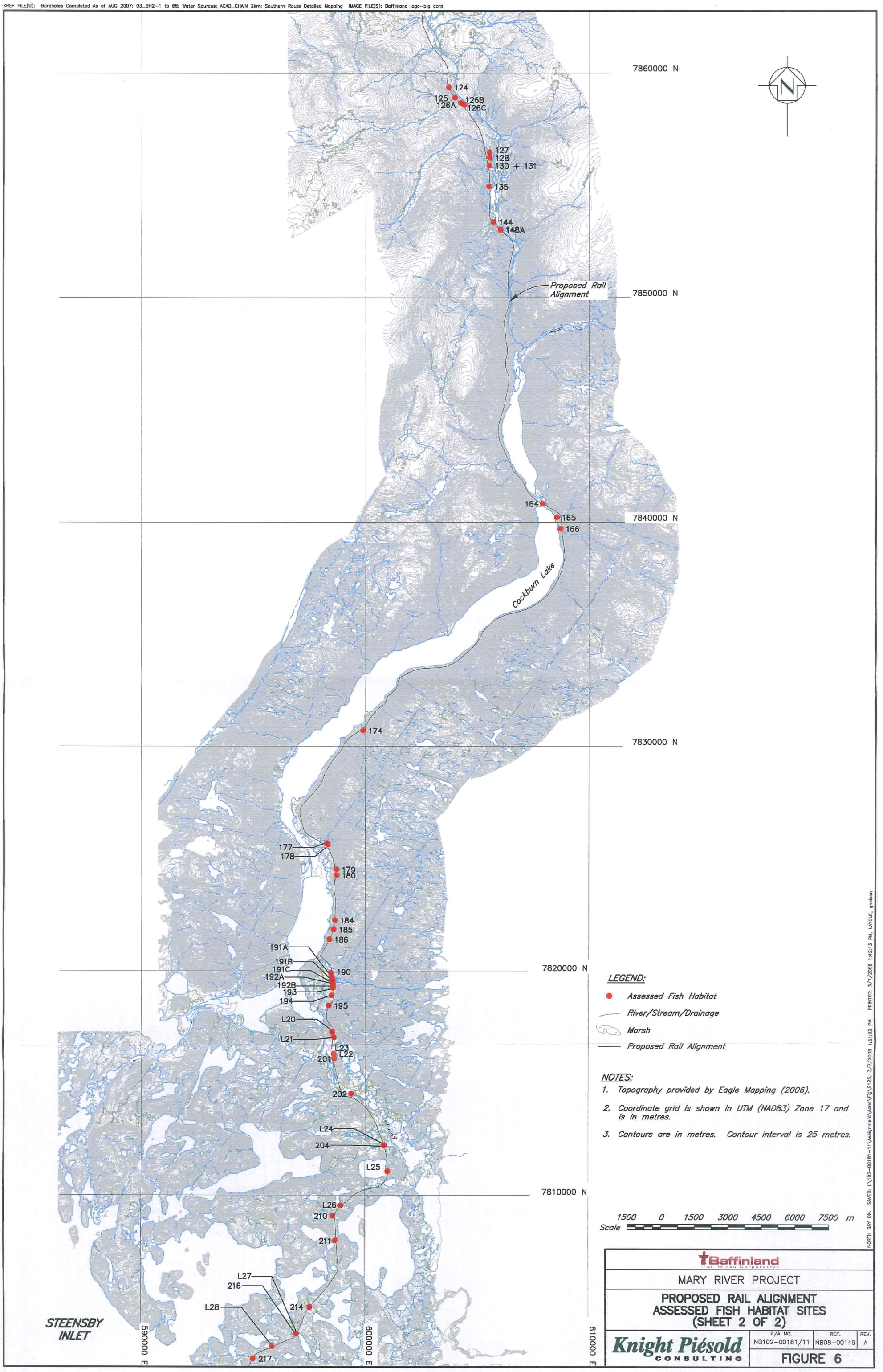
NORTH BAY ON.

XREF FILE(S): Boreholes Completed As of AUG 2007; 03_BH2-1 to 68; Water Sources; ACAD_CHAIN 2km; Southern Route Detailed Mapping IMAGE FILE(S): Baffinland logo-big corp



NORTH BAY ON. SAVED: I:\102-00181-11\Assignment\Acad\Fig\B125, 3/7/2008 1:31:02 PM PRINTED: 3/7/2008 1:42:13 PM, LAYOUT, gnelson

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

PROPOSED RAIL ALIGNMENT ASSESSED FISH HABITAT SITES (SHEET 2 OF 2)

Knight Piésold CONSULTING

P/A NO.	REF.	REV.
NB102-00181/11	NB08-00149	A

FIGURE 6