Baffinland Iron Mines Corporation
Mary River Project

Steensby Port and Railway Freshwater Habitat Surveys: Non-Fish Bearing Sites 2021-2024

REPORT

Prepared for Baffinland Iron Mines Corporation
By North/South Consultants Inc. · 83 Scurfield Blvd. · Winnipeg, MB · R3Y 1G4

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North/South Consultants Inc.

March 2025

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EXECUTIVE SUMMARY

ᓯᕗᓕᖅᑎᓂᖔᖅᑐᑦ ᓇᐃᓈᖅᓯᒪᔪᑦ

ᓄᓘᔾᖕᓂ ᐱᓕᕆᐊᖅ ᐊᐅᓚᑦᑎᔪᖅ ᓴᕕᒃᓴᓂᒃ ᐅᓯᕋᖕᓂᐊᖅᓘᑎᒃ ᐃᓂᖅᑲᖅᓘᓂ ᕿᑭᖅᑕᓂ ᓄᓇᖁᑖᓂ ᓄᓇᕗᒻᒥ. ᐹᕝᕕᓛᓐ ᓴᕕᒃᓴᓂᒃ ᐅᓯᕋᖕᓂᐊᖅᑏᑦ ᑯᐊᐳᕇᓴᓐ (ᐹᕝᕕᓛᓐ; ᐱᓇᔪᒃᑐᑦ) ᓇᖕᒥᓂᖅᖅᑎᐅᔪᑦ ᐊᒻᒪ ᐊᐅᓚᓂᖅᖅᑎᑦᑎᔪᑦ ᐱᓕᕆᐊᒥ. ᐃᓚᒋᔭᐅᓪᓗᓂ ᒪᓕᒐᖅᑎᒍᑦ ᐊᖏᖅᑕᐅᓇᓱᖕᓂᕐᒧᑦ, ᐹᕝᕕᓛᓐᑯᑦ ᑐᓂᓯᓯᒪᔪᑦ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᑦ (FEIS) ᑖᒃᑯᓄᖓ ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔩᖏᓐᓄᑦ (NIRB), ᓴᖅᑮᓯᒪᔪᖅ ᕿᒥᕐᕈᓂᖃᓪᓚᑦᑖᕐᓂᕐᒥᒃ ᐊᒻᒪ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ ᐊᕙᑎᒥᒃ ᐊᒻᒪ ᐃᓅᓰᑦ-ᒪᑭᒪᔾᔪᑎᓄᓪᓗ ᐊᒃᑐᐃᑐᐃᓐᓇᕆᐊᓖᑦ ᐊᒃᑐᐊᓂᖃᖅᑐᑦ ᐱᓕᕆᐊᒧᑦ (ᐹᕝᕕᓛᓐ 2012). 2012-ᒥ, ᐹᕝᕕᓛᓐᑯᑦ ᐊᖏᖅᑕᐅᓚᐅᖅᑐᑦ ᓄᓘᔾᖕᓂ ᐱᓕᕆᐊᒧᑦ, ᐱᖃᓯᐅᔾᔨᓯᒪᓪᓗᓂ 149 ᑭᓛᒥᑕᓂᒃ ᑕᑭᓂᓕᒃ ᓄᓇᓯᐅᑎᑰᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑰᑖᒃᓴᖓ ᐊᒃᑐᐊᓕᖅᑎᑦᑎᔪᖅ ᓄᓘᔾᖕᓂ ᐅᓯᕋᖕᓂᐊᕐᕕᖕᒥ ᐊᕿᒍᓕᓖᖅ ᑐᓚᒃᑕᕐᕕᒃᓴᒧᑦ ᐃᒃᐱᑎᑦᑐᕐᔪᐊᓄᑦ, ᐊᑐᖅᓘᒍ ᑐᓂᔭᐅᓂᖓ ᐅᓯᕋᖕᓂᐊᕈᓐᓇᐅᑦ ᓈᓴᐅᑖ 005 (ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ 2012).

ᐱᒋᐊᕈᑕᐅᔪᑦ ᖃᐅᔨᓴᕈᑏᑦ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ 2021-ᒥᑦ 2023ᒧᑦ ᑐᓴᒐᒃᓴᖃᖅᑯᓪᓗᑎᑦ ᓄᑖᙳᕆᐊᖅᓯᒪᔪᓂᒃ ᕿᒥᕐᕈᓂᕐᒥᒃ ᑕᑯᖃᑦᑕᐅᑎᓂᐅᑐᐃᓐᓇᕆᐊᓕᖕᓄᑦ ᑖᒃᑯᓇᓂ ᐱᓕᕆᐊᒥ ᐱᖁᑎᖃᐊᑦ ᐊᒃᑐᐊᓂᓛᑦ ᐃᒃᐱᒋᑦᑐᖃᐊᓄᑦ ᓄᓇᓯᐅᑎᑰᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑰᑖᒃᓴᖓᓂ ᐊᒻᒪ ᑐᓚᒃᑕᕐᕕᒃᓴᖓᓂ ᐃᖃᓗᐃᓪᓗ ᓇᔪᒐᖏᓐᓂ, ᐊᒻᒪ ᐃᑲᔪᖅᑯᓪᓗᑎᑦ ᑭᖑᓪᓕᖅᐹᒥ ᓇᓗᓇᐃᔾᔭᑎᐊᖅᓯᒪᔪᓂᒃ ᓴᓇᐅᒪᓂᒃᓴᖓᓄᑦ ᓴᓇᓯᒪᓂᒃᓴᖓᓄᑦ ᐊᒻᒪ ᐸᓚᐅᒪᑎᑦᑎᓇᓲᑎᑦ ᐃᑲᔪᖅᑐᖅᑕᐅᖁᓪᓗᒍᓗ ᐱᓇᔫᑎ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐱᖁᔭᒃᑯᑦ ᐱᔪᓇᐅᑏᑦ (FAA). ᖃᐅᔨᔭᐅᔪᑦ ᑕᒪᒃᑯᓇᓂ ᖃᐅᔨᓴᕈᑎᓂ ᐅᓂᒃᖃᖅᑕᐅᓯᒪᔪᑦ ᓄᐊᑦ/ᓴᐅᑦ ᑐᓴᕋᓱᐊᕐᓂᕐᒧᑦ ᐃᖕᑯᐊᐳᕇᑎᑦ (NSC 2024ᐃ.ᐱ). ᐱᓇᔫᑎ ᑕᒪᑐᒨᖓ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐱᖁᔭᒃᑯᑦ ᐱᔪᓇᐅᑎᓄᑦ (FAA) ᓴᓇᔭᐅᓂᒃᓴᖓᓄᑦ ᐃᒃᐱᑭᑦᑐᖃᐊᓄᑦ ᓄᓇᓯᐅᑎᑰᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑰᑖᒃᓴᖓᓂ ᐊᒻᒪ ᑐᓚᒃᑕᕐᕕᒃᓴᖓᓂ ᑐᓂᔭᐅᓯᒪᓕᖅᑐᖅ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ (DFO) ᐋᕿᕗᐊᕆ 1, 2024 (ᓇᐃᑦ ᐲᓱᑦ ᓕᒥᑎᑦ 2024).

ᑖᓐᓇ ᑎᑎᕐᖃᖅ ᓴᖅᑮᔪᖅ ᓄᑖᙳᕆᐊᖅᓯᒪᔪᓂᒃ ᐅᓂᒃᑳᓄᑦ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᖃᐅᔨᓴᕐᓂᕐᓂᒃ ᐱᔭᕇᖅᓯᓚᐅᖅᑐᑦ ᐃᖃᓗᖃᖅᑎᑦᑐᓂ ᐃᓂᓂ ᑕᐅᕙᓇ ᓄᓇᓯᐅᑎᑰᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑰᑖᒃᓴᖓᓂ ᐊᒻᒪ ᑐᓚᒃᑕᕐᕕᒃᓴᒥᑉ (NSC 2024ᐃ) ᐃᓚᓕᐅᔾᔨᓗᑎᒃ ᖃᐅᔨᔭᐅᔪᓂᒃ ᖃᐅᔨᓴᕈᑎᒃᑲᓂᕐᓄᑦ ᐱᔭᕇᖅᑕᐅᔪᓄᑦ ᓯᑯᖃᕐᓂᑎᓪᓗᒍ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ 2024-ᒥ. ᑐᕌᓕᓪᓗᐊᑕᖕᒐ 2024-ᒥ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᖃᐅᔨᓴᖅᑕᐅᖁᓪᓗᒋᑦ ᐃᓃ ᑭᖑᓂᖔᑦᑎᓐᓂ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᓯᒪᙱᑦᑐᑦ (ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐊᓯᔾᔨᐅᑏᑦ ᓄᓇᓯᐅᑎᑰᑖᒃᓴᐅᑉ ᓴᓇᓯᒪᓂᒃᓴᖓᓄᑦ ᐊᒻᒪ ᓇᓗᓇᐃᔭᐃᓂᖅ ᑰᑦ ᐃᓂᖕᒋᑦ ᐱᔭᕇᓚᐅᖅᑎᓪᓗᒋᑦ 2023-ᒥ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᐱᓕᕆᐊᓂ).

ᖃᐅᔨᔭᐅᔪᑦ ᓴᖅᑭᑕᐅᓯᒪᔪᑦ ᑕᕝᕙᓂ ᓴᖅᑮᔾᔪᖅᑎᑦᑎᔪᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᓂᒃ ᓴᓇᐅᒪᓂᒃᓴᖓᓄᑦ ᓴᓇᓯᒪᔪᑦ, ᐱᖃᓯᐅᑎᓗᒋᑦ ᓄᓇᓯᐅᑎᑰᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑰᑖᒃᓴᖓᓄᑦ, ᓄᓇᖓ ᓇᓕᒧᕐᖢᑎᑕᐅᓃᑦ, ᐊᒻᒪ ᐃᑳᕐᕖᑦ ᓴᓇᓯᒪᓂᖏᑦ, ᐃᒃᐱᑭᑦᑐᖃᐊᓄᑦ ᓄᓇᓯᐅᑎᑰᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑰᑖᒃᓴᖓᓄᑦ, ᒫᓐᓇᒥᑦ ᓄᕕᐱᕆ 13, 2023-ᒥ (ᐊᑐᐃᓐᓇᕈᖅᑕᐅᓪᓗᑎᒃ ᓯᑐᕋᒃᑯᓐᓂ), ᐊᒻᒪ ᐃᒃᐱᑭᑦᑐᖃᐊᓄᑦ ᑐᓚᒃᑕᕐᕕᒃᓴᖅ, ᒫᓐᓇᒥᑦ ᑎᓯᐱᕆ 6, 2023-ᒥ (ᐊᑐᐃᓐᓇᕈᖅᑕᐅᓪᓗᑎᒃ ᐊᐅᓴᖅᑰᑯᓂᑦ). ᖃᐅᔨᔭᐅᔪᑦ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᖃᐅᔨᓴᕐᓂᒥ ᐱᓕᕆᐊᖃᖅᓯᒪᔪᑦ ᐊᑐᕌᖅᑐᓂ 2021-ᒥᑦ 2024-ᒧᑦ ᐃᖃᓗᖃᖅᑐᓂ ᐃᓂᓂ ᓴᖅᑭᑕᐅᓯᒪᔪᑦ ᐱᖃᑎᒋᔭᐅᓪᓗᓂ ᐅᓂᒃᑳᖅ (NSC 2025ᐃ).

ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᖃᐅᔨᓴᕈᑏᑦ, ᐃᓗᓕᖃᖅᑐᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓂᖕᒋᑦ ᐱᑕᖃᕐᓂᖕᒋᑦ/ᐱᑕᖃᙱᓐᓂᖕᓂᖕᓂᒃ ᒪᕐᕉᒃ ᐃᖃᓗᐃᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᑐᐊᔾᔪᑦ ᓴᖅᑭᑕᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᕐᕕᐅᔪᒥ (ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ [*Salvelinus alpinus*] ᐊᒻᒪ ᑲᑭᓚᕌᖅ [*Pungitius pungitius*]), ᐊᒻᒪ ᐱᓕᕆᐊᖃᖅᓗᑎᒃ ᓇᔪᒐᖏᓐᓂᒃ ᕿᒥᕐᕈᓂᕐᒥᒃ, ᐱᓕᕆᐊᖑᓯᒪᔪᑦ ᑰᓗᓛᓂ,

ᑕᓯᕐᓂ/ᑕᓯᕋᕐᓂ ᐱᕝᕕᐅᓲᑦ/ᑰᒻᕕᐅᕚᒃᑐᑦ, ᐃᑳᕐᕖᑦ ᐃᓅᑦ ᑕᐅᕗᓇ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᖓᓂ ᐊᒻᒪ ᑕᐃᑲᓂ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓄᑦ ᑐᓚᒃᑕᕐᕕᒃᓴᒥ ᐊᒻᒪ ᑐᒃᓯᕋᖅᑕᐅᔪᑦ ᑰᒻᕕᐅᓪᓚᑦᑖᖅᑐᑦ ᑕᓯᕐᓂ. ᖃᐅᔨᓴᕐᓃᑦ ᐱᓕᕆᐊᕐᒍᓯᒪᔪᑦ ᑐᙵᕕᖃᖅᑯᑎᒃ ᐱᓕᕆᐊᑉ ᓴᓇᐅᒪᓂᒃᓴᖓ ᓇᑐᓇᐃᖅᖅᑕᐅᔪᑦ ᐊᑐᐃᓐᓇᕈᖅᑕᐅᓯᒪᔪᑦ ᓯᕗᓂᐊᒍᑦ, ᐱᓕᕆᐊᕐᒍᓕᖅᑎᓪᓗᒍ, ᐊᒻᒪ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᐱᓕᕆᐊᓂ. ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᐱᓕᕆᐊᑦ ᐱᓕᕆᐊᕐᒍᓯᒪᔪᑦ ᐊᑐᖅᑎᓪᓗᒋᑦ ᒪᕐᕈᕐᓂ ᖃᐅᔨᓴᕐᓂᕐᒥ ᓯᑯᖃᒻᒋᑎᓪᓗᒍ (ᔫᓂ/ᔪᓚᐃ ᐊᒻᒪ ᐋᒡᒌᓯ/ᓯᑎᐱᕆ) ᐊᒻᒪ ᐃᓂᓗᒃᑖᐸᓗᐃᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᓂᓛᕐᒍᓪᓗᑎᒃ ᒪᕿᐊᖅᑎᖅ.

ᑎᑭᑕᐅᓇᓱᐊᖅᑐᑦ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᐱᓕᕆᐊᓂ ᐃᒪᐃᓐᓇᓱᒃᑯᑎᒃ:

- ᓇᓗᓇᐃᖅᑕᐅᓗᑎᒃ ᐱᑕᖃᕐᓂᕐᒋᑦ/ᐱᑕᖃᙱᓐᓂᕐᒋᑦ ᐃᖃᓗᖃᖅᑐᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᕐᒐ ᐅᕝᕙᓘᓐᓅᑦ ᑐᓚᒃᑕᕐᕕᒃᓴᒥ ᐱᕐᑯᑎᕐᔪᐊᒃᓴᑦ ᐃᓂᒃᓴᕐᒋᓐᓂᒃ ᐊᑐᖃᑦᑕᐅᑎᖃᑦᑕᕐᓂᐊᖅᑐᑦ ᐃᒪᑦᑎᐊᕚᖃᕐᓂᕐᒥ;
- ᑲᑎᑕᐅᓗᑎᒃ ᑐᓴᐅᒪᔾᔪᑏᑦ ᑐᓗᖅᑕᕈᑕᐅᔪᓂᒃ ᐃᖃᓗᐃᑦ ᓈᖃᑦᑕᕐᓂᕐᒋᓐᓄᑦ ᐃᓖᓂ ᐊᒃᑐᖅᑕᐅᑐᐃᓐᓇᓇᐊᓖᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᕐᒐᓂ ᐅᕝᕙᓘᓐᓅᑦ ᑐᓚᒃᑕᕐᕕᕐᒥ ᐱᕐᑯᑎᕐᔪᐊᑦ ᐃᓂᒃᓴᕐᒋᓐᓂ; ᐊᒻᒪᓗ
- ᑲᑎᑕᐅᓗᑎᒃ ᑐᓴᐅᒪᔾᔪᑏᑦ ᐃᖃᓗᐃᑦ ᓇᔪᕐᒋᓐᓂᓄᑦ ᐃᓂᓄᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐃᒪᐃᓐᓂᐊᖅᑐᑦ, ᐅᕝᕙᓘᓐᓅᑦ ᐊᒃᑐᐃᑐᐃᓐᓇᓇᐊᓖᑦ, ᐃᖃᓗᕐᓂᒃ ᓇᔪᖃᖅᑎᑦᑎᓪᓗᑎᒃ.

ᐃᓂᓄᑦ ᑕᓯᖃᖅᑐᓄᑦ ᐊᐳᖅᑕᕈᑎᖃᖅᑐᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᙱᑦᑐᓂᒃ, ᐊᐳᖅᑕᕈᑏᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᖅᑐᑦ ᐊᕐᕆᒍᒃ ᐃᓚᐃᓐᓇᙵᓅᙵᖅᑰᔅᓪᓗᓂ (ᓲᕐᓗ ᒫᓐᓇᓚᐅᑲᒃ), ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓅᑦ ᐃᓅᑦ ᑭᙳᓂᙴᑦᑎᓐᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐊᑐᐃᓐᓇᕈᐃᕐᑯᓪᓗᒋᑦ ᐃᖃᓗᐃᑦ ᓇᔪᙱᓐᓂᒃ (ᖃᐅᔨᒪᔭᐅᔪᓂ ᐅᕝᕙᓘᓐᓅᑦ ᐱᑕᖃᑐᐃᓐᓇᓇᐊᓕᙵᓂ), ᐃᖃᓗᐃᑦ ᐱᑕᖃᕐᓂᕐᒋᑦ/ᐱᑕᖃᙱᓐᓂᕐᒋᑦ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᖅ ᓇᒪᙶᒃᑯᑦ ᐆᒪᖅᑯᑎᙵᓄᑦ ᐊᒻᒪ ᑕᑯᔭᐅᓂᒃᑯᑦ ᖃᐅᔨᓴᕈᑏᑦ (ᐊᔪᕐᓇᙱᒃᑳᙶᑦ). ᐃᓖᓂ ᓇᔪᕐᓂᒃ ᕿᒥᕐᕈᓅᑦ ᐱᔭᕇᖅᑕᐅᓚᐅᖅᑐᑦ ᓄᓇᙶᓂ ᑐᒃᓯᕋᖅᑕᐅᔪᒥ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᙶᓂ ᐊᒻᒪ ᑐᓚᒃᑕᕐᕕᙵ ᐱᕐᑯᑎᕐᔪᐊᓂ ᐃᓂᐅᔪᓂ ᐃᓱᒪᒋᔭᐅᔪᑦ ᖃᐅᔨᒪᔭᐅᓗᑎᒃ ᐅᕝᕙᓘᓐᓅᑦ ᐃᖃᓗᐃᑦ ᓇᔪᙶᑐᐃᓐᓇᓇᐊᖃᖅᑕᙱᑦ.

ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓄᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᙶ

ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓂ ᐊᒃᑐᐊᖃᑎᖃᖅᑐᑦ ᐃᒪᕐᓂ (ᑰᓚᓃᑦ, ᑕᓯᕋᑦ, ᑕᓲᓪᓘᓐᓅᑦ) ᑲᑎᙵᒋᑦ 327 ᐃᓅᑦ. ᑖᒃᑯᓇᓂ, 119 ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᓇᓗᓇᐃᖅᑕᐅᓪᓚᑦᑖᖅᓯᒪᓪᓗᑎᒃ ᐅᕝᕙᓘᓐᓅᑦ ᐱᑕᖃᑐᐃᓐᓇᓇᐊᓖᑦ ᑕᓇᐅᕙᐅᑕᑦ ᓇᔪᙶᓐᓂᒃ ᐊᒻᒪ 136 ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐅᕝᕙᓘᓐᓅᑦ ᐱᑕᖃᑐᐃᓐᓇᓇᐊᓖᑦ ᑲᑭᓚᕌᑦ ᓇᔪᙶᓐᓂᒃ. ᑲᑎᙵᒋᑦ 190 ᐃᓅᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐃᖃᓗᖃᕐᓂᕐᒋᓐᓂᒃ ᐊᒻᒪ ᐃᖃᓗᖃᙱᑦᑐᑦ 137 ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐅᕝᕙᓘᓐᓅᑦ ᐱᑕᖃᑐᐃᓐᓇᓇᐊᓖᑦ ᐃᖃᓗᐃᑦ ᓇᔪᙶᓐᓂᒃ. ᐱᙶᓱᑦ ᐃᑳᕐᕖᑦ ᐃᓅᑦ (ᓄᑖᖅ 12, ᓄᑖᖅ 21, ᐊᒻᒪ CV-111-1-N) ᑭᙳᓂᙴᑦᑎᓐᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓚᐅᖅᑐᑦ ᐱᑕᖃᑐᐃᓐᓇᓇᐊᖄᕐᔪᒃᑐᑦ ᐃᖃᓗᖃᙱᑦᑑᓪᓗᑎᒃ ᑰᓚᓃᑦ ᑐᙵᕕᒋᓪᓗᒋᑦ 2024 ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᖃᐅᔨᓴᕈᑎᓂᒃ; ᑕᒪᒃᑯᐊ ᑰᒻᕕᒃᓴᐃᑦ ᐃᓂᒃᓴᕐᒋᑦ ᐃᓚᔭᐅᓚᐅᖅᑐᑦ ᐱᔭᕇᖅᑕᐅᓚᐅᖅᑎᓪᓗᒋᑦ 2023-ᒥ ᓯᓚᒥ ᐱᓕᕆᓐᓇᐅᑎᓪᓗᒍ ᐱᓕᕆᐊᓂᒃ ᑰᓚᓃᕐᓂ ᐃᑲᔪᖅᑐᖅᑕᐅᕐᑯᓪᓗᒋᑦ ᑕᓇᐅᕙᐅᑕᑦ ᐃᖃᓗᐃᑦ ᐃᑳᖅᓯᖃᑦᑕᕋᔭᖅᑐᑦ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᙶᓂ ᐱᑕᖃᐃᓐᓇᐅᔭᖅᑑᓚᔪᒃᑐᑦ ᐅᕝᕙᓘᓐᓅᑦ ᒫᓐᓇᓚᐅᑲᒃ ᑰᓚᓖᑦ ᐱᑕᖃᕐᕕᐅᓂᖅᓴᐅᓗᑎᒃ ᑐᐊᐸᔫᓂᒃ ᐊᒻᒪ ᖁᙳᓚᓃᙶᓗᓂ ᓄᓇᖓ, ᐃᓛᓐᓂᑦ ᐊᑦᑎᒃᑑᓗᓂ ᐃᓅᑦ ᓄᓇᖓᓂ ᐱᑕᖃᕐᕕᐅᓂᖅᓴᐅᓗᓂ ᒥᑭᑦᑑᑕᐅᓂᖅᓴᓂᒃ. ᑰᓚᓃᕐᔪᐊᙶᓃᑦ (ᑰᑦ ᐃᑳᕐᕕᖅᑐᑦ ᓄᔫᔭᒃ ᑰᖓᓂ, ᐃᒃᑲᕿᐃᑦ ᑰᖓᓂ, ᐊᑦᑎᖅᑕᐅᓯᒪᙱᑦᑐᓂ ᑰᖓᓂ ᐃᑳᕐᕕᐅᔪᑦ ᑕᐃᑲᓂ BR-137-1 ᐊᒻᒪᓗ BR-141-1, ᐊᒻᒪᓗ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᑕᓯᖓᓂ ᑐᐊᓐᓂᖓᒍᑦ) ᐃᓚᖓᒍᑦ ᓂᕈᕝᕕᐅᕚᒃᑐᒃᓴᐅᔪᖅ ᐊᐅᔭᒃᑯᑦ ᓇᔪᓚᐅᕚᒃᑯᓂ

ᐊᒻᒪ ᐊᑐᖅᑕᐅᓪᓗᓂ ᐊᖅᑯᑕᐅᓪᓗᓂ ᐃᓐᓇᕈᖅᓯᒪᔪᓄᑦ. ᐊᓯᓗᒃᑖᖏᑦ ᑰᓚᓛᑦ ᐊᐅᔭᒃᑯᑦ ᐃᓐᓇᕈᖅᓯᒪᙱᑦᑐᓂ ᓇᔪᓚᑐᐃᓐᓇᐅᕙᒃᑐᑦ. ᐃᓐᓇᕈᖅᓯᒪᙱᑦᑐᑦ ᑎᑭᑦᑐᑦ ᑕᕆᐅᕐᒧᑦ ᐃᖃᓗᐃᑦ ᓅᖃᑦᑕᖅᑐᑦ ᑰᓚᓛᖑᓂᖅᓴᓄᑦ ᐅᐱᕐᖔᒃᑯᑦ ᐊᒻᒪ ᐅᑎᖅᐸᒃᐳᑎᒃ ᐅᑮᕝᕕᖕᒥᓄᑦ ᓇᔪᖕᒋᓐᓄᑦ ᐅᑭᐊᖅᓵᒃᑯᑦ. ᐃᒃᑲᕈᐃᑦ ᑯᖓ ᐊᒻᒪ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᑕᓯᖓᑕ ᑐᐊᓐᓂᖓᓂ ᓈᒻᒪᒃᑐᓂᒃ ᐃᑎᓂᖅᑐᐃᓐᓇᓇᐊᓛᑦ ᐃᑲᔪᕋᔭᖅᐳᑎᒃ ᐅᑮᕝᕕᐅᔪᓐᓇᕐᓗᓂ. ᐊᓯᖏᓐᓂ ᑖᒃᑯᓇᓂ ᐃᓂᓂᑦ, ᐅᑮᕝᕕᑦ ᐊᒻᒪ ᒪᔪᕝᕕᐅᕙᒃᑐᑦ ᐅᒃᐱᓇᔭᐅᔪᑦ ᑭᒡᓕᖃᖅᑑᓪᓗᑎᒃ ᑕᓯᕐᓄᑦ ᐊᒻᒪ ᓈᒻᒪᒃᑐᓄᑦ ᐃᑎᓂᖏᓐᓄᑦ.

ᐊᑕᐅᓯᖅ ᐅᔾᔨᕐᓇᖅᑐᖅ ᑭᑭᑕᐅᓯᒪᔪᖅ ᑕᒪᒃᑯᓂᖓ ᓇᓗᓇᐃᔭᐃᓂᑐᐃᓐᓇᕐᓂᕐᒧᑦ ᑕᕆᐅᕐᒧᑦ ᓇᓃᖃᑦᑕᕐᓂᖏᓐᓂᒃ ᑕᐅᕘᓇ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᖓᓂ. ᐊᑕᖏᖅᕗᓗᒋᑦ ᑰᓪᕕᐅᕙᒃᑐᑦ (ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᐃᑳᕐᕖᑦ ᑕᐃᑲᙵᑦ CV-069-2-ᒥᑦ CV-085-2-ᒧᑦ) ᑯᖃᑦᑕᖅᑐᑦ ᐅᐊᖕᓇᔮᒃᑯᑦ ᐱᓇᖕᓇᖅᐸᓯᒃᑯᑦ ᑰᒃᑐᓂ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᑯᖓᓂ ᐱᑕᖃᕐᕕᐅᔪᖅ ᑲᑭᓚᓰᓂ ᑭᓯᐊᓂᓕ ᐱᑕᖃᖅᑰᔾᔨᙱᑦᑐᑦ ᖃᓄᑐᐃᓐᓇᖅ ᑕᐅᕙᓂᕐᒥᐅᑕᐅᔪᓂ ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᐱᑕᖃᐅᓂᖏᓐᓂᒃ.

ᑲᑭᓚᓰᑦ ᑕᐅᕘᓇ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓄᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᖓᓂ ᓇᒥᕈᓘᔭᖅᑐᑦ ᐊᒻᒪ ᐱᑕᖃᐅᖅᓱᑎᒃ ᑕᓯᕐᓂ, ᐃᒪᖅᓲᖕᓂ, ᐊᒻᒪ ᐊᑦᑎᒃᑐᓂ, ᑰᕐᕙᒃᑐᓂ, ᐊᒻᒪ ᐱᑕᖃᓚᐅᒃᓰᓂᒃ/ᕿᓚᒥᑯᓗᒃ ᑰᓚᓛᖑᓚᐅᒃᓰᖑᔪᓂ. ᑕᒪᒃᑯᐊ ᓇᔪᓚᐃᑦ ᐃᑲᔪᖅᑐᕈᓇᖅᑐᑦ ᐱᕈᖅᓴᑎᓪᓗᒋᑦ ᑎᕆᑦᑐᑦ ᐊᒻᒪ ᓂᕐᒪᕝᕕᐅᓪᓗᑎᒃ ᐃᒻᒪᖄᓗᓐᓃᑦ ᒪᔪᕝᕕᐅᕙᒃᓱᑎᒃ ᐃᓐᓇᕈᖅᓯᒪᔪᓂᒃ. ᐃᓚᖏᑦ ᐊᖏᓂᖅᓴᐃᑦ, ᐃᑎᓂᖅᓴᐃᑦ ᑕᓯᒌᑦ ᐊᑐᖅᑕᐅᕙᒃᑐᖅᓴᐅᔪᑦ ᑲᑭᓚᓰᓂᒃ ᐅᑮᕝᕕᐅᓗᑎᒃ. ᓛᓐᓇᓚᐅᑲᐅᖅᑲᑦᑕᕐᓂᖓᓄᑦ ᑕᒪᑐᒧᖕᒐᓗᒃᑖᖅ ᓇᔪᓚᐅᔪᒧᑦ ᐅᓗᓇᐊᓇᓇᐊᓐᓚᒃᓯᒪᔪᖅ ᐊᔪᖅᓯᓪᓗᑎᒃ ᐊᒻᒪ ᐊᒃᑐᐊᔪᑦ ᐅᑭᐅᒃᑯᖅ ᑐᖁᖅᓱᑎᒃ ᑲᑭᓚᓰᑦ. ᑐᖁᖅᖁᓂᑦ ᐅᔾᔨᕐᓇᖅᓯᒪᔪᑦ ᐊᒥᓱᓚᖓᓂ ᐃᓂᓂ ᑕᐅᕘᓇ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑖᓂ ᑭᓯᐊᓂᓕ ᑕᐃᒪᐃᓚᐅᖅᑐᖅ ᕿᑎᐸᓗᐊᓂ-ᓄᓇᓯᐅᑎᑯᑖᒃᓴᖅ ᐊᖅᑯᑎᑯᑖᒃᓴᕈᔪᐊᓂ.

ᐃᒃᐱᑭᑦᑐᕐᔪᑉ ᖃᓂᒋᔮ

ᖄᒃᑲᓐᓂᐊᒍᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᖓᓄᑦ ᐊᒻᒪ ᑲᑎᑕᐅᔪᑦ ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᖓᓂ/ᐊᖅᑯᑖᓂ ᐃᑳᕐᕕᖕᓂ, ᑎᓴᒪᑦ ᑰᓪᕖᑦ ᐋᖅᑭᒃᑕᐅᓚᐅᖅᑐᑦ ᑕᐅᕘᓇ ᐊᖅᑯᑖᓂ ᑰᓚᓂ ᐃᑳᕐᕕᖕᓂ ᐊᒻᒪ ᒪᕐᕿᒃ ᐋᖅᑭᒃᑕᐅᓂᐊᖅᐳᑎᒃ ᑰᓚᓛᓂ ᐊᑎᑦᑎᐊᖕᓚᓂ ᒥᕝᕕᐅᑉ ᑕᐃᑲᓂ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓂ ᑐᓚᒃᑕᕝᕕᐊᑕ ᖃᓂᒋᔮᓂ. ᑖᒃᑯᓇᓂ, ᐃᖃᓗᐃᑦ ᐱᑕᖃᖏᑦᑐᑦ ᒪᕐᕿᖕᓂ ᐃᓂᓂ; ᐊᒥᐊᒃᑯᑦ ᑎᓴᒪᑦ ᐃᓃᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐱᑕᖃᕝᕕᐅᑐᐃᓐᓇᓇᐊᓛᑦ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᐃᖃᓗᖕᓂᒃ ᐊᒻᒪ ᑲᑭᓚᓰᑦ ᓇᔪᖕᒋᓐᓂᒃ.

ᐊᓯᖏᑦ ᑐᓚᒃᑕᕝᕕᖕᒥ ᐱᖅᑯᑎᖅᔪᐊᑦ ᐊᒃᑐᐃᓂᖃᖅᓂᐊᖅᑐᑦ ᑕᓯᖅᓂ ᐱᖃᓯᐅᑎᓗᒋᑦ ᐅᑯᐊ:

- ᐊᒃᑕᕝᕕᒃ ᐃᓂᖃᖅᓗᓂ ᑰᓚᓛᓂ/ᓄᓇᑭᑦᑐᒥ ᐃᓂᒥ ᐃᖃᓗᐃᑦ ᓇᔪᓚᓇᙱᑕᖓᓂ; ᐊᒻᒪᓗ
- ᐃᒃᐱᑭᑦᑐᕐᔪᑦ ᕿᑭᖅᑕᖓᓂ ᐱᖅᑯᑎᖅᔪᐊᑦ ᐃᒻᒥᖅᑕᐅᓂᐊᖅᑐᑦ ᐃᒪᑦᑎᐊᕙᖕᒥ ᑕᓯᙳᖅᓗᑎᒃ ᑰᓚᓛᙳᖅᓗᑎᒃ, ᑕᒪᕐᒥ ᐃᖃᓗᖕᓄᑦ ᓇᔪᓚᐅᙱᑦᑐᑦ.

ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᕿᑭᖅᑕᖓᓂ ᐱᖃᓯᐅᔾᔨᔪᑦ ᑕᓪᓕᒪᓂ ᒥᑭᑦᑐᓂᒃ ᑰᓪᕕᐅᔨᓂᒃ 12-ᙳᐸᓗᒃᑐᑦ ᑕᓯᖃᓛᑦ, ᐃᑲᑦᑐᖅ ᑕᓯᖃᐃᑦ ᐊᒻᒪ ᐃᓱᕐᓂᕐᒧᑦ/ᐆᒪᔪᓄᑦ ᐃᖃᖃᖅᓱᑎᒃ ᐊᒻᒪ ᐊᒥᓱᓚᑦ ᑰᓚᓛᙳᓚᐅᑲᒃᑐᓂᒃ. ᑖᒃᑯᓇᓂ ᑕᓯᖅᓯᖅᓂ ᐊᒃᑐᐊᓂᖅᓴᙱᑦᑐᑦ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓄᑦ ᐊᑕᖏᖅᕗᓗᒋᑦ ᐃᑎᓗᐊᙱᖅᑭᓗᑦᑐᑦ ᐅᑮᕝᕕᐅᓂᕐᒧᑦ.

ᓇᔪᓚᐃᑦ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓂ ᑐᓚᒃᑕᕝᕕᒃᓴᒥ ᐊᒃᑐᖅᑕᐅᔪᑦ ᑐᓚᒃᑕᕝᕕᒃᓴᐅᑉ ᐱᖁᑎᖅᔪᐊᓂ ᐱᖃᓯᐅᔾᔨᐊᑦ ᐊᒥᓯᓂᒃ ᒥᑭᑦᑐᓂ, ᐊᒻᒪ ᓯᓪᓯᒥ ᐃᒪᙳᖅᑕᖅᑐᓂᒃ. ᐃᒪᐃᑦᑑᓚᔪᒃᑐᖅ, ᐊᒥᓃᖅᓴᑦ ᐊᑐᐃᓐᓇᐅᔪᑦ ᐃᖃᓗᐃᑦ ᓇᔪᓚᖏᑦ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓂ ᑐᓚᒃᑕᕝᕕᒃᓴᒥ ᓇᔪᓚᐅᔪᑦ. ᐊᒃᑐᐊᓂᖅᑕᖅ ᐊᒥᓃᙱᑦᑐᓂᒃ ᑰᓚᓛᔪᐊᙳᓂᖅᓴᓂ, ᐱᓗᐊᖅᑐᒥ ᑕᐃᒃᑯᓇᓂ

ᐱᑕᖃᕝᕕᐅᓪᓚᕆᒃᑐᑦ ᑐᐊᐸᔫᓂᒃ/ᐃᒃᑳᑦᑐᔫᓂ ᓇᔪᒐᐅᔪᓂ. ᐊᑕᖏᐸᓗᒃᓗᒋᑦ ᐊᑐᐃᓐᓇᐅᔪᑦ ᐃᖃᓗᐃᑦ ᓇᔪᒐᖏᑦ ᖃᐅᔨᓴᕝᕕᐅᔪᓂ ᑕᑯᕙᕕᐅᔪᓐᓇᖅᑐᑦ ᐊᒥᓱᓚᖕᓂᒃ ᑰᕕᐅᓯᓂ (ST-02, 04, 05, ᐊᒻᒪᓗ 06).

ᐊᒥᓱᑦ ᑰᓚᓵᑦ ᑐᓚᒃᑕᕝᕕᖏᕈᔪᒃ ᐃᖃᓗᖃᙱᑦᑐᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐱᑕᖃᑦᑎᐊᖏᓐᓂᖏᓐᓄᑦ ᑰᒃᑐᑦ ᐊᒻᒪᓗ/ᐅᑲᓘᓐᓃᑦ ᐊᒃᑐᐊᓂᖃᙱᓂᖏᓐᓄᑦ ᐅᐹᕕᐅᔪᓐᓇᖅᑐᓂᒃ ᐃᓂᓂᒃ. ᑖᒃᑯᓇᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂ ᐃᖃᓗᖕᓄᑦ ᓇᔪᒐᕆᔭᐅᓪᓗᑎᒃ, ᐊᑕᖏᐸᓗᒃᓗᑎᒃ ᐊᕙᒃᑐᖅᓯᒪᔪᑦ ᒥᑭᑦᑑᑕᐅᓂᖅᓴᓂᒃ ᑐᐊᐸᖕᓂᒃ ᐃᖅᑲᖅᑲᖅᓗᑎᒃ. ᐊᐳᕈᑕᐅᕙᒃᑐᑦ ᐱᑕᖅᑐᑦ ᑕᐅᕗᓇᓗᒃᑖᖅ ᐃᒪᙱᓰᓂ ᑭᓯᐊᓂᓕ ᑕᑯᒪᔪᖕᓇᕐᓂᖅᓴᐅᓪᓗᑎᒃ ᑰᕋᕐᔪᑯᓗᒃᑐᓂ ᓯᓪᔭᖓᓄᑦ. ᐊᐳᖅᑕᕈᑏᑦ ᐃᖃᓗᐃᑦ ᓅᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᑕᐅᕙᓂᓗᒃᑖᐸᓗᒃ ᑰᕕᐅᔪᓂ ᐱᑕᖃᕝᕕᐅᓚᔪᒃᑐᑦ ᐅᓄᕐᓂᖅᓴᓂ ᐱᑕᖃᕝᕕᐅᔪᓂ ᐊᒻᒪᓗ/ᐅᑲᓘᓐᓃᑦ ᐃᓂᓂ ᐃᒪᖃᑦᑎᐊᙱᑦᑐᓂ. ᓇᓐᓂᓐᓂᖏᑦ ᑖᒃᑯᐊ ᐊᐳᖅᑕᕈᑏᑦ ᐊᒻᒪ ᐱᑕᖃᕐᓂᖏᑦ ᐅᓄᖅᑐᑦ ᑰᓚᓵᑦ ᑰᓗᐊᙱᑦᑐᑦ, ᐃᒪᐃᓐᓇᓱᒋᓐᓈᔪᑦ ᐃᖃᓗᐃᑦ ᓅᐸᐅᓪᓕᐊᓇᓱᒃᑎᓪᓗᒋᑦ ᑖᒃᑯᓇᓂ ᑕᓯᕐᓂ ᑕᕝᕙᓂᔅᓴᐃᓐᓇᖅ ᐃᒪᙳᖅᑕᖅᑐᓂ ᕿᓪᓕᖃᑐᐃᓐᓇᓂᐊᓖᑦ, ᐱᓗᐊᖅᑐᒥ ᑕᓇᐅᕐᒥᐅᑕᓄᑦ ᐃᖃᓗᖕᓄᑦ. ᓱᕐᓗ, ᑲᖏᕿᔭᐅᔪᖅ ᑕᒪᒃᑯᐊ ᐊᒥᓱᑦ ᑕᓲᑦ ᑕᓇᐅᕐᒥᐅᑕᒥᒃ ᐃᖃᓗᖃᖅᑐᑦ ᐃᕙᕌᕈᖃᕐᓂᖏᓐᓂᒃ ᐊᒻᒪ ᐅᓄᓗᐊᙱᑦᑐᓂᒃ ᐱᑕᖃᕝᕕᐅᔪᓂ.

ᖄᒃᑲᓐᓂᐊᒍᑦ, ᐃᒪᐃᖅᑰᔨᔪᑦ ᐱᑕᖃᑦᑎᐊᖏᓐᓂᖓᓄᑦ ᐊᒃᑐᐊᖃᑎᒌᒃᑐᓂᒃ ᑕᓇᐅᑉ ᐊᕙᑎᖓᓄᑦ (ᓲᕐᓗ ᓅᑦᑐᓇᙱᓪᓗᑎᒃ ᐅᑲᓘᓐᓃᑦ ᑰᖃᑦᑎᐊᖏᓐᓂᖓᓄᑦ ᐃᒪᑭᓐᓂᖏᓐᓄᑦ ᑰᒃᑐᑦ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓄᑦ) ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂ ᑰᕕᐅᔪᓂ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᑐᓚᒃᑕᕝᕕᒃᓴᕈᔪᐊᓂ. ᐊᑕᐅᓯᑐᐊᖅ ᑕᓯᖅ ᑕᐅᕙᓂ (ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ 10 ᑭᓛᒥᑕ ᑕᓯᖅ/ᑕᓯᖅ ST-347) ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᖅ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᓐᓂ ᖃᐅᔨᓴᕐᓂᒥ ᐃᑲᔪᖅᑐᖅᑕᐅᓪᓗᑎᒃ ᑎᓯᕙᒃᑐᑦ ᒪᔪᖅᐸᒃᑐᑦ ᐊᒥᖅᓂᖏᑦ ᑕᓇᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ (ᐹᕙᓐᓛᓐ 2012). ᖃᓄᐃᒋᐅᓂᖏᑦ ᑎᓯᕙᒃᑐᑦ ᒪᔪᖅᐸᒃᑐᑦ ᑕᓇᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᓇᓃᑉᐸᖕᓂᖏᑦ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓂ ᑰᕕᐅᔪᓂ ᖃᐅᔨᒪᔭᐅᙱᑦᑐᑦ ᑭᓯᐊᓂ ᐱᖃᓯᐅᑎᔾᔨᓯᒪᑐᐃᓐᓇᓇᐊᓕᒃ ᐊᒥᓱᓚᖕᓂᒃ ᑕᓯᕐᓂᒃ.

ᑕᓇᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᐊᒻᒪ ᑲᑭᓛᔅᓴᑦ ᐱᔭᐅᓚᐅᖅᑐᑦ/ᑕᑯᔭᐅᓚᐅᖅᑐᑦ ᑕᐅᕙᓂᓗᒃᑖᖅ ᐃᒃᐱᑭᑦᑐᔪᓂ ᑐᓚᒃᑕᕝᕕᒃᓴᕈᔪᕐᒥ. ᑭᓯᐊᓂᓕ, ᑲᑭᓛᔅᓴᑦ ᓇᓂᓗᑦᑐᓛᔅᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐊᒻᒪ ᐊᒥᓲᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐊᒥᓱᓂ ᑰᕕᐅᔪᓂ. ᑕᒪᐃᓐᓂᒃ ᐅᒪᔪᑦ ᐊᔾᔨᒌᙱᒋᐊᕐᔪᒃᑐᑦ ᐱᔭᐅᓚᐅᖅᑐᑦ ᐅᑲᓘᓐᓃᑦ ᑕᑯᔭᐅᓪᓗᑎᒃ ᐊᒥᓲᓂᖅᓴᓂ ᑕᓯᕐᓂ ᑰᓚᓵᖕᓂᐅᙱᑦᑐᑦ ᐊᒻᒪ ᑰᕕᐅᕙᖕᓂᖅᓴᐅᔪᓂ. ᑭᓯᐊᓂᓕ, ᐃᖃᓗᐃᑦ ᐱᑕᖃᓚᐅᙱᑦᑐᑦ ᖃᐅᔨᓴᕝᕕᐅᔪᓂ ᑕᓯᕐᓂ ᑎᓴᒪᓂ ᒥᑭᓛᖑᔪᓂ (≤0.30 ᑭᓛᒥᑕᑦ ᑭᐸᓃᑦᑐᖅ), ᓯᑦᔭᖓᓂ, ᓄᓇᐃᓐᓇᕐᒥ ᑰᕕᐅᕙᒃᑐᓂ, ᐊᒻᒪ ᐊᑕᖏᖅᓗᒋᑦ ᐃᒪᑦᑎᐊᕙᖏᒥ ᐃᒪᖃᖅᑐᓂ ᑐᒃᓯᕋᖅᑕᐅᔪᓂ ᑐᓚᒃᑕᕝᕕᒃᓴᒥ ᐃᓪᓗᕐᔪᐊᖃᕝᕕᒃᓴᖓᓂ ᕿᑭᖅᑕᒥ. ᑰᕕᐅᔪᓗᒃᑖᐸᓗᐃᑦ ᐊᑐᖅᑕᐅᔪᑦ ᑕᒪᐃᓐᓄᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᒋᐊᕐᔪᒃᑐᓄᑦ. ᑭᓯᐊᓂᓕ, ᐱᑕᖃᖅᑐᖅ ᓯᑦᔭᒥ ᐊᒃᑐᐊᓂᖃᖅᑎᑦᑎᙱᑦᑐᑦ (ST-03, 18, ᐊᒻᒪᓗ 19) ᖃᐅᔨᒪᔭᐅᓪᓗᑎᒃ ᐃᑲᔪᕐᓂᖏᓐᓂᒃ ᐊᒥᓱᕈᖅᐸᓪᓕᐊᓂᖏᓐᓄᑦ ᑲᑭᓛᔅᓄᑦ, ᑭᓯᐊᓂᓕ ᑕᓇᐅᕐᒥᐅᑕᓅᙱᑦᑐᖅ ᐃᖃᓗᖕᓄᑦ. ᑕᒪᒃᑯᐊ ᑰᕕᐅᔪᑦ ᐊᔾᔨᖃᑦᑕᙱᑦᑐᑦ ᐊᖏᓂᖏᓐᓂᒃ 0.4-ᒥᑦ 1.0 ᑭᓛᒥᑕ ᑭᐸᓃᑦᑐᐸᓘᓪᓗᑎᒃ. ᑰᕕᐅᔪᖅᑕᖃᙱᑦᑐᑦ ᐊᑐᖅᑕᐅᔪᓂ ᑕᓇᐅᕐᒥᐅᑕᓄᑐᐊᖅ ᐃᖃᓗᖕᓄᑦ.

ᐃᒻᒥᖅᓱᐃᕚᑦ

ᑐᒃᓯᕋᖅᑕᐅᔪᑦ ᐃᒻᒥᖅᓱᐃᕝᕕᐅᖅᑯᔭᐅᓪᓗᓂ ᐃᓂ 10 ᑭᓛᒥ ᑕᓯᖅ, ᕿᑎᐊᓂ-ᓄᓇᓯᐅᑎᑯᑖᒃᓴᐅᑉ ᐊᖅᑯᑎᑯᑖᒃᓴᖓᓂ ᓇᔪᒐᐅᔪᒥ ᑕᓯᖓᓂ, ᐃᒃᐱᑭᑦᑐᕐᔪᐊᑦ ᑕᓯᖓᓂ (ᐃᓚᖓ ᓂᒋᐊᓂ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓂ ᓇᔪᒐᕐᒥ ᐊᒻᒪ ᐊᑕᐅᓯᖅ ᐃᒃᐱᑭᑦᑐᕐᔪᐊᓂ ᓄᓇᐅᑉ ᐃᓗᐊᒍᑦ ᓇᔪᒐᕐᒥ), ᐊᒻᒪ 3 ᑭᓛᒥᑕ ᑕᓯᕐᒥ ᐊᒃᑐᐃᓂᐊᖅᑐᑦ ᓇᔪᒐᕐᓂᒃ ᑕᒪᐃᓐᓄᑦ ᐆᒪᔪᓄᑦ ᐊᔾᔨᒌᙱᒋᐊᕐᔪᒃᑐᓄᑦ.

EXECUTIVE SUMMARY

The Mary River Project is an operating iron ore mine located in the Qikiqtani Region of Nunavut. Baffinland Iron Mines Corporation (Baffinland; the Proponent) is the owner and operator of the Project. As part of the regulatory approval process, Baffinland submitted a Final Environmental Impact Statement (FEIS) to the Nunavut Impact Review Board (NIRB), which presented in-depth analyses and evaluation of potential environmental and socioeconomic effects associated with the Project (Baffinland 2012). In 2012, Baffinland received approval for the Mary River Project, which involves a 149-km long railway connecting the Mary River Mine to a year-round port in Steensby Inlet, through the issuance of Project Certificate No. 005 (NIRB 2012).

Baseline field surveys were undertaken in 2021-2023 to provide an updated assessment of potential interactions between Project infrastructure associated with the Steensby Rail and Port and fish habitat, and to assist with final detailed engineering design and mitigation and support an application for a *Fisheries Act* Authorization (FAA). The results of these surveys were reported in North/South Consultants Inc. (NSC 2024a,b). An application for an FAA for the construction of the Steensby Rail and Port was submitted to Fisheries and Oceans Canada (DFO) February 1, 2024 (Knight Piésold Ltd. 2024).

This document represents an update to the report on field surveys completed at non-fish bearing sites along the rail alignment and in the port area (NSC 2024a) to incorporate results of additional surveys completed in the open-water season of 2024. The primary objective of the 2024 field program was to survey sites that were not previously surveyed (due to changes in rail design and identification of water intake locations following completion of the 2023 field program).

Results presented herein reflect detailed engineering design, including the rail alignment, embankments, and crossing designs, for the Steensby Rail, current to November 13, 2023 (provided by Systra), and Steensby Port, current to December 6, 2023 (provided by Ausenco). The results of field surveys conducted over the period of 2021-2024 at fish-bearing sites are presented in a companion report (NSC 2025a).

Field surveys, which consisted of determining presence/absence of the two fish species present in the study area (Arctic Char [*Salvelinus alpinus*] and Ninespine Stickleback [*Pungitius pungitius*]), and conducting habitat assessments, were undertaken at stream crossing, lake/pond encroachment/infill, and bridge crossing sites along the proposed Steensby Railway corridor and in the Steensby Port area and at proposed permanent water intake sites in lakes. Surveys were undertaken based on Project design details provided in advance of, or during, the field programs. Field programs were conducted during two survey periods in the open-water season (June/July and August/September) and most sites were surveyed a minimum of two times.

The objectives of the field programs were to:

- determine the presence/absence of fish in areas where the rail or port infrastructure footprints will interact with freshwater systems;
- collect information on barriers to fish movement in watercourses that would be affected by the rail alignment or port infrastructure footprints; and
- collect information on fish habitat at sites known to, or that may potentially, provide fish habitat.

For sites in waterbodies where barriers were not identified, where barriers were deemed to be potentially seasonal in nature (i.e., intermittent), and/or where a site was previously identified to provide fish habitat (known or potential), fish presence/absence was assessed with backpack electrofishing and visual surveys (where feasible). Aquatic habitat assessments were also completed in the vicinity of the proposed rail and port infrastructure at sites deemed as known or potential fish habitat.

Steensby Rail Alignment

The Steensby Rail interacts with waterbodies (streams, ponds, or lakes) at a total of 327 sites. Of these, 119 were identified as confirmed or potential char habitat and 136 as confirmed or potential stickleback habitat. A total of 190 sites were identified as not-fish bearing and 137 as confirmed or potential fish habitat. Three culvert sites (NEW 12, NEW 21, and CV-111-1-N) that were previously identified as potential low points were identified as non-fish bearing streams based on the 2024 field surveys; these culvert sites were added following completion of the 2023 field program

Streams that support Arctic Char that will be crossed by the Steensby Railway are typically perennial or intermittent streams with predominantly gravel and cobble/boulder substrates; in some low-lying areas substrates are predominantly fines. The largest streams (rivers crossed by bridges at the Mary River, Ravn River, the unnamed rivers crossed at BR-137-1 and BR-141-1, and the Cockburn Lake narrows) may provide some summer feeding habitat and serve as movement corridors for adults. All other streams provide summer juvenile rearing habitat only. Juvenile char move into the smaller streams in spring and return to overwintering habitat in fall. The Ravn River and Cockburn Lake narrows crossings may also have sufficient depth to support overwintering. Other than these sites, overwintering and spawning are believed to be restricted to lakes with sufficient depth.

There is one notable exception to this general description of Arctic Char distribution along the railway. An entire sub-catchment (that includes crossings from CV-069-2 to CV-085-2) that is drained by the northwest branch of the Cockburn River contains stickleback but does not appear to contain any resident char populations.

Ninespine Stickleback along the Steensby Railway are most widespread and abundant in ponds, wetlands and low-lying, slow-flowing, frequently intermittent/ephemeral streams. These habitats can support rearing of juveniles and feeding and potentially spawning of adults. Some of the larger, deeper ponds may also support stickleback overwintering. The intermittent nature of much of this habitat increases the risk of stranding and associated winterkill for stickleback. Such mortalities have been observed at several sites along the rail but were most common in the mid-rail area.

Steensby Port Area

In addition to the rail and combined rail/access road crossings, four culverts will be installed across access road stream crossings and two will be installed on streams beneath the airstrip in the Steensby Port area. Of these, fish are not present at two sites; the remaining four sites are confirmed or potential Arctic Char and Ninespine Stickleback habitat.

Other port infrastructure that will affect waterbodies includes the following:

- the Land Farm is located in a stream/low point area that is not fish habitat; and
- Steensby Island infrastructure will infill freshwater ponds and streams, none of which are fish habitat.

Steensby Island includes five small catchments with approximately 12 small, shallow ponds with silt/organic substrate and a few ephemeral streams. None of these ponds have connectivity to Steensby Inlet and all lack sufficient depth for overwintering.

Habitat in the Steensby Port Area affected by port infrastructure includes many small, coastal watersheds. Generally, the majority of available fish habitat in the Steensby Port Area is lacustrine. There are relatively few large streams, in particular those with a predominance of cobble/riffle habitat. Most of the available fish habitat in the surveyed area can be found in a handful of catchments (ST-02, 04, 05, and 06).

Many of the streams in the port area are not fish-bearing due to a lack of sufficient surface flows and/or connectivity with probable overwintering locations. Of those identified as providing fish habitat, most are characterized by mainly fine substrates. Barriers are present throughout most catchments but are more common in smaller drainages along the coast. Barriers to fish movement in the area typically consist of steep gradients and/or areas with little to no surface water. The distribution of these barriers and the presence of a large number of streams with limited flow, suggest that fish movements between lakes within the same catchment may be somewhat limited, particularly for Arctic Char. As such, it is suspected that many of the lakes with Arctic Char contain landlocked and isolated populations.

In addition, there appears to be a general lack of connectivity with the marine environment (i.e., barriers to movement or insufficient flows/water levels in streams flowing into Steensby Inlet) in surveyed catchments within the Steensby Port area. Only one lake in the area (Ikpikitturjuaq/10 km Lake/Lake ST-347) has been identified through Inuit Qaujimajatuqangit (IQ) studies as supporting an anadromous population of char (Baffinland 2012). The extent of anadromous char distribution in the Ikpikitturjuaq catchment is unknown but may include several lakes.

Arctic Char and Ninespine Stickleback were captured/observed throughout the Steensby Port area. However, stickleback were more widespread and abundant in many catchments. Both species were captured or observed more commonly in lakes than in streams in most watersheds. However, fish were absent from surveyed waterbodies in four of the smallest (≤0.30 km^2), coastal, mainland catchments and from all freshwater catchments on the proposed port facility island. Most catchments support both species. However, there are three coastal watersheds (ST-03, 18, and 19) known to support populations of stickleback, but not char. These catchments range in size from approximately 0.4 to 1.0 km^2. There are no catchments that support only char.

Water Intake Sites

The proposed water intake sites at 10 km Lake, Mid-Rail Camp Lake, Cockburn Lake (one at South Cockburn Camp and one at Cockburn Tunnels Camp), and 3 km Lake will affect habitat for both species.

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ABBREVIATIONS AND ACRONYMS

ARCH	Arctic Char
B	Boulder/Boulder garden
CPUE	Catch-per-unit-effort
DFO	Fisheries and Oceans Canada
DO	Dissolved oxygen
DS	Downstream
FAA	*Fisheries Act* Authorization
FEIS	Final Environmental Impact Statement
HG	High gradient
INT	Intermittent
IQ	Inuit Qaujimajatuqangit
LHB	Left hand bank
N	No
N/A	Not applicable
NIRB	Nunavut Impact Review Board
NM	Not measured
NNST	Ninespine Stickleback
NSC	North/South Consultants Inc.
P	Potential
RHB	Right hand bank
PERM	Permanent
SHALL	Shallow
SSF	Subsurface flow
US	Upstream
UTM	Universal Transverse Mercator
VALL	Velocity barrier – all flows
VD	Vertical drop
VHIGH	Velocity barrier – high flow only
Y	Yes

1.0 INTRODUCTION

The Mary River Project is an operating iron ore mine located in the Qikiqtani Region of Nunavut. Baffinland Iron Mines Corporation (Baffinland; the Proponent) is the owner and operator of the Project. As part of the regulatory approval process, Baffinland submitted a Final Environmental Impact Statement (FEIS) to the Nunavut Impact Review Board (NIRB), which presented in-depth analyses and evaluation of potential environmental and socioeconomic effects associated with the Project (Baffinland 2012).

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Baseline field surveys were undertaken in 2021-2023 to provide an updated assessment of potential interactions between Project infrastructure associated with the Steensby Rail and Port and fish habitat, and to assist with final detailed engineering design and mitigation and support an application for a *Fisheries Act* Authorization (FAA). The results of these surveys were reported in North/South Consultants Inc. (NSC 2024a,b). An application for an FAA for the construction of the Steensby Rail and Port was submitted to Fisheries and Oceans Canada (DFO) February 1, 2024 (Knight Piésold Ltd. 2024).

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Results presented herein reflect detailed engineering design, including the rail alignment, embankments, and crossing designs, for the Steensby Rail (Figure 1), current to November 13, 2023 (provided by Systra), and Steensby Port (Figure 2), current to December 6, 2023 (provided by Ausenco). The results of field surveys conducted over the period of 2021-2024 at fish-bearing sites are presented in a companion report (NSC 2025a).

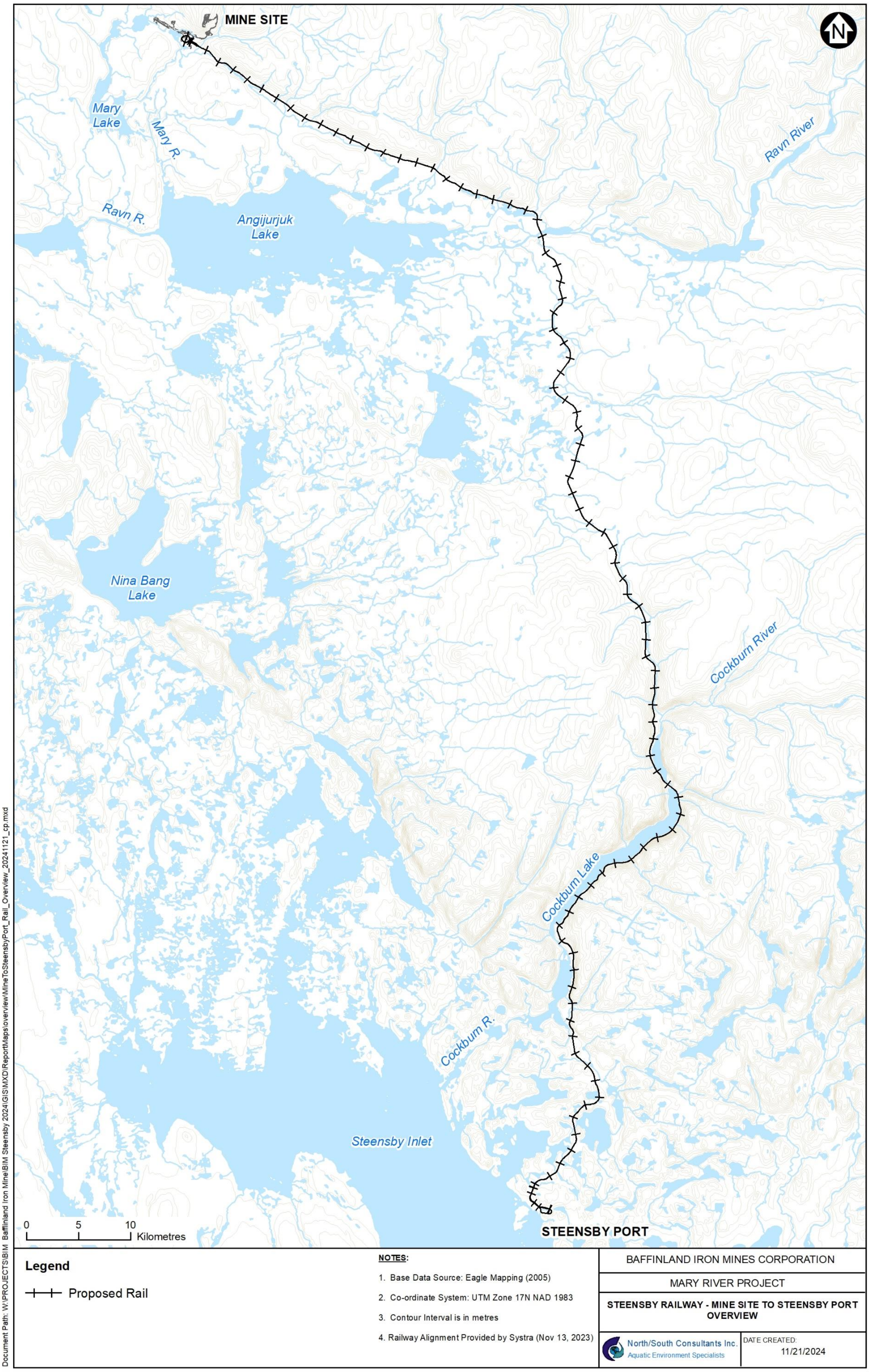


Figure 1. Site map showing the proposed Steensby Railway alignment.

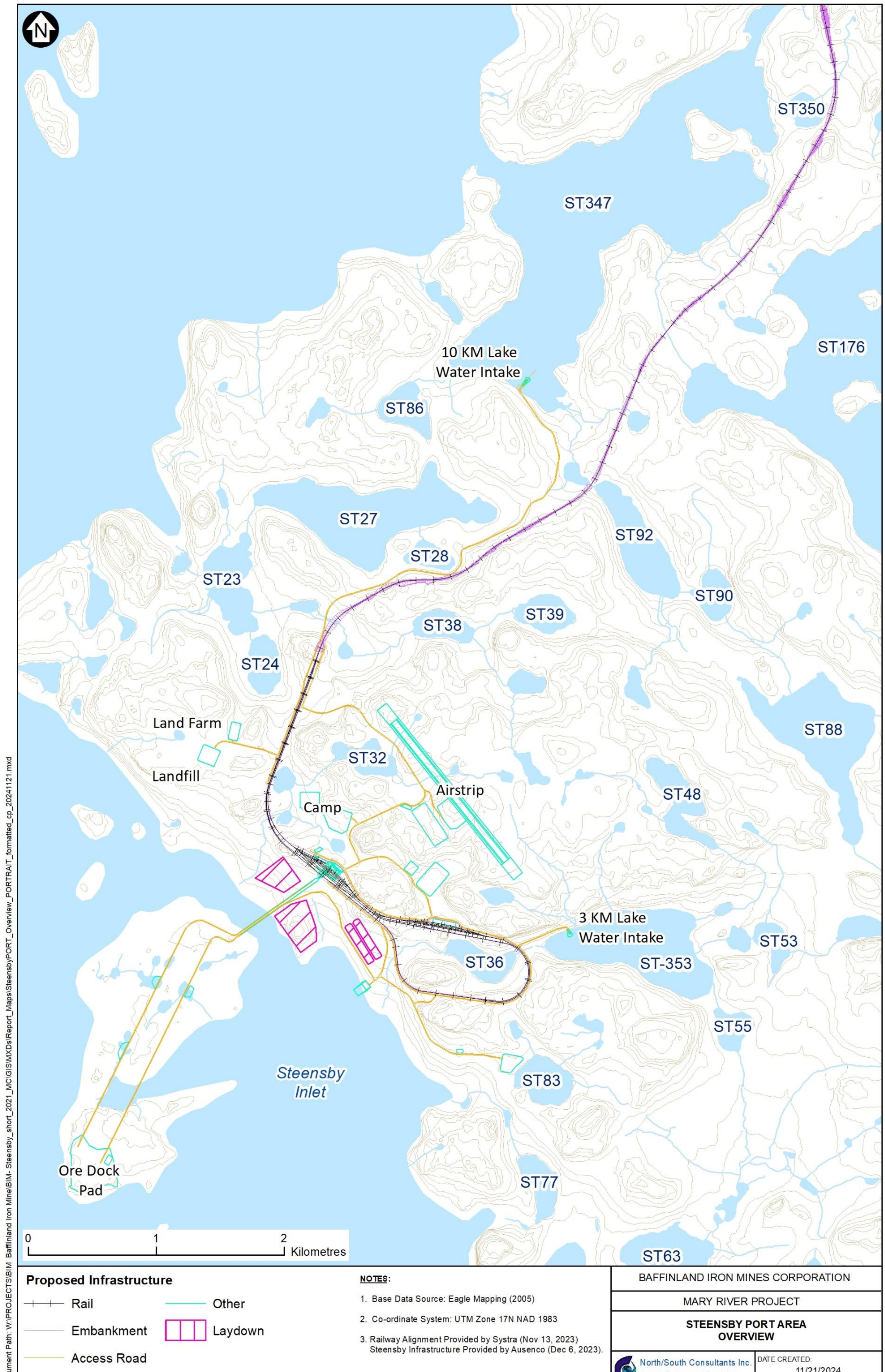


Figure 2. Site map showing the proposed Steensby Port layout.

2.0 METHODS

The following provides a description of the scope and methods for the field programs conducted in 2021-2024 along the Steensby Railway route and in the Steensby Port area. Surveys, which consisted of determining presence/absence of the two fish species present in the study area (Arctic Char [*Salvelinus alpinus*] and Ninespine Stickleback [*Pungitius pungitius*]), and conducting habitat assessments, were undertaken at stream crossing, lake/pond encroachment/infill, and bridge crossing sites along the proposed Steensby Railway corridor and in the Steensby Port area and at proposed permanent water intake sites in lakes. Surveys were undertaken based on Project design details provided in advance of, or during, the field programs.

2.1 SCOPE AND OBJECTIVES

The objectives of the field programs were to:

- determine the presence/absence of fish in areas where the rail or port infrastructure footprints will interact with freshwater systems;
- collect information on barriers to fish movement in watercourses that would be affected by the rail alignment or port infrastructure footprints; and
- collect information on fish habitat at sites known to, or that may potentially, provide fish habitat.

2.2 FIELD METHODS

Two survey periods were undertaken in the open-water seasons of 2021-2023 and one in the open-water season of 2024:

- Spring 2021: June 22 to July 7;
- Summer/Fall 2021: August 18 to September 9;
- Spring 2022: June 26 to July 12;
- Summer/Fall 2022: August 4 to 31;
- Spring 2023: June 29 to July 12;
- Summer/Fall 2023: August 3 to September 6; and
- Summer/Fall 2024: July 27 to August 27.

Most potential or confirmed fish-bearing sites were surveyed a minimum of two times to obtain information during the early and late open-water season; exceptions occurred for sites located on sections of the rail that were realigned or areas of port infrastructure that were redesigned in August 2023 or after the spring and/or summer/fall program had been completed in 2023. Sites identified as not-fish bearing (e.g., sites with permanent barriers to fish movements, lack of connectivity to overwintering habitat) were surveyed during a minimum of one sampling period; additional surveys were conducted to confirm presence of permanent barriers to fish where required.

Sites were assessed through a combination of aerial and ground-based surveys. Aerial surveys were conducted to assess the presence of waterbodies (e.g., assess if a site is a low point or a watercourse), connectivity to overwintering habitat, and to identify potential barriers to fish movement, where required.

All waterbodies were classified as a stream, pond, or in cases where the infrastructure will affect a stream and pond (e.g., near a lake outflow), stream/pond. Project engineers also identified a number of culverts in areas that are not aquatic habitat which were designated as low points. Low points included sites with either no water (i.e., dry) or that were wetted depressions with no evidence of connectivity (channels) to streams or ponds. Sites that were identified as low points were not assessed further and were deemed to be not aquatic habitat (i.e., non-classified drainage).

For all other locations, stream and pond sites were assessed in greater detail to identify or confirm potential fish barriers, conduct aquatic habitat surveys, and assess fish presence/absence. Barrier types were recorded as described in Table 1. Barriers were classified as permanent (i.e., fish passage not possible under a range of flow conditions such as a falls) or intermittent (e.g., subsurface flow present during one sampling period but surface flow present during one or more sampling periods).

Table 1. Barrier types and descriptions for Arctic Char.

Type	Abbreviation	Description	Permanent (PERM) or Intermittent (INT)
Vertical drop/Falls	VD	Barriers with a drop of >0.5 m that could not be passed by juvenile char under all flow conditions.	PERM
High gradient	HG	Barriers where the gradient exceeds 10°. Steep gradient provides consistently high velocities that are often combined with low water levels typically over long stretches of habitat.	PERM
Boulder/Boulder garden	B	Large boulders blocking the channel such that juvenile char could not pass under all flow conditions.	PERM
Velocity barrier – all flows	VALL	Barriers formed in constrictions and/or drops in the channel where high flows (>2 m/s) prevent upstream passage of juvenile char under all flows.	PERM
Velocity barrier – high flow only	VHIGH	These barriers are formed when velocity in the stream channel is too high (>2 m/s) to permit upstream movements of all size classes of juvenile char under high flow conditions. The absence of significant constrictions or vertical drops results in reduced velocities under lower flow conditions that may permit fish passage.	INT
Insufficient depth	SHALL	Water depth of less than 0.02 m for small juvenile char and 0.2 m for adult fish.	PERM/INT
Subsurface flow	SSF	Flow is largely or entirely subterranean and surface water is lacking or of insufficient depth for fish passage.	PERM/INT
Other	Other	Headwaters, unconnected pools	PERM/INT

2.2.1.1 Fishing

For sites where barriers were not identified, where barriers were deemed to be potentially seasonal in nature (i.e., intermittent), and/or where a site was previously identified to provide fish habitat (known or potential), fish presence/absence was assessed via backpack electrofishing and visual surveys (where feasible). Electrofishing could not be conducted in some instances due to insufficient water (i.e., shallow water) or in other cases, notably in spring 2021, due to persistent ice cover.

In streams, fishing was conducted along a minimum of 100 m of habitat and for a minimum of 100 seconds. Where possible (i.e., where aquatic habitat was present and the waterbody was sufficiently deep to facilitate electrofishing) fishing was conducted a minimum of 50 m downstream to 50 m upstream of the stream crossing centreline (based on the rail design at the time of the surveys), or up to a confluence with a large river or lake/pond (e.g., site CV-142-2) or a permanent barrier to fish. In some instances, electrofishing locations and distances fished were dictated by the presence of water of sufficient depth. Due to changes to the rail design over the course, and following completion, of the field programs, locations of electrofishing varied with reference to the current rail or access road centrelines.

Ponds were fished within the railway encroachment area and if no fish were captured, electrofishing was conducted along additional shoreline for a duration of up to 500 seconds in larger ponds/lakes. For small ponds, electrofishing was conducted along the entire perimeter.

Duration, electrofisher settings, and universal transverse mercator (UTMs) coordinates were recorded for each site. All captured fish were placed in a pail filled with source water and identified to species and measured for fork length (± 1 mm) before being released back into their source waterbodies.

If fish were not captured or observed during surveys, connectivity of the stream/pond with the nearest potential overwintering lake (i.e., lakes with maximum depth >3.0 m) or large river was assessed and any potential natural barriers to fish movement identified. Barriers were described and photographed, UTMs were recorded, and where feasible, physical measurements of barriers (e.g., height of vertical barriers) were collected.

2.2.1.2 Habitat Assessment

Habitat characteristics were recorded at all sites deemed as known or potential fish habitat as described below.

Streams

Stream habitat surveys extended a minimum of 100 m upstream and downstream of the centreline of the crossing, or up to a confluence with a major stream or lake, or where habitat was dry or of insufficient depth to facilitate electrofishing. With few exceptions, detailed habitat information was collected across transects at the rail centreline and at 20 m intervals upstream and downstream of the centreline. As noted for electrofishing, at some sites the locations of habitat assessments (including transects) varied with respect to the current rail centreline due to changes in the rail design following completion of field surveys.

General habitat information collected included:

- Water temperature;
- Stream gradient;
- Stage, defined as: low = 0 – 30%; moderate = 30 – 90%; and high = >90% bankfull;
- Channel confinement: confined; frequently confined; unconfined; or not applicable (e.g., delta at mouth of stream);
- Stream morphology: straight; sinuous; meandering;
- Riparian vegetation: percentage of type (i.e., grass, willow, other, and none); and
- Floodplain: description of the substrate of the dry parts of the channel as the percentage of boulder, cobble, gravel, sand, and fines.

Additional habitat information collected at each of the survey transects included:

- Bankfull width and wetted width (at 25, 50, and 75% across the channel width);
- Water depth (at 25, 50, and 75% across the channel width);
- Velocity (at 25, 50, and 75% across the channel width); and

- Stream morphology (riffle, pool (<0.2 m depth), pool (>0.2 m depth), run, cascade, flat, and rapids; Table 2);
- Substrate composition (Table 3); and
- Percent and type of instream vegetation.

Information on bank characteristics collected at each stream centreline location included:

- Height;
- Stability: high (100%); moderate (>50%); low (<50%): unstable (slumping);
- Materials: percent boulder; cobble/gravel/sand; mineral soil; organic; and
- Shape: vertical; undercut (over water); overhanging (i.e., not over water); or sloping away from water.

Photographs were taken upstream, downstream, and across at each of the transects.

Stream crossing sites that were identified as providing or potentially providing fish habitat were then surveyed farther upstream of the crossing location for barriers to determine the furthest upstream extent of potential fish habitat. Surveys were conducted through a combination of aerial and ground-based surveys.

Lakes/Ponds

For lakes/ponds, habitat was assessed in the vicinity of the proposed rail footprints and included assessment of nearshore (from shore to approximately 2-3 m into the pond) and offshore (area beyond 2-3 m from shore) areas; surveys were completed from shore and out to wadeable depth. Information collected included:

- Water temperature;
- Riparian and instream vegetation;
- Substrate type (Table 3); and
- Water depth.

Presence/absence of inflows/outflows, barriers to fish movements, and connectivity to (or lack of) potential overwintering habitat were also noted.

Table 2. Stream morphology units.

Type		Description
Riffle		High velocity/gradient (vs. run), surface broken; shallow (<0.5 m)
Rapids		High velocity, deeper than riffle, coarse substrate
Cascade		High gradient and velocity, extremely turbulent, armoured substrate
Run (Glide)		Moderate to high velocity, surface mostly unbroken, deeper than riffle
Flat		Low velocity, near-uniform flow, differential from a pool by high channel uniformity
Pool	>0.2 m	Portion of the channel with increased depth and reduced velocity, formed by channel scour
	<0.2 m	

Table 3. Substrate classes.

Substrate	Size (mm)
Fines	<2
Gravel	2-16
Small cobble	17-64
Large cobble	65-256
Boulder	>256

2.3 FISH HABITAT CLASSIFICATION

Sites were classified as not fish habitat (N), fish habitat (Y), or potential fish habitat (P) for both fish species. Sites classified as not fish habitat for either species included:

- Isolated Waterbodies: Sites that lacked connectivity to overwintering habitat (e.g., isolated shallow pond); and
- Inaccessible Sites: Sites for which permanent barriers to fish were identified during the 2021, 2022, 2023, and/or 2024 surveys, or other previous surveys, of the site or downstream area (or upstream area where applicable).

Fish habitat was defined as sites where fish presence has been established through the 2021-2024 (or previous) surveys. Potential fish habitat was defined as sites where fish were not captured or observed in the 2021, 2022, 2023, and/or 2024 or any other previous surveys and where no permanent barriers to fish passage were identified. In some instances, sites were deemed to be not fish habitat for one and/or both fish species based on the weight-of-evidence of the field studies which indicate their absence from an entire drainage.

2.4 FISH HABITAT USE

Potential habitat uses were identified for each site (spawning, overwintering, rearing, and adults present) for both species. Streams in the study area either dry up or freeze to the bottom each winter. Therefore, overwintering habitat potential for both species, and spawning habitat for char, is limited to ponds/lakes and potentially, some large rivers. Ponds and streams that are known to be, or that are potentially, used by char or stickleback provide rearing habitat.

The potential for a pond or lake to support spawning or overwintering for char was identified based on measured or estimated maximum depth. Lakes/ponds with maximum depths of less than 3 m were considered to be of insufficient depth to support spawning or overwintering of char, based on an ice thickness of 2 m (maximum ice thickness for north of the tree line; DFO 2010).

Stickleback use a wide range of habitat for spawning but prefer shallow (typically <0.05 m), low flow or stagnant areas with fine substrates and, often aquatic or flooded terrestrial vegetation (Stewart and Watkinson 2004). Ninespine Stickleback males build tubular nests of vegetation and other debris with a string-like kidney secretion as an adhesive, usually over fine substrates in little to no flow. Habitat was conservatively assumed to potentially support spawning in low velocity areas (i.e., pond or marsh habitat) where stickleback were present during the field surveys.

Ponds with maximum depths >2 m were considered to potentially support overwintering of stickleback; this species has less stringent requirements for overwintering, in terms of dissolved oxygen (DO) levels and quantity of habitat, than char. Ninespine Stickleback can tolerate very low DO conditions, which is thought to be a key biological attribute for facilitating successful survival in shallow Arctic lakes (e.g., Haynes et al. 2014). The minimum depth utilized (i.e., >2 m) is relatively conservative as it assumes sufficient water/habitat is present in ponds where the maximum depth exceeds an ice thickness of 2 m (i.e., that these ponds would contain a sufficient volume of water and oxygen to support fish over winter in unfrozen refugia). Haynes et al. (2014) considered lakes with no overwintering potential for Ninespine Stickleback to be those with 0% of the lake area greater than 2 m in depth. Stickleback may disperse to lakes with no overwintering potential in the open-water season, but the lakes cannot sustain populations over winter.

2.5 INFRASTRUCTURE AND CROSSING DESIGN INFORMATION

Steensby railway drawings and crossing design details including culvert length, number of barrels, and diameter, bridge spans and length of spans, slope, and catchment areas were provided by Systra Canada Inc. (Systra). Drawings and culvert design information associated with Steensby Port infrastructure were provided by Ausenco.

3.0 RESULTS AND DISCUSSION

3.1 STEENSBY RAILWAY SITES

The Steensby Rail interacts at a total of 327 sites in waterbodies (streams, ponds, or lakes; Table 4). Of these, 119 were identified as confirmed or potential char habitat and 136 as confirmed or potential stickleback habitat. A total of 190 sites were identified as not-fish bearing. Fish habitat designations for waterbody sites surveyed over the 2021-2024 field surveys are provided in Attachment 1. Habitat assessment sheets for non-fish bearing sites along the proposed rail alignment are provided in Attachment 2 (total of 190 sites). Three sites (NEW 12, NEW 21, and CV-111-1-N) surveyed in 2024 were identified as non-fish bearing streams that were previously identified as potential low points; these culvert sites were added following completion of the 2023 field program.

Streams that support Arctic Char that will be crossed by the Steensby Railway are typically perennial or intermittent streams with predominantly gravel and cobble/boulder substrates; in some low-lying areas substrates are predominantly fines. The largest streams (rivers crossed by bridges at the Mary River, the Ravn River, the unnamed rivers crossed at BR-137-1 and BR-141-1, and the Cockburn Lake narrows) may provide some summer feeding habitat and serve as movement corridors for adults. All other streams provide summer juvenile rearing habitat only. Juvenile char move into the smaller streams in spring and return to overwintering habitat in fall. The Ravn River and Cockburn Lake narrows crossings may also have sufficient depth to support overwintering. Other than these sites, overwintering and spawning are believed to be restricted to lakes with sufficient depth.

There is one notable exception to this general description of Arctic Char distribution along the railway. An entire sub-catchment (that includes crossings from CV-069-2 to CV-085-2) that is drained by the northwest branch of the Cockburn River contains stickleback no Arctic Char. See Section 3.4.3 for a description of this area.

Ninespine Stickleback along the Steensby Railway are most widespread and abundant in ponds, wetlands and low-lying, slow-flowing, frequently intermittent/ephemeral streams. These habitats can support rearing of juveniles and feeding and potentially spawning of adults. Some of the larger, deeper ponds may also support stickleback overwintering. The intermittent nature of much of this habitat increases the risk of stranding and associated winterkill for stickleback. Such mortalities have been observed at several sites along the rail but were most common in the mid-rail area.

Table 4. Summary of 2021-2023 Steensby Rail fish habitat field survey results.

Fish Habitat Designation	Number of Sites
Artic Char - Total	119
Artic Char - Only	1
Ninespine Stickleback - Total	136
Ninespine Stickleback - Only	18
Artic Char + Ninespine Stickleback	118
Total Fish-Bearing Sites	137
Not Fish-Bearing	190
Total Sites	327

3.2 STEENSBY PORT SITES

In addition to the rail and combined rail/access road crossings, four culverts will be installed across access road stream crossings and two will be installed on streams beneath the airstrip in the Steensby Port area (Table 5). Of these, fish are not present at two sites; the remaining four sites are confirmed or potential Arctic Char and Ninespine Stickleback habitat.

Other port infrastructure that will affect waterbodies includes the following:

- the Land Farm is located in a stream/low point area that is not fish habitat; and
- Steensby Island infrastructure will infill freshwater ponds and streams, none of which are fish habitat.

Steensby Island includes five small catchments with approximately 12 small, shallow ponds with silt/organic substrate and a few ephemeral streams. None of these ponds have connectivity to Steensby Inlet and all lack sufficient depth for overwintering.

Fish habitat designations for waterbody sites surveyed over the 2021-2024 field surveys is provided in Attachment 1. Habitat assessment sheets for non-fish bearing sites in the Steensby Port area mainland (total of 3 sites) and the Steensby Port Island are provided in Attachment 2.

Table 5. Summary of 2021-2023 Steensby Port fish habitat field survey results.

Fish Habitat Designation	Number of Sites[1]
Artic Char - Total	4
Artic Char - Only	0
Ninespine Stickleback - Total	4
Ninespine Stickleback - Only	0
Artic Char + Ninespine Stickleback	4
Total Fish-Bearing Sites	4
Not Fish-Bearing	3
Total Sites	7

NOTES:

1. Excludes Steensby Port Island

3.3 WATER INTAKE SITES

Four proposed water intake sites at 10 km Lake, Mid-Rail Camp Lake, and Cockburn Lake (one at South Cockburn Camp and one at Cockburn Tunnels Camp) were surveyed in 2024. One additional proposed intake site at 3 km Lake was surveyed in 2023. Both fish species were confirmed to be present in each of these lakes (Table 6). Habitat assessment sheets for the proposed water intake sites are provided in Attachment 3.

Table 6. Summary of 2021-2024 proposed water intake field survey results.

Fish Habitat Designation	Number of Sites
Artic Char - Total	5
Artic Char - Only	0
Ninespine Stickleback - Total	5
Ninespine Stickleback - Only	0
Artic Char + Ninespine Stickleback	5
Total Fish-Bearing Sites	5
Not Fish-Bearing	0
Total Sites	5

3.4 OVERVIEW OF FISH AND FISH HABITAT

3.4.1 Mary River to Ravn River: km 0 to km 39

Streams within the first 39 km of the proposed rail alignment largely originate at high elevation along a plateau to the north of the rail centreline, flowing down hills towards one of two larger river systems (the Mary and Ravn rivers). Streams crossed by the rail alignment from the Mary River to km 5.5 are within the Mary River/Mary Lake sub-catchment. Streams from km 5.5 to the Ravn River are within the Ravn

River/Angijurjuk Lake catchment. There are several potential overwintering lakes within a relatively short swimming distance of most crossings in this area.

Most of the streams in this area have moderate to high gradients often creating barriers to fish movements. Riffles, cascades, and rapids are common, particularly in the larger streams, and substrates are predominantly coarse material (large cobble/boulder) except for a few low-lying crossings near the larger downstream lakes. Streams in this stretch are consistently the last along the Steensby Railway to become snow/ice-free and begin flowing during spring. Both fish species are present in this area, but Arctic Char are more abundant and widespread in streams crossed by the rail. Ninespine Stickleback are uncommon and mainly restricted to ponds/lakes and the lower reaches of these streams where average velocities are lower.

Photograph 1. Photo of the Mary River, a fish-bearing river, taken near the rail crossing in August 2022.

Photograph 2. Photo of rail site CV-006-1 at an unnamed fish-bearing stream taken near the rail crossing in spring 2022.

Photograph 3. Photo of rail site CV-008-2 at an unnamed non-fish bearing stream taken near the rail crossing in August 2021.

Photograph 4. Photo of rail site CV-009-0 at an unnamed non-fish bearing stream taken near the rail crossing in spring 2021.

3.4.2 Ravn River: km 39 to km 73

The mid-rail area, from the Ravn River to km 73, consists of waterbodies within the Ravn River/Angijurjuk Lake catchment. Terrain in this area is low-relief resulting in a large number of small, shallow ponds, wetlands, and slow-moving streams with poor channel definition and silt/organic substrates. There is typically substantive overland flooding in spring as snow melts, creating intermittent connectivity among many of the waterbodies.

Both fish species are present in this area, but Ninespine Stickleback are far more abundant and widespread. Arctic Char prefer deeper, faster-flowing streams with coarse substrates or deeper lakes; habitats that are uncommon along this stretch of the rail alignment. Stickleback prefer the shallow, well-vegetated, slow-flowing streams and ponds, and can often be found several kilometres from assumed overwintering habitat. Stickleback use this habitat for rearing/feeding and potentially spawning during the open-water season. However, due to the intermittent connectivity characteristic of many of the streams and ponds in this area, there is a high risk of natural stranding as water levels recede following the spring freshet. Many dead stickleback were observed during spring site visits that had clearly become stranded the previous fall and were unable to return to overwintering habitat (deeper lakes/ponds).

Photograph 5. Photo of the Ravn River, a fish-bearing river, taken near the rail crossing in spring 2022.

Photograph 6. Photo of rail site CV-049-2 at an unnamed fish-bearing stream taken near the rail crossing in spring 2022.

Photograph 7. Photo of rail site CV-052-1 at an unnamed non-fish bearing stream taken near the rail crossing in spring 2021.

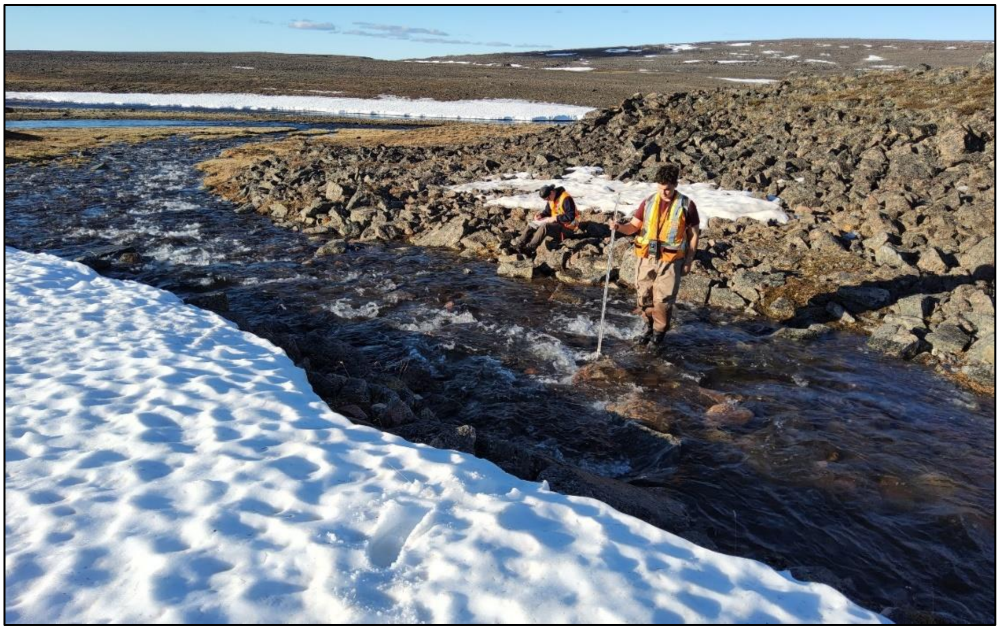
3.4.3 Upper Cockburn River Drainage: km 73 to km 91

This section of the rail alignment crosses streams that flow into the northwest branch of the upper Cockburn River. Most of the streams in this area have moderate to high gradient as the flow originates from high elevation areas to the west of the northwest Cockburn River. Stream habitat is largely riffle/cascade with coarse substrates. Gradient barriers to fish are common, and many streams have intermittent flows only during freshet, before drying up in summer/fall. A notable feature of the entire sub-catchment that is drained by the northwest branch of the Cockburn River is the near total absence of lakes that could support overwintering and spawning for Arctic Char, and access from Cockburn Lake is precluded by several cataracts and high waterfalls located approximately 3.5 km north of the lake's north basin. The implication is that Arctic Char are absent from this sub-catchment, despite the presence of an abundance of suitable stream habitat. The only potential overwintering refuge and spawning area is an approximately 31 ha lake (KP85 Lake) located along the tributary mainstem between km 84 and km 86 of the rail. This lake was surveyed in detail in 2024 and it was determined that much of it is shallow, although the central basin has depths exceeding 20 m (NSC 2025b). This would be adequate to support overwintering for Arctic Char, and their absence indicates the species never colonized this drainage.

The Steensby Railway alignment interacts with 47 streams/ponds in this sub-catchment upstream of the falls. All of these waterbodies that are capable of supporting fish (i.e., suitable habitat with access from the northwest Cockburn River) have been surveyed a minimum of three times between the earlier FEIS field studies (2007-2011) and the recent field studies (2021-2024). Surveys have been conducted during various seasons and under low and high flow conditions. Char have never been observed or captured in any of these waterbodies. In addition, the absence of char from KP85 Lake was confirmed in 2010 and again in 2024 through extensive shoreline electrofishing surveys (NSC 2025c).

Ninespine Stickleback are present in this sub-catchment, likely overwintering in km 81 Lake. However, the fast-flowing rocky habitat present in many of the streams crossed by the rail generally limits their distribution to the lower reaches of these streams, near the confluence with the northwest Cockburn River, and the northwest Cockburn River itself.

Photograph 8. Photograph of one of the sets of falls on the northwest branch of the Cockburn River taken in August 2023.



Photograph 9. Photo of rail site CV-076-1 at an unnamed fish-bearing stream upstream of the impassable falls on the Cockburn River taken near the rail crossing in spring 2022.

Photograph 10. Photo of rail site CV-078-3 taken at an unnamed non-fish bearing stream near the rail crossing in August 2021.

3.4.4 Cockburn River Drainage: km 91 to km 132

Waterbodies along the rail alignment from km 91 to km 132 are part of the Cockburn Lake/Cockburn River catchment. Most streams in this section originate at high elevation from cliffs on either side of Cockburn Lake/River. Streams are frequently very high gradient with mainly cascade/boulder habitat and permanent barriers to fish movements are common.

Both species are present in the catchment, but the frequency of barriers and habitat type limits their distribution, particularly for stickleback. Most fish habitat in this area is found in the Cockburn Lake/River itself and some alluvial fan habitat in a large tributary stream at the southernmost end of Cockburn Lake where the surrounding terrain is lower relief.

Photograph 11. Photo of the Cockburn Lake bridge crossing area (BR-095-1) taken in spring 2022.

Photograph 12. Photo of a typical stream (at rail site BR-096-1) flowing into the east side of Cockburn Lake taken in August 2021.

Photograph 13. Photo of rail site CV-111-1-Y at an unnamed non-fish bearing stream taken near the rail crossing in August 2021.

3.4.5 Steensby Inlet Coastal Watersheds: km 132 to Steensby Port

Waterbodies along the rail alignment from km 132 to its terminus at the Steensby Port site are mostly in small, coastal watersheds. There are several lakes in this area with suitable depths for overwintering. Most of these small watersheds contain at least one potential overwintering lake. Waterbodies crossed or encroached by the Steensby Railway range from small, slow-flowing streams to shallow ponds to large, wide, rocky rivers. Both fish species are widespread and abundant in this section of the rail alignment.

Habitat in the Steensby Port Area affected by port infrastructure includes many small, coastal watersheds. Generally, the majority of available fish habitat in the Steensby Port Area is lacustrine. There are relatively few large streams, in particular those with a predominance of cobble/riffle habitat. Most of the available fish habitat in the surveyed area can be found in a small number of catchments (ST-02, 04, 05, and 06; Figure 3).

Nearshore substrates in many of the lakes in the surveyed area are predominantly gravel or smaller in size. The number of lakes with significant proportions of cobble or larger substrates in nearshore areas is contrastingly smaller. Most catchments on the mainland have at least one lake with apparently sufficient depth to provide overwintering habitat for both fish species. However, none of the freshwater waterbodies on Steensby Island have sufficient depth to provide overwintering habitat and there is no freshwater fish habitat.

Many of the streams in the port area are not fish-bearing due to a lack of sufficient surface flows and/or connectivity with probable overwintering locations. Of those identified as providing fish habitat, most are characterized by mainly fine substrates. Barriers are present throughout most catchments but are more common in smaller drainages along the coast. Barriers to fish movement in the area typically consist of steep gradients and/or areas with little to no surface water. The distribution of these barriers and the presence of a large number of streams with limited flow, suggest that fish movements between lakes within the same catchment may be somewhat limited, particularly for Arctic Char. As such, it is suspected that many of the lakes with Arctic Char contain landlocked and isolated populations.

In addition, there appears to be a general lack of connectivity with the marine environment (i.e., barriers to movement or insufficient flows/water levels in streams flowing into Steensby Inlet) in surveyed catchments within the Steensby Port area. Only one lake in the area (Ikpikitturjuaq/10 Km Lake/Lake ST-347) has been identified through Inuit Qaujimajatuqangit (IQ) studies as supporting an anadromous population of char (Baffinland 2012). The extent of anadromous char distribution in the Ikpikitturjuaq catchment is unknown but may include several lakes. The streams connecting three upstream lakes (Lakes ST-352, ST-176, and ST-349) to Ikpikitturjuaq Lake are large enough to support adult char use and had no seasonal or permanent barriers to fish movements when surveyed in spring and late summer/fall 2021. Strontium analyses of char otoliths from the two larger lakes (Lakes ST-352 and ST-176) upstream of Ikpikitturjuaq Lake in 2021 did not provide any evidence of anadromy; however, without direct comparisons to strontium concentrations from both fish and ambient water chemistry from the nearest downstream marine habitat, anadromy cannot be completely dismissed (NSC 2022).

Other catchments in the Steensby Port area lack connectivity to the ocean (e.g., stream that will be crossed by a rail bridge at site CV-144) except at high tide. During low tide, the lower reaches of these coastal streams are unchannelized with diffuse flows among the gravel and cobble shorelines of Steensby Inlet. Water levels in these streams are never sufficient to support the use of adult char and any movements between the marine and freshwater environments would be restricted to amphidromous movements of juveniles. Ninespine Stickleback may follow similar movement patterns in these coastal areas.

Arctic Char and Ninespine Stickleback were captured/observed throughout the Steensby Port area. However, stickleback were more widespread and abundant in many catchments. Both species were captured or observed more commonly in lakes than in streams in most watersheds. However, fish were absent from surveyed waterbodies in four of the smallest (≤0.30 km^2), coastal, mainland catchments and from all freshwater catchments on the proposed port facility island.

Most catchments support both species. However, there are three coastal watersheds (ST-03, 18, and 19) known to support populations of stickleback but not char. These catchments range in size from approximately 0.4 to 1.0 km^2. There are no catchments that support only char.

The broader distribution of stickleback relative to Arctic char in many Steensby watersheds may be related to the predominance of fine substrates, low flow/lack of permanent connectivity, and, in some areas, low DO levels. Many of these areas are suitable for multiple life history stages of stickleback, allowing them to disperse among waterbodies more easily, but limit movements and survival of Arctic char, which prefer larger substrate sizes and higher flows.

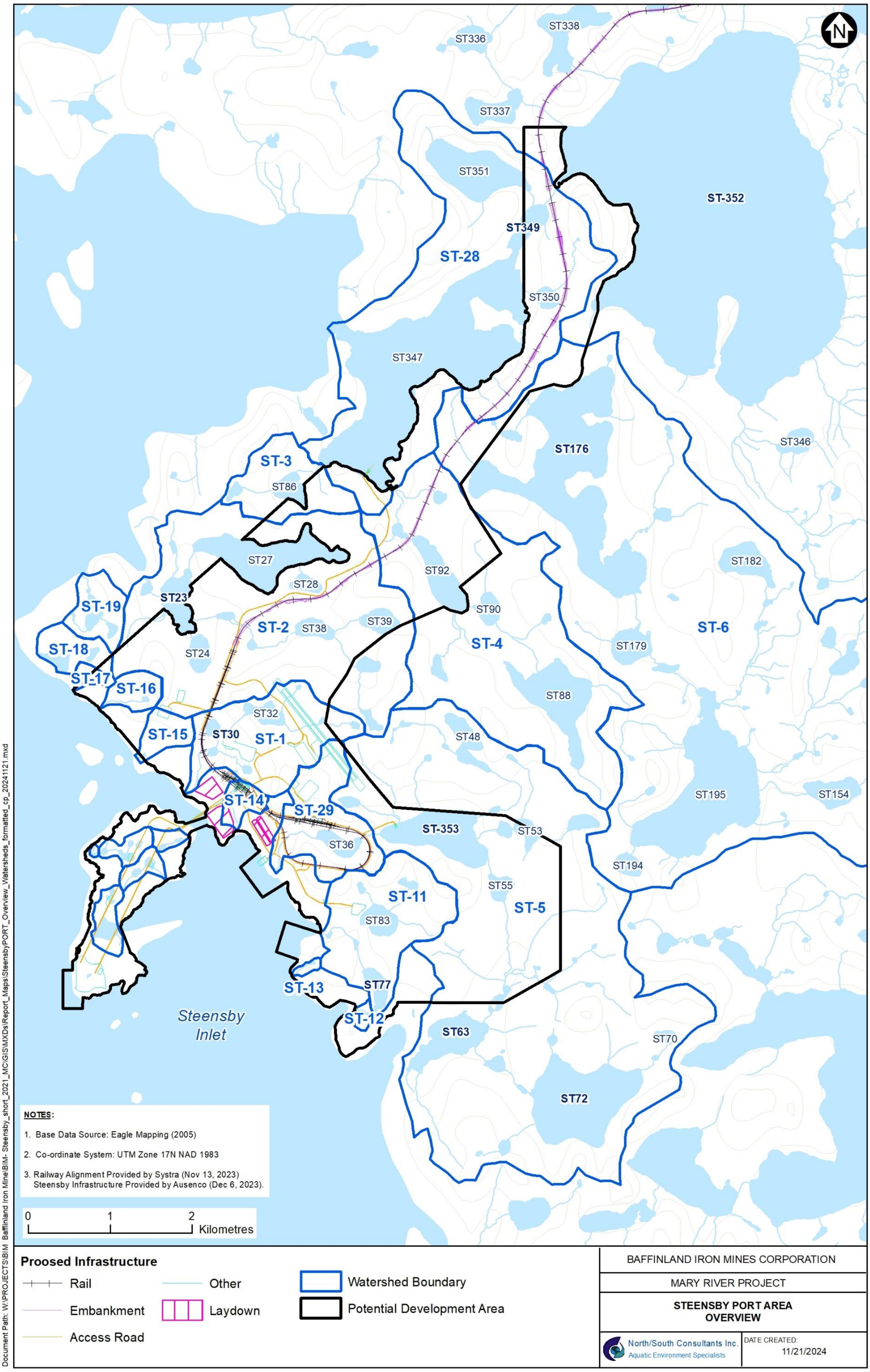


Figure 3. Steensby Port area watersheds.

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