Non-indigenous plant species along roadsides and other transportation routes in the Mackenzie Valley

Ramona Menicoche (Ft. Simpson) was our Field Assistant in the study

1 Research Team

Poster prepared by
Ms. Stacy Rush and Prof. Dawn Bazely, Biology Department, York University
Toronto, ON
dbazely@yorku.ca

2 The Problem

- **Non-indigenous** or **introduced** plant species are accidentally or deliberately moved by people travelling to new continents, countries and regions
- These species sometimes threaten **indigenous** or **native** species, because they **do not have** natural predators to keep their numbers from exploding
- The Canadian North and other Arctic regions traditionally have lower numbers of **introduced** species than other places, mainly because there are not many routes or corridors for these species to travel along
- As more northern transportation routes, such as the Mackenzie Valley Pipeline connect the Canadian south to the North, will more **non-indigenous** species arrive?
- How will they change the habitat?

Native wild rose

Non-indigenous sweet white clover

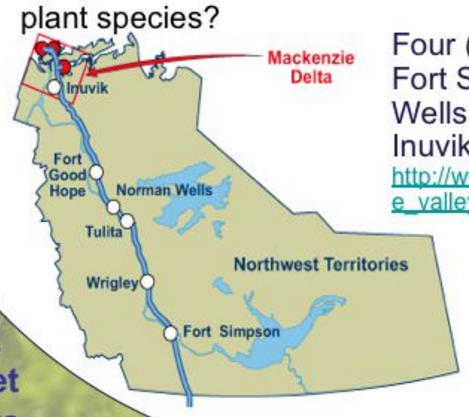
The Mackenzie River is an ancient transport route. Non-indigenous species such as sweet white clover are moving along the river banks.

3 Study Goals

We looked at 4 local communities along the proposed Mackenzie Valley pipeline route.

They all have existing transportation routes of different kinds: winter or all-year roads, other pipelines, seismic cut lines.

1) Do the most southerly communities have the most **non-indigenous** plant species?
2) Do the communities with the most existing transportation routes have the most **non-indigenous** plant species?

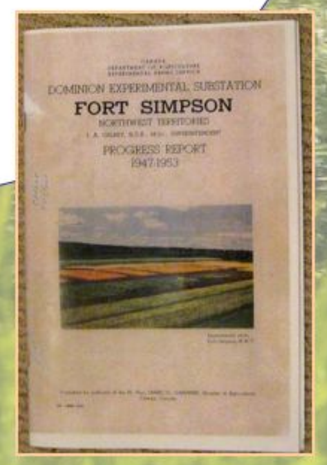


Four (4) communities: Fort Simpson, Norman Wells, Fort Good Hope, Inuvik

http://www.polarwarming.ca/mackenzie_valley_pipeline.html

4 Findings

- Ft. Simpson, the southernmost community, with the most transportation routes, had the greatest number of **non-indigenous** plant species - more than the 3 other communities
- In all 4 communities, **non-indigenous** species are mainly growing along road edges
  - But just a few metres away from the road, all of the plants are **native** species
- Some of the **non-indigenous** plant species arrived with the Agriculture Canada northern farm station (1940-50s) in Ft. Simpson
- We found **non-indigenous** varieties of red fescue grass, containing a fungus, along road edges, that had probably arrived in seed mixes from the south



5 So what?

- Many **non-indigenous** plants are already here. If the climate and amount of human activity changes, they may increase a lot (like this box in relation to this circle) and perhaps become invasive environmental weeds and problem species that affect wildlife negatively (the red fescue grass with the fungus in it definitely has the potential for this)
- People in the four communities would like to have more locally grown fruits and vegetables
- All non-traditional and non-country foods are **non-indigenous** e.g. potatoes. In the past, community gardens were a local source of these fruits and vegetables. This was a good thing.
- Local community garden co-ops would be an excellent place for holding knowledge about the benefits and threats of **non-indigenous** plant species
- This is already happening, informally, in Inuvik

Greenhouse in Norman Wells