

Invasive Species on Prince Edward Island

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PEI Invasive Species Council





WHAT ARE INVASIVE SPECIES?

An invasive species
is any organism that:

Is non-native

Spreads rapidly

Causes ecological,
economic, or social harm

TYPES OF ORGANISMS

Animals

- Invertebrates
- Amphibians
- Reptiles
- Fish
- Birds
- Mammals

Pathogens

- Bacteria
- Fungi
- Nematodes

Plants

- Algae
- Ferns
- Mosses
- Gymnosperms
- Flowering plants



What makes a species invasive?

- Lack of natural controls (e.g. predators, competitors, disease).
- PLUS, many invasive species have advantageous traits.
- Advantageous traits are characteristics that give species an advantage over native species within their environment.
- Often reproduce asexually.



ARE ALL EXOTICS INVASIVE? CAN NATIVE SPECIES BECOME INVASIVE?

- Not all non-native species become invasive.
- Most plants sold at garden centers are non-native and most are not invasive.
- Some native species have a spreading tendency.
 - Red-osier dogwood, spreading dogbane





Photo credit: Larry R. Barber, USDA Forest Service, Bugwood.org

HOW DO THEY GET HERE?

- Planting in gardens
- Releasing unwanted pets
- Dumping aquarium plants
- Introducing new game species for hunting/angling
- Commercial wood imports
- Shipping



Photo credit: Rachel McCarthy, Cornell University, Bugwood.org

Pathways

To manage and plan for prevention it's important to understand and be able to identify **pathways**.

For invasive species, the term “Pathway” is used to describe the means by which a species travels from its natural habitat into a new one.

A pathway can be either **natural or man-made**.

- Natural pathways like wind and water currents account for very few of the new species introductions.
- **The vast majority of new species introductions are caused by humans.** There are also distinct pathways for aquatic and terrestrial species.



Invasive Species Pathways - Intentional



Photo credit: Jonathan Billinger / Blooms Garden Centre, interior 2 / CC BY-SA 2.0

Horticulture



Agriculture



Photo credit: Rebekah D. Wallace, University of Georgia, Bugwood.org

Wildlife release

Invasive Species Pathways - Unintentional

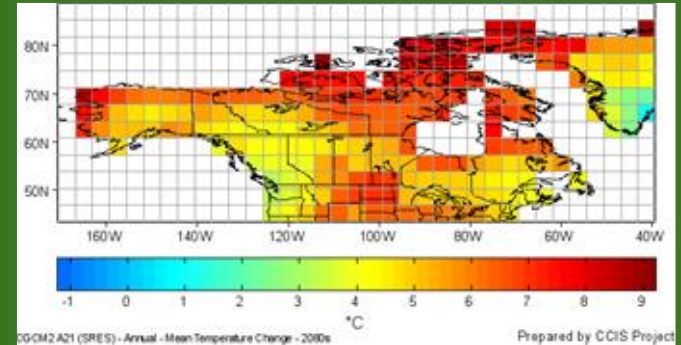


Land Clearing

Photo credit: Robert L. Anderson, USDA Forest Service, Bugwood.org



Global Travel & Trade



Climate Change

Spotted lanternfly on cruise ships



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Found in Halifax



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Found in Sydney

WHAT CAN WE DO?



PREVENT THE
INTRODUCTION



REDUCE THE SPREAD
OR ERADICATE

HOW DO WE DO THIS?



**CLEAN
DRAIN
DRY**



**STOP INVASIVE SPECIES
IN YOUR TRACKS.**

PlayCleanGo.ca



**BUY
LOCAL
BURN
LOCAL**

DON'T MOVE FIREWOOD



**PLANT
WISE**



CLEAN DRAIN DRY

Prevent the Spread of Aquatic Invasive Species

Clean any plants, mud, mussels or debris from your boat and equipment.

Drain all standing water from your bilge, motor and livewell.

Dry your boat for 2-7 days or disinfect it with hot or pressurized water.

Here are common places aquatic invasive species may be hiding:



Watch for these and other aquatic invasive species!



Eric Engbretson

Smallmouth Bass



Russ Ottens

American Bullfrog



Allison Fox

Eurasian Watermilfoil



Leslie J Meinhoff

Flowering Rush



Raves Lovell

Brazilian Elodea



Dave Britton

Zebra & Quagga Mussels

ZEBRA MUSSEL - *Dreissena polymorpha*



Photo credit: [USFWS Fish & Aquatic Conservation](#)

DON'T LET IT LOOSE

- Never release animals or plants onto our lands or into our waters
- Sport fish may only be released back into the waters from which they were caught (example: catch-and-release) – never move a sport fish from one body of water to another
- Never release pets into the wild – they may become an invasive species that native wildlife may not have the defenses to compete against



GOLDFISH – Easily spotted in the early morning
Eat & outcompete native fish species.



Photo credit: [KoiQuestion](#)

PLAY CLEAN GO

- Play
 - Clean gear before entering a recreation site
- Clean
 - Remove plants, insects, and mud from your boots, gear, and pets
 - Clean gear before leaving a recreation site
- Go
 - Leave knowing that you're not spreading invasive species



[Photo credit: Chris Evans, University of Illinois, Bugwood.org](https://www.bugwood.org/)



PLAY CLEAN GO TO STOP THE SPREAD OF:

- Seeds
- Spores
- Insects
- Propagative material
- Viruses & bacteria



UGA1515018

**LEAVE
INVASIVE SPECIES
BEHIND.**

Give Invasive Species the Brush Off.

Help Prevent The Spread
Of Invasive Plants And Animals.

- REMOVE plants, seeds and mud from your boots, clothes & gear.
- BRUSH off any seeds clinging to your pet.
- STAY on designated roads & trails.

STOP INVASIVE SPECIES
IN YOUR TRACKS.

Play Clean Go

Garlic mustard, *Alliaria petiolata*

HAND PULL
SECOND YEAR
PLANTS



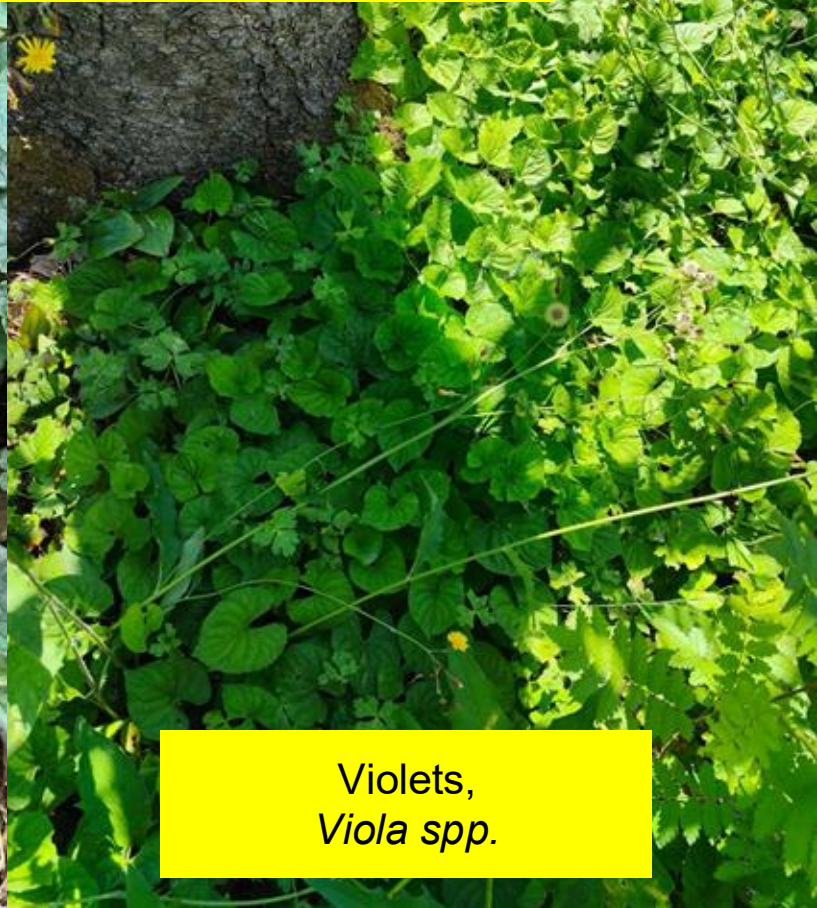
Garlic mustard lookalikes



Dame's rocket
Hesperis matronalis



Creeping charlie,
Glechoma hederacea



Violets,
Viola spp.

BUY LOCAL BURN LOCAL



- Buy firewood at or near where you will use it
- Leave any unused firewood on site
- Fiona has complicated this



BUY LOCAL BURN LOCAL TO STOP THE SPREAD OF:



- Forest pests
- Seeds
- Spores



Photo credit: [Penn State Department of Plant Pathology & Environmental Microbiology Archives](#),
[Penn State University Bugwood.org](#)



Photo credit: [Houping Liu, Michigan State University](#),
[Bugwood.org](#)

Emerald ash borer monitoring considerations

Adult beetles

- Colour: Bright metallic green, with a coppery-red back (under wings).
- Large eyes, flat faces.
- The body shape resembles a bullet, tapering at the tail-end.
- Typically 8.5mm long and 1.6mm wide.
- Appear from mid-May to mid-September.
- Adults create a D-shaped hole when exiting the tree. Holes are approximately the size of a sesame

OBSERVED
IN
MONCTON



~99%
MORTALITY
IN ASH

Emerald ash borer,
Agrilus planipennis



Alder borer,
Agrilus pensus



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Willow gall limb borer,
Agrilus politus



Hanna Royals,
Screening Aids,
USDA APHIS PPQ,
Bugwood.org

Bronze birch borer, *Agrilus axinus*



Whitney Cranshaw, Colorado State
University, Bugwood.org

Pennsylvania Department
of Conservation and
Natural Resources -
Forestry , Bugwood.org

Emerald ash borer larvae

- Colour: Creamy white.
- **Worm-like, segmented** (like an intestine, but the segments are bell-shaped), **flattened**, and have **a set of pincers on one end**.
- Responsible for most damage.
- From **26-32mm** in length.
- Larval feeding creates noticeable **galleries** underneath the bark.
- Galleries have a characteristic **S-shape** and are found just below the outer bark.
- Larvae are the overwintering stage, and persist within ash trees throughout the winter.
 - Transport of ash wood-containing larvae is one major method of spread for EAB.



General EAB monitoring considerations

- **Affects only true ash (*Fraxinus spp.*) trees.**
- **D-shaped exit holes**, Sesame seed sized (approximately 3.5 – 4.1 mm),
- **Bark cracking:** vertical splitting in the bark
- **Epicormic shoots:** production of new young shoots at the base of the tree.
- **Canopy dieback**, beginning in the tree's crown
- **Blonding:** Evidence of woodpecker feeding activity.
- **Callus formation:** Scar tissue that appears as a lumpy or deformed mass.
- **Irregular notches in leaves** from adult beetle feeding
- **Sloughing off of bark.**
- A keen eye is needed, as signs will often only become obvious after a tree has been thoroughly infested.



PLANT WISE

Educate gardeners, garden retailers, nurseries, growers, and the landscape industry to:

- Understand what invasive plants are, why they're a problem, and what they can do to prevent their spread
- Stop buying and selling invasive plants
- Promote the sale and purchase of non-invasive alternative plants
- Check out our advice for making wild seed cards, seed bombs, and for collecting wild seed on our website!



Limited distribution on PEI. Target for eradication! Report it!

UPROOT OR
CUT DOWN

Scotch broom, *Cytisus scoparius*



Effects and Identifying

- Scotch broom is **shrubby**, growing from **1-3m tall** at maturity.
- The plant's **trunk is covered in a brown bark**, while its **stems are green** (remaining so throughout the winter).
 - Stems are **five-angled**.
 - Scotch broom's green branches periodically die back, turning brown, and may regrow.
- **Leaves are small (0.5-1" long) and of variable shape.**
 - Upper leaves are unstalked and simple.
 - Lower leaves are compound with 2-3 leaflets.
- **In June**, the plant produces a huge number of **yellow flowers**.
- **In July**, the plant produces **hairy, pea-like seed pods** which mature from green to black. Each pod contains **5-12 seeds**.
 - The plant spreads by **explosive dehiscence**, which means that as they mature and dry, they eventually explode, shooting seed.
 - A single mature plant can produce over **3500 seed pods**.
- The plant presents a **fire hazard** due to high levels of volatile oils.
- The plant's distribution is currently limited on PEI. **Report any sightings of the plant to the PEIISC** via peiinvasives@gmail.com, by direct message on social media, or on iNaturalist.



Prince
Edward
Island
Wildlife
Conservation
Fund

PRINCE EDWARD ISLAND
WILDLIFE
CONSERVATION FUND

Established wild patch

This project was undertaken with the financial support of:

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Environment and
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Environnement et
Changement climatique Canada

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**Big Daddy
Classic
Junior**

Bigfoot





**DON'T TOUCH!
REPORT IT!**

Phototoxic plants

- Many invasive species are phototoxic: they have compounds in their sap that react with light on skin causing chemical burns.
- Some invasive phototoxic species found on PEI include:
 - Giant hogweed
 - Woodland angelica
 - Wild parsnip



GIANT HOGWEED



Photos copyright Beth Hoar, Green Throat Photography

Developed leaf

Stem

Young leaf

**DON'T TOUCH!
REPORT IT!**

Limited distribution on
PEI. Target for
eradication!









Woodland angelica

- Not quite as tall as giant hogweed, grows up to 6 feet tall. Otherwise, quite similar in appearance. Can be differentiated by leaf shape and lack of stem blotching.
- Not quite as toxic, but can still give you a burn.
- Widespread in Southern Kings county and Southeastern Queens, less so in Western PEI.





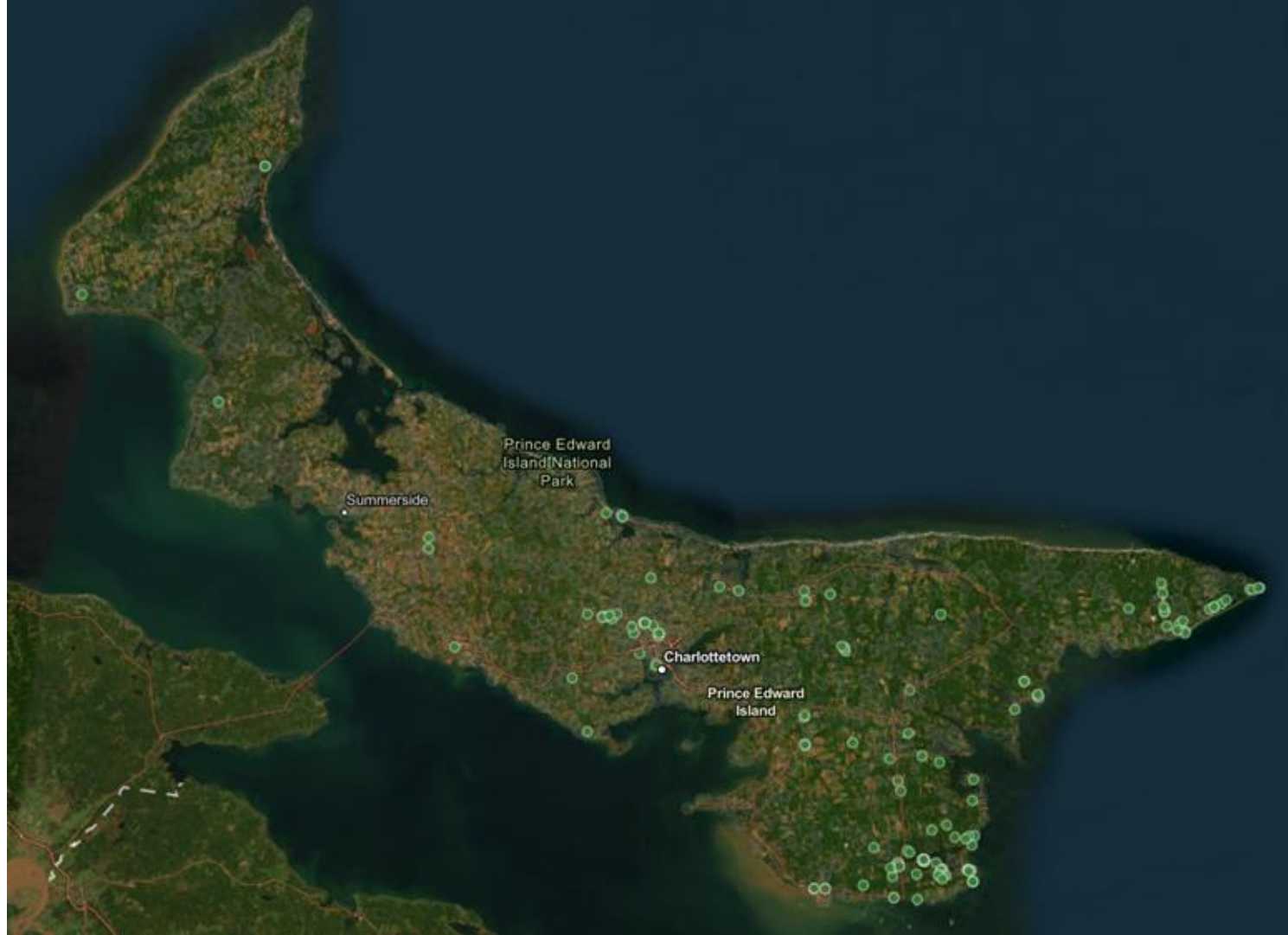
Green Thumb Photography



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**DON'T TOUCH!
REPORT IT!**

Wild parsnip

- Usually much shorter and stems are much thinner than WA and GH.
- Found abundantly along sections of the Confederation Trail.
- Stem ridged, flowers yellow.





Green Thumb Photography



Green Thumb Photography



Green Thumb Photography



REPORTING



peiinvasives@gmail.com

www.facebook.com/PEIInvasvies



What information should be included in a Report

The most critical information to include in a report is as follows:

- Species
- Location
- Date
- Pictures of the species

Identification in the field can be difficult and observations need to be verified, the easiest way to do this is to record observations on iNaturalist or by sending information directly to the PEIISC.



www.peiinvasives.com





THANK YOU!



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