

APPENDIX A



**Aquatic Environment
Valued Environmental Component
Route 11 – Glenwood Area to Miramichi Bypass
Northumberland County, New Brunswick
Regulator Draft**

January 2017

New Brunswick Department of
Transportation and Infrastructure
Design Branch

Submitted by:
New Brunswick Department of Transportation and Infrastructure



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1.0 AQUATIC ENVIRONMENT

1.1. Rationale for Selection as a Valued Environmental Component

The Aquatic Environment was selected as a Valued Environmental Component (VEC) due to the potential interactions between the proposed Glenwood Area to Miramichi Bypass Project (Project) and the freshwater environment. The Aquatic Environment includes surface water quality, fish habitat and fish as well as navigability. The regulatory framework for the protection of the Aquatic Environment includes the Provincial *Clean Water Act*, and Federal *Fisheries and Navigable Waters Protection Acts*.

Watercourses and water quality are regulated under the *Clean Water Act*. As per the regulations in the *Clean Water Act*:

- “alteration”, when it refers to a watercourse or a wetland, means a temporary or permanent change made at, near or to a watercourse or wetland or to the water flow in a watercourse or wetland....
- “watercourse” A feature, the primary function of which is the conveyance or containment of water, described as being:
 - a) the bed, banks and sides of any watercourse that is depicted on the New Brunswick Hydrographic Network layer (available on GeoNB Map Viewer);
 - b) the bed, banks and sides of any incised channel greater than 0.5 metres in width that displays a rock or soil (mineral or organic) bed, that is not depicted on New Brunswick Hydrographic Network layer (available on GeoNB Map Viewer); water/flow does not have to be continuous and may be absent during any time of year; or
 - c) a natural or man-made basin (i.e. lakes and ponds).

Fisheries waters, fish and fish habitat are regulated under the Federal *Fisheries Act*. As per the *Fisheries Act*:

- “Canadian fisheries waters” means all waters in the fishing zones of Canada, all waters in the territorial sea of Canada and all internal waters of Canada;
- “fish” includes (a) parts of fish, (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals;
- “fishery” includes the area, locality, place or station in or on which a pound, seine, net, weir or other fishing appliance is used, set, placed or located, and the area, tract or stretch of water in or from which fish may be taken by the said pound, seine, net, weir or other fishing appliance, and also the pound, seine, net, weir, or other fishing appliance used in connection therewith;

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- “fish habitat” means spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes; and
- “water frequented by fish” means Canadian fisheries waters.

Navigability of watercourses is regulated under the *Navigable Waters Protection Act*. As per the *Navigable Waters Protection Act*:

- “navigable water” includes a canal and any other body of water created or altered as a result of the construction of any work.

1.2. Significance Criteria for Environmental Effects

A significant effect on fish or fish habitat as well as Federally or Provincially listed Species at Risk are defined as follows:

- An un-authorized, or un-mitigated death of fish or any permanent alteration to, or destruction of, fish habitat that;
 - is a contravention of a legally listed species;
 - is an impediment to fish passage, or
 - involves the discharge of a deleterious substance.

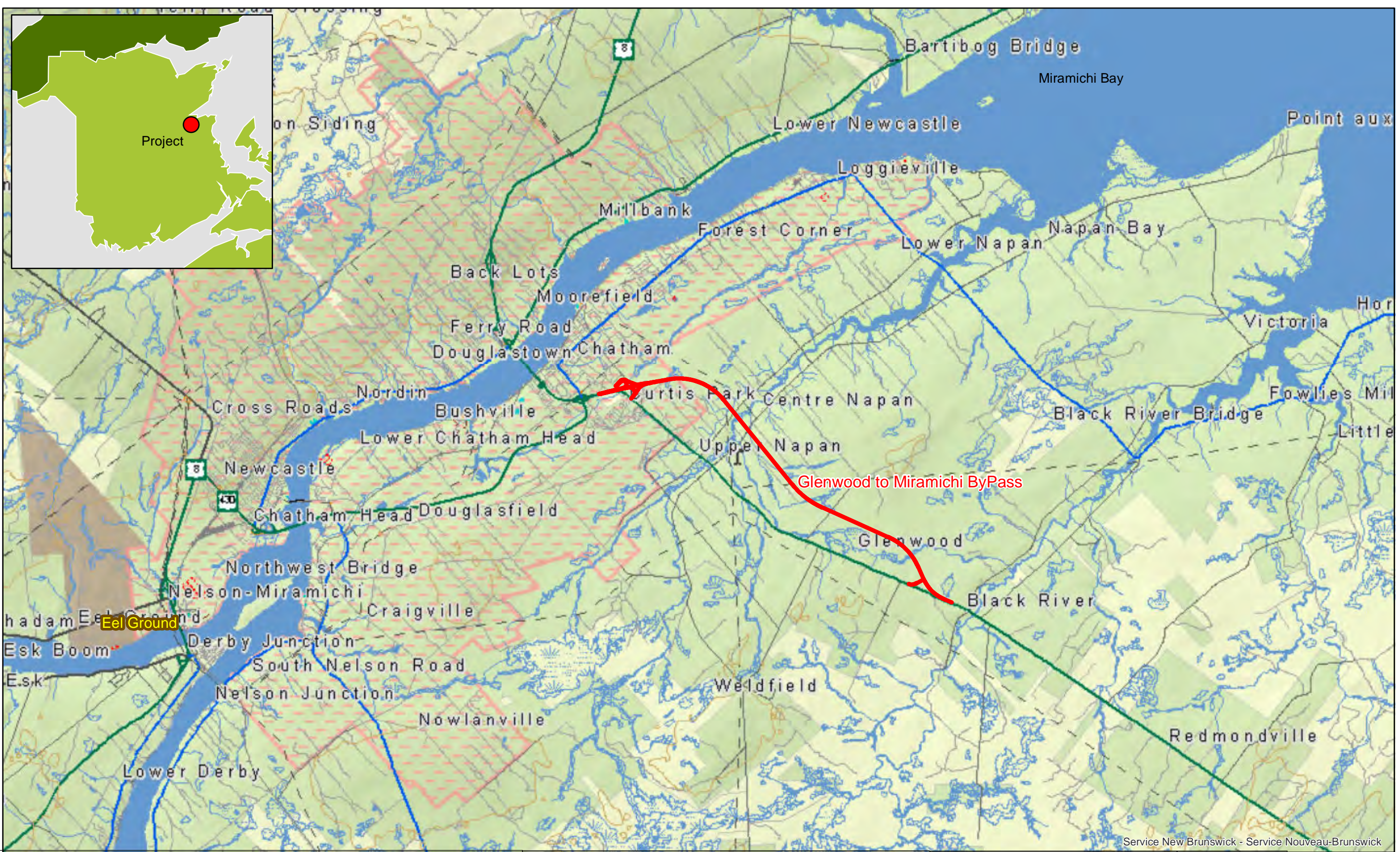
2.0 BOUNDARIES OF ENVIRONMENTAL EFFECTS ASSESSMENT

2.1. Spatial Boundaries

The spatial boundaries of the assessment include the freshwater components of the watercourses and ponds crossed by the Project Area (Figures 1.1, 1.2A, 1.2B and 1.3).

2.2. Temporal Boundaries

The temporal boundaries of the project include the Construction, and Operation, Maintenance and Rehabilitation (OMR) phases of the Project.



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Project Area
 Route 11 Glenwood Area to
 Miramichi Bypass Project

Locational Map
 Proposed Alignment

Figure No.: 1.1

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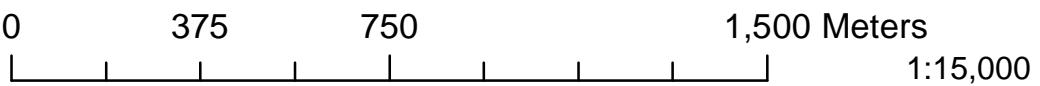
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Environmental Field Studies
Valued Environmental Component Assessment
for Aquatics
Route 11 Glenwood Area to
Miramichi Bypass Project

Field Assessed
Watercourses
Eastern Half

Figure No.: 1.2b

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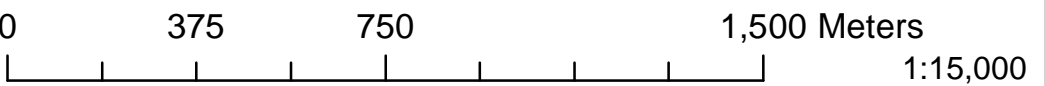
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Environmental Field Studies
 Valued Environmental Component Assessment
 for Aquatics
 Route 11 Glenwood Area to
 Miramichi Bypass Project

Field Assessed
 Watercourses
 Western Half

Figure No.: 1.2a

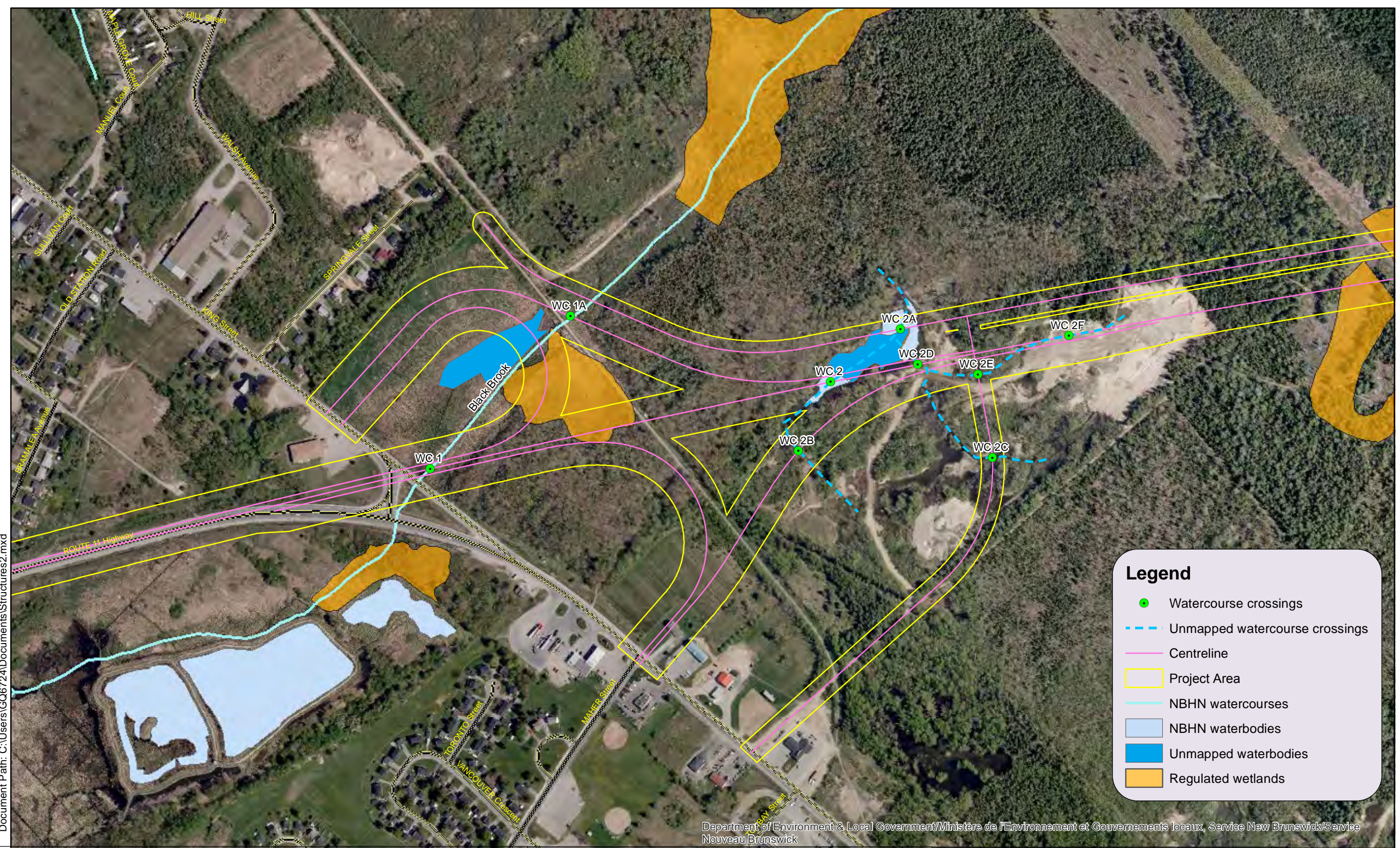
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Environmental Field Studies
 Valued Environmental Component Assessment
 for Aquatics
 Route 11 Glenwood Area to
 Miramichi Bypass Project

Field Assessed
 Watercourses
 Interchange Area Detail

Figure No.: 1.3

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