

Cumulative Effects Mackenzie Gas Project



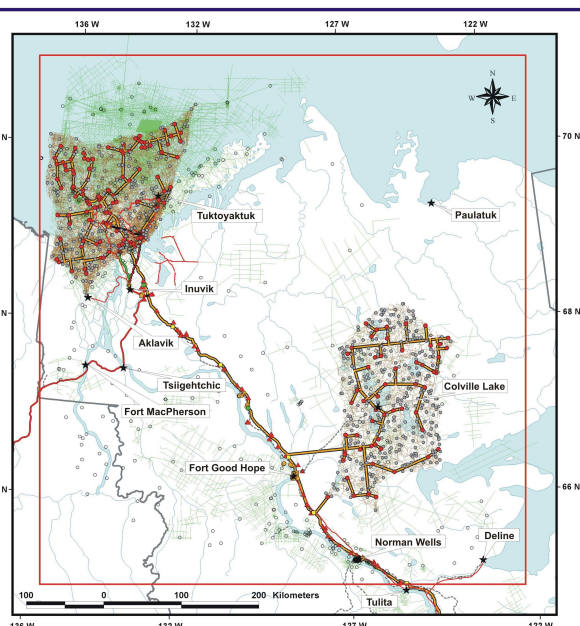
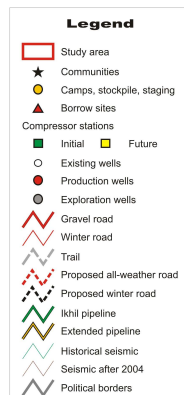
INTRODUCTION

- ⦿ This poster shows the likely development from the Mackenzie Gas Project. Some of the possible impacts are also shown. It is based on data submitted by Imperial Oil Resources Ventures Limited.
- ⦿ The three anchor fields making up the Mackenzie Gas Project (Parsons Lake, Taglu, Niglingtak) will not provide enough gas for the life of the proposed pipeline.
- ⦿ Most of the new gas to keep the pipeline filled will probably come from around Colville Lake, the Mackenzie Delta, and the Beaufort Sea.



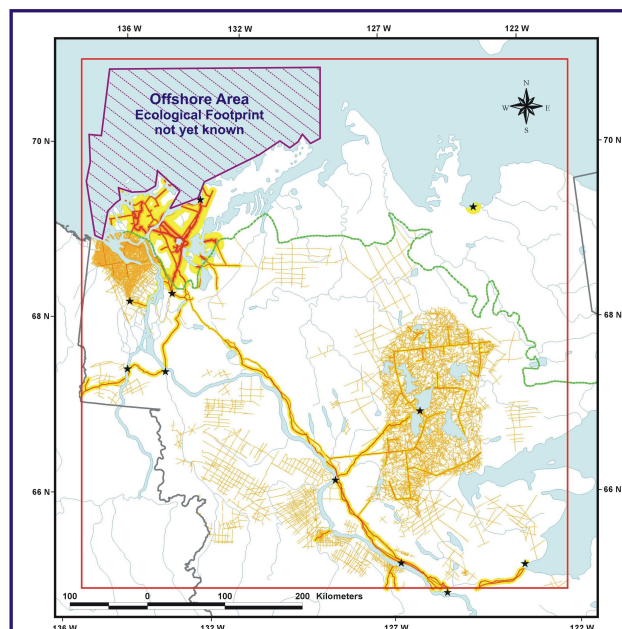
Map 1. Physical Footprint for 2004

- land used for roads, pipelines, wells, cut-lines, and communities



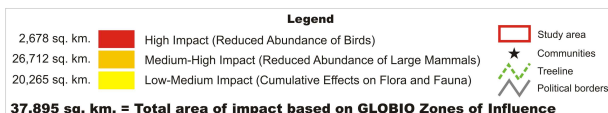
Map 2. Physical Footprint for 2027

- same as Map 1, plus the proposed pipeline, and gas development that would happen to keep the pipeline filled



Map 3. Ecological Footprint for 2027

- for development on land only, using physical footprint for 2027 (Map 2)



37,895 sq. km. = Total area of impact based on GLOBIO Zones of Influence

WHAT ARE CUMULATIVE EFFECTS?

- ⦿ Combined change to the human and natural environment. Change can be fast or slow, big or small.
- ⦿ Includes the past, present, and future; things close and far away. Includes day-to-day things such as hunting or garbage pickup, and complex things such as mines and pipelines.
- ⦿ Change comes from human activities and natural processes. Human activities, such as roads, buildings, and other development, leave a **physical footprint** on the land.
- ⦿ The **physical footprint** of an activity can have impacts on the land, plants, animals, air, water, and people. The size of the area affected is the **ecological footprint**. The **ecological footprint** is larger than the **physical footprint**.
- ⦿ Can mean we have fewer animals, polluted waters, climate change, economic benefits, and social problems. Effects can add up in ways we don't expect.
- ⦿ Can be greater than the sum of individual effects. Caribou might be okay if they lose some good feeding areas. But they might not be okay if they also have a harsh winter or more people are hunting.

WHAT DO WE NEED?

- ⦿ Land and water agencies need to keep track of human activities (physical footprints) on the land. All past and current human activities need to be mapped.
- ⦿ We need more and better information to be able to show the ecological footprint offshore.
- ⦿ We need more and better information about how nature responds to development. For example, how and when does disturbed vegetation recover? How do caribou respond to development? What effects will offshore development have on marine mammals?

WHAT CAN WE DO?

- ⦿ Complete land use planning and enforce it. Land use planning can set limits and help prevent land use conflicts.
- ⦿ Control the timing and phasing of development within land use and other planning limits.
- ⦿ Use best practices for exploration and operations, such as:
 - Helicopters, not roads, to bring in drilling equipment and maintain wells.
 - Low-impact seismic techniques.
 - Careful, complete reclamation.
- ⦿ Set strict conditions on permits and licences to reduce footprints. Enforce these conditions.
- ⦿ Monitor environmental changes. Use good information to make better choices for the future.

For More Information:

- about how we did the poster
- to get a copy of the technical report that goes with the poster
- to learn more about cumulative effects



Canadian Arctic Resources Committee
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