

Why are we concerned?

Invasive alien species in an area can have severe, and often irreversible, impacts on the environment, economy and society including.

Human Impacts

Disease transmission and human health - New species may be carriers of diseases that can infect native wildlife populations, or humans. Additionally, the introduction of venomous exotic plants and animals may pose potential threats to human health and safety.

Financial costs - Costs incurred from monitoring, control and removal of exotics in a region can be significant. Socio-economic costs, including loss of income generated from impacted natural resources, decreased property value and property damage may result from species introductions.

Threats to trade - Export trade may be impacted as a result of restrictive trade measures that are implemented in order to prevent the entry of recognized pests that may threaten agriculture or forest crops in a region.

Ecosystem Impacts

Competition - Increased competition for food and habitat resources resulting from the arrival of a new species, may cause a decline in native populations.

Biological homogenization - Decreasing biological or genetic diversity of an ecosystem has the potential to alter the stability of the system, reducing its ability to respond to change.

Alteration of ecosystem functions - Natural ecosystem cycles, including hydrology, nutrient cycling, contaminant absorption, and energy flows may be altered by the introduction of exotic species.

For more information visit the following websites:

Convention on International Trade in Endangered Species of Wild Fauna and Flora—Canada :
<http://www.cites.ca>

Canadian Biodiversity Network:
<http://www.cbin.ec.gc.ca>

Government of Newfoundland and Labrador,
Wild Life Legislation:
<http://www.env.gov.nl.ca/env/wildlife/legislation.htm>

An Act Respecting the Protection of Plants and the Prevention of the Spread of Pests and Diseases Destructive to Vegetation: Act:
<http://www.assembly.nl.ca/Legislation/sr/statutes/p16.htm>

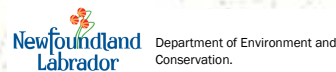
For more information on exotic and invasive alien species in Newfoundland and Labrador contact:

Department of Environment and Conservation
Wildlife Division
Endangered Species and Biodiversity
Phone: (709) 637-2026
<http://www.gov.nl.ca>

To acquire a permit to import livestock into the province, contact:

Department of Natural Resources
Animal Health Division
Phone: (709) 729-6879
Fax: (709) 729-0055
<http://www.gov.nl.ca>

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Cover Photos by: Cockatiel (J. Brazil), Yellow Flag Iris (MUN Botanical Garden).



Exotic Species in Newfoundland and Labrador: What the consumer should know.



Second only to habitat loss, invasive alien species are the most significant threat to biodiversity, according to the World Conservation Union.¹

Exotic, or alien species, are any organism that exists outside its' natural range, in locations that could not have been reached without direct or indirect assistance from humans.

Invasive alien species are exotic species that become established in natural or semi-natural ecosystems or habitats.

There are several pathways in which exotic species enter the province.

Intentional:

- Release of unwanted pets
- Introduction of biocontrol agents
- Food resource
- Unauthorized introductions
- Ornamental plants

Unintentional:

- Hitchhikers on clothing, pets, or vehicles
- Transport on wooden packaging material
- Living souvenirs

There are several regulations in place in the province to controlling the introduction of exotic and invasive species.

- *Newfoundland and Labrador Wild Life Act*
- *Newfoundland and Labrador Plant Protection Act*
- *Berry Regulations*
- *Livestock Act*

¹Source: Government of Canada. 2004. Invasive Alien Species Strategy for Canada

Provincial Regulations:

Newfoundland and Labrador Wild Life Regulations

- Developed under the *Newfoundland and Labrador Wild Life Act (1992)*.
- Restricts the import, and possession of non-native wild life into the province, or onto the island portion of the province from Labrador.
- Prohibits the release of any wild life that has been imported or that has been propagated from imported stock onto the natural landscape.

Newfoundland and Labrador Plant Protection Act (1996)

- Prohibits individuals from bringing in or transporting around the province for sale, possession, trade or disposal plants, plant containers, soil, machinery, equipment or vehicles that are infected or infested with pests.

Berry Regulations (1996)

- Developed under the provincial *Natural Products Marketing Act (2005)*.
- Controls the import, transport around the province, and possession of berries that originate in areas infested with the blueberry maggot.

Livestock Health Regulations (2004)

- Developed under the *Livestock Health Act (2006)*.
- Prohibits the import of honeybees, honeybee hives, mink or swine into the province without a permit from the Director of Animal Health or an inspector designated by them for that purpose.

What to consider when purchasing live products.

General:

- Check wooden crates and other packaging materials for any exotic or invasive alien species.
- Do not bring home living souvenirs. Fruits, plants, and living creatures purchased while out of the province may be carriers of potentially harmful invasive insects and diseases.

When purchasing plants:

- Chose locally grown, native species for your garden to reduce the chance of introducing invasive plants and plant pests.
- Limit the spread of aggressive non-indigenous plants by ensure all propagules, including seeds, are completely destroyed when being removed from the garden.
- Examine any plants, fruits or vegetables that you purchase for weeds or bugs.
- When purchasing dried flowers or wreaths made of natural materials examine them to ensure they are not carriers of unwanted pests.

The multicolor Asian lady beetle has been introduced to the province by consumers as a biocontrol to deal with garden pests. It is unclear what impact this lady bug has had on our native species. However, in other areas the presence of the multicolor Asian lady beetle outside its range has resulted in declines in native lady beetle populations, impacts on non-pest aphids, and damage to fruit production.

Multicolor Asian Lady Beetle
Photo courtesy of R. Koch

When purchasing live animals:

- Understand the long term commitment that you are making before you purchase a pet.
- If you have an unwanted pet, find it a new home, rather than releasing it into the wild.
- Whenever possible always buy local pets, and ensure that the retailer has the proper permits for importing the animal
- In accordance with the *Newfoundland and Labrador Wild Life Act* it is prohibited to purchase live biocontrol agents, without the proper permits prior to purchase.
- In Newfoundland and Labrador, the use of live bait, such as crayfish and minnows, when fishing is prohibited.

Native to Europe, North Africa and the Mediterranean, the yellow flag iris (*Iris pseudacorus*) has been widely introduced as an ornamental garden plant. In Newfoundland this plant started showing up in the wild in 1911. Since that time, it has been known to form dense thickets that restrict or alter natural water flow, and has displaced indigenous plants, including the native blue flag iris. In addition, all parts of this plant are poisonous. The Yellow Flag is still available for sale in the province, however, gardeners should consider alternatives.

Yellow Iris (*Iris Pseudacorus*)
Photo courtesy of MUN Botanical Gardens Inc.

Remember, it is illegal to release any animal into natural ecosystems!!

Native to central Asia, China and Japan, the goldfish has become one of the most widely introduced species worldwide. It's popular both as a pond and aquarium fish. Goldfish have been found in the wild in the province, it is speculated that they were either released once they were no longer wanted in the aquarium, or they escaped from ornamental ponds. Outside their natural range, goldfish have been known to cause declines in native populations, increase water turbidity, and decrease aquatic vegetation, from direct feeding.

Goldfish (*Carassius auratus*)
Photo courtesy of aqua-fish.net

Did You Know?

- In May 2005, there were two separate incidents of ornamental carp, goldfish, reported in two ponds on the Avalon Peninsula of Newfoundland. Large numbers of fish, of multiple sizes were reported, and can still be found in the ponds today.
- During the summer of 2007, a Conservation Officer found a snapping turtle while working on the Gaff Topsails. It was evident that the turtle had been in the wild for some time.
- Occasionally, a bird that is normally a house pet will be found in the wild. For example, in the summer of 2000 residents of Kelligrews reported that there was a Canary among a flock of pine siskins frequenting bird feeders in the area.
- In 2003, a young boy fishing with his father in a small pond near the TCH, heading toward Little Heart's Ease, was quite surprised to find that on the end of his line was not a large trout, rather a Piranha.