

Marathon Palladium Project Panel Hearing

Fisheries

Ministry of Northern Development,
Mines, Natural Resources and Forestry

Presented by:
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Introduction

- Mandate for fisheries management is described in both provincial and federal legislation.
- Natural Resources and Forestry (NRF) portion NDMNRF of is responsible for the management of fisheries in the province
 - Ensures that any use or development that affect fish resources maintains the integrity of ecosystems.

Ontario's Provincial Fish Strategy (MNRF, 2015):

Goal 1: Healthy ecosystems that support self-sustaining fish communities

Objective 1.1: Protect and maintain aquatic diversity, connectivity, structure and function, including fish habitat

Objective 1.5: Anticipate and mitigate or adapt to large scale environmental changes and minimize cumulative environmental effects

Introduction –cont'd

NRF has been engaged in the Project since its early onset

- Conducted a review of the EIS and EIS Addendum
- Comments relevant to NRF's mandate and the legislation provided to Proponent

NRF concerns primarily related to:

- Assessment of the potential environmental effects of the Project
- Proposed mitigation measures
- Sufficiency of information to proceed to permitting phase

Fisheries Resources

- **Coldwater Streams**

- Support brook trout (*Salvelinus fontinalis*) and rainbow trout (*Oncorhynchus mykiss*)
- Occur both within project footprint and in downstream areas draining to Pic River and Lake Superior
- Provide coldwater inputs necessary to complete life cycle, primarily groundwater upwellings for spawning

Reaches of Streams 1,2, 3 and 6 expected to be directly or indirectly impacted

- **Hare Lake**

Designated as coldwater fish community

Supports populations of lake herring, sculpin and burbot

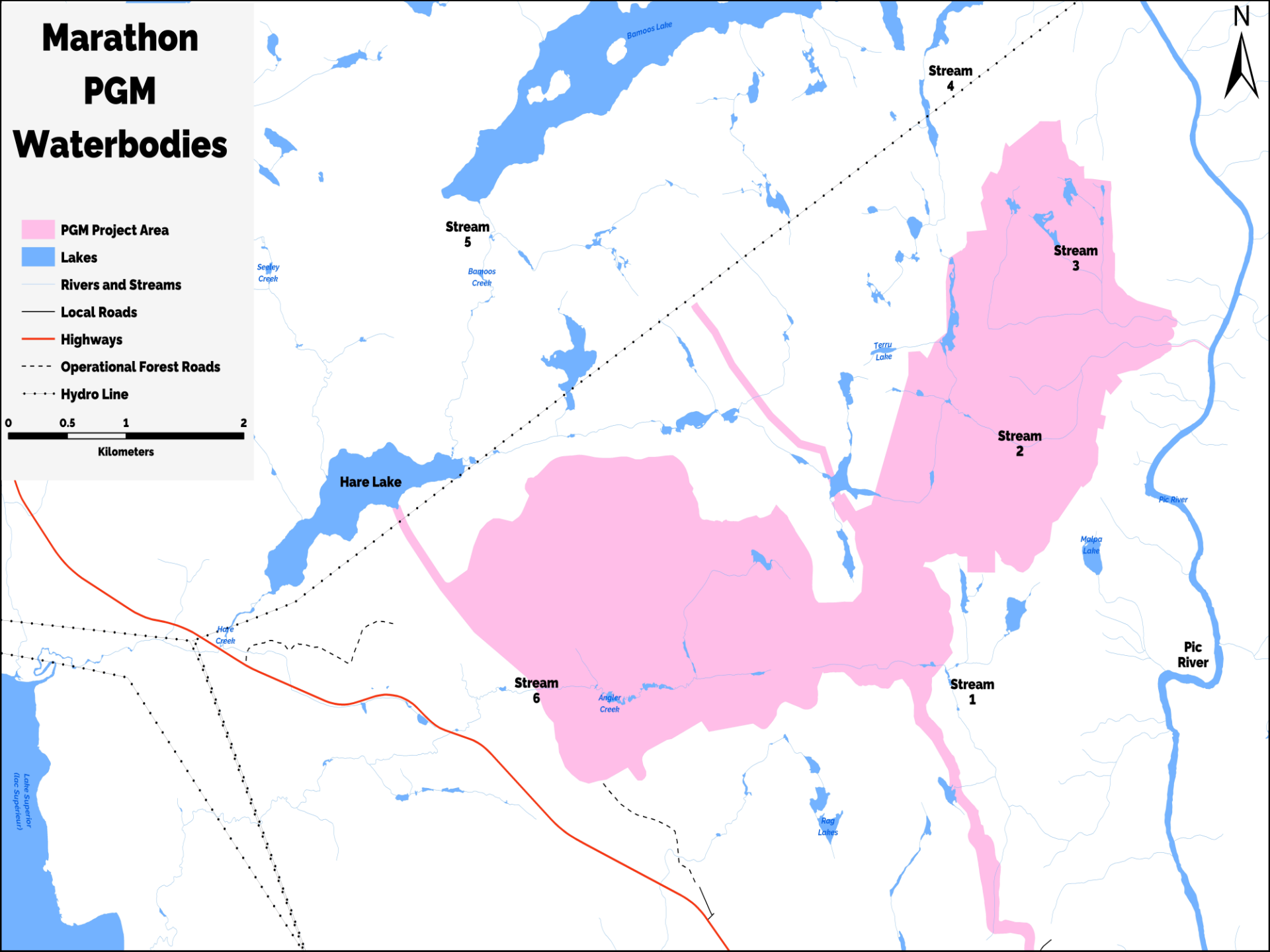
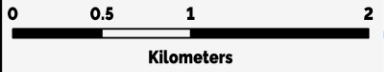
Proposed to receive effluent from Process Solids Management Facility

NRF Key Fisheries Comments

- Streams 1,2,3 and 6 (Angler Creek)
 - Habitat destruction or flow disruption
- Hare Lake
 - Thermal stratification
- Fish Habitat Compensation Plan (DFO)
 - Federal process supported by NRF

Marathon PGM Waterbodies

- PGM Project Area
- Lakes
- Rivers and Streams
- Local Roads
- Highways
- Operational Forest Roads
- Hydro Line



Stream 1 and Stream 6

Impacts to Headwater Areas

- Reductions in baseflows
- Alteration of groundwater flow patterns
- Potential impacts to downstream habitat suitability

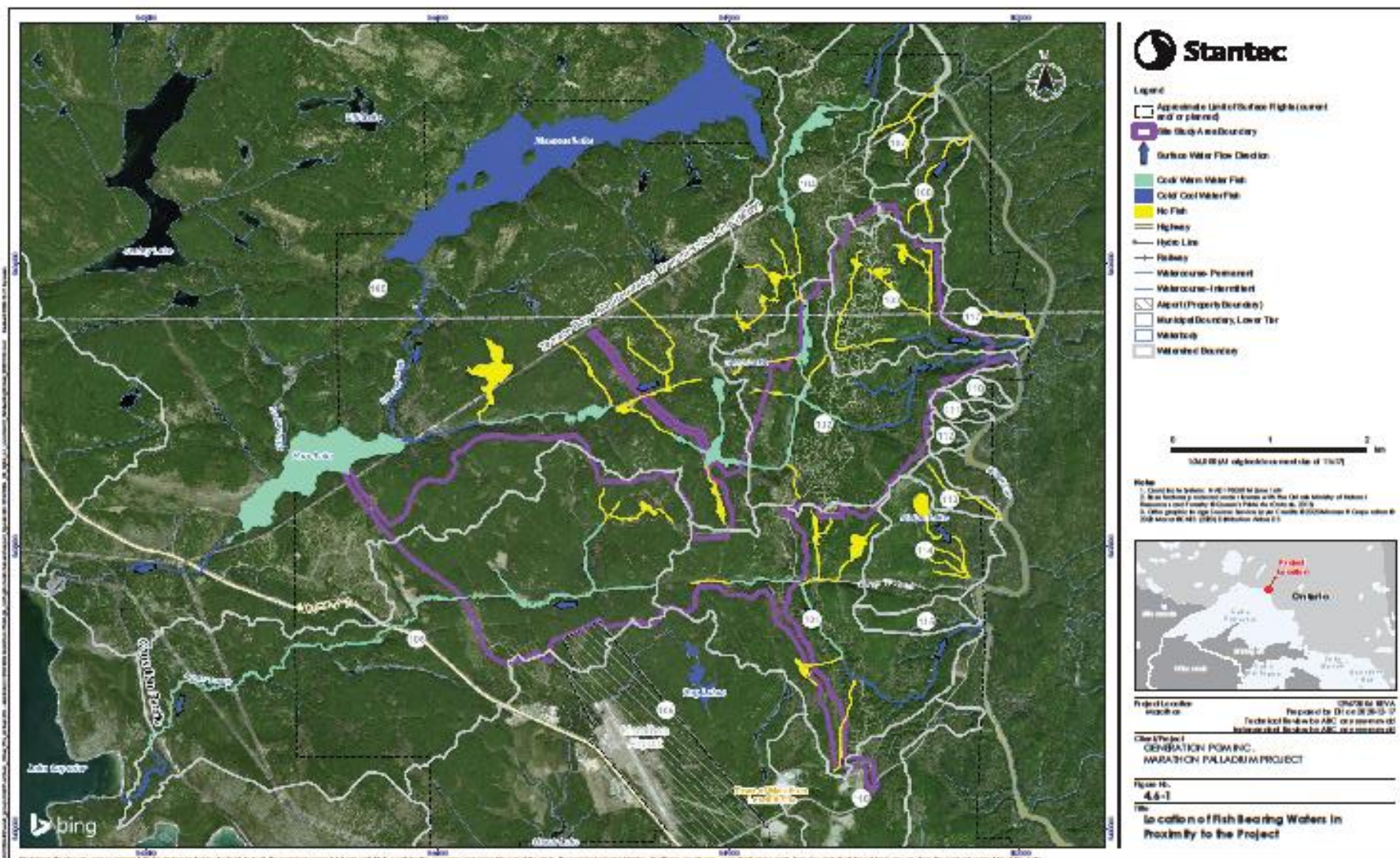
- **Stream 6 (Angler Creek)**

Popular steelhead opportunity for local anglers

Altered flows may reduce spawning success and impact fish population

Stream 2 and Stream 3

- Support small-bodied, stream-resident brook trout.
- Potentially contribute to larger downstream waters (e.g. Pic River or Lake Superior)
- Habitats within Stream 2 and 3 expected to be destroyed by construction
- Lost habitat to be compensated for as part of Fisheries Act Section 35 authorisation



Permits and Authorizations - NRF

Provincial - *Fish and Wildlife Conservation Act* (O.Reg. 664/98):

- *License to Collect Fish for Scientific Purposes*
 - Authorize fish salvage operations.
- *Fish Stocking License*
 - Authorize deposition of live fish into an alternate body of water

Other NRF permitting and authorizations

Project will require additional design to support permitting

Fish Habitat Compensation Plan

- Fisheries Act Section 35
 - Authorises destruction of fish habitat
 - Destruction requires Fish Habitat Compensation Plan
- Outlines stocking location for salvaged fish as compensation for lost fish habitat

Stocking proposed for lakes denoted as 'fishless'

Stocking may negatively impact resident newt populations

Contradicts IR6-20 (CIAR# 931) – Significant Wildlife Habitat

Identification of alternative location acceptable to NRF necessary to issue Fish Stocking License.

Hare Lake

- Naturally reproducing coldwater fish community
 - Includes lake herring (cisco) as the principal pelagic prey species
 - Also supports burbot and sculpins
 - Rely on cold water habitat to persist through warm summer months
- Proposed as receiver for treated effluent
- Proposed effluent release date in April
 - Potential to accelerate ice out and result in earlier stratification
 - Potential for development of anoxic conditions in hypolimnion
 - To be addressed through MECP's permitting process

Recommendations

Streams:

- NRF recommends continued review and comment on potential fisheries habitat compensation measures with the proponent and DFO.

Hare Lake:

- NRF recommends delay of effluent release to ice free period to avoid early ice out and stratification.

Habitat Compensation:

- Issues with habitat compensation plan should be resolved with NRF input.

QUESTIONS?