

**Town of Annapolis Royal  
POLICY**

<b>TITLE:</b> Invasive Alien Species	
<b>POLICY NO.:</b> #2021-01	<b>SUPERSEDES:</b> #2011-3
<b>EFFECTIVE DATE:</b> April 22, 2021	<b>APPROVED BY COUNCIL MOTION:</b> MOTION #C2021-04-19-08

### **Background**

In May 2008, the Town of Annapolis Royal approached the Clean Annapolis River Project (CARP) to propose ways in which the Town might incorporate invasive alien species (IAS) into its long-term planning. Specifically, the Town requested some input on IAS policy to consider for its “Green Plan”.

Canadian municipal plans incorporating IAS policy are either rare or difficult to find. Ways in which the Town might approach IAS in a proactive, yet conservative manner in its “Green Plan” include the following four measures: Identification, Better Management Practices (BMP), Public Outreach and Education and Long-Term Management. Each measure is described in more detail below.

### **Elements**

1. **Identification**
  - a. Public – Identification of areas that have been colonized by IAS
  - b. Private – Determination of extent of colonization on privately owned land within the town through a plant-watch type initiative
  - c. Town staff, community members and visitors are encouraged to document known or suspected invasive species using the iNaturalist app, <<https://inaturalist.ca/>>. Guidance on use of this app will be hosted on the CARP website.
  
2. **Better Management Practices (BMP)**
  - a. CARP has developed a set of BMP for locally problematic terrestrial invasive plants (Appendix A). These should be used by the Town employees:
    - i. Proper disposal of invasive plant material by double bagging, drying or burning (e.g. not composting).
    - ii. No planting of alien invasives on town property (this requires a list of known invasives – available from CARP).
    - iii. Encouraging native species by removing known invasives.
  - b. Work with private sector to adopt the appropriate BMP for home and small business owners.

3. Public Outreach and Education

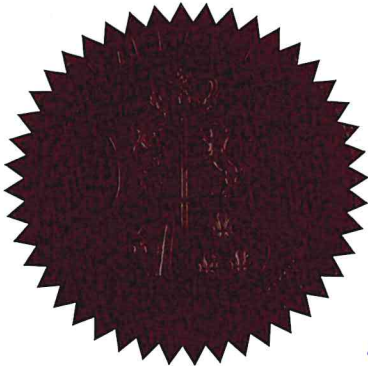
- a. General mandate for education of public in order to facilitate the removal of, the prevention and timely reporting of spread, and of any invasive species by making information available on the Town website and making a list of IAS information available on the CARP website.
- b. Information session/mail out/publication for people to able to identify the most common/problematic species and general best management practices as identified in the above section (including an annual presentation to Town staff, and the Public Works Dept., and quarterly updates in the Town newsletter).
- c. Signage around a marsh, wharf, and other public areas, detailing how to spot them, the damage they do to the natural ecosystem and what to do if any are found on people's property (reach visitors to areas, promoting stewardship) –Begin incorporating aquatic invasive species into planning.

4. Long Term Management

- a. General mandate for control/eradication of plants on town property (i.e. marsh).
- b. Gradual increase to target multiple species.
- c. A database of efforts made to control/eradicate invasive species established (e.g. Volunteer monitoring programs like “Plant Patrol NS” to alert Town to new occurrences, and maintain update records/databases).
- d. Mandate for tourism and trail development: only native species planted for ornamentals to avoid loss of plants (wasted dollars and effort). Possibly consider native-only gardens on Town property (interesting from public outreach perspective too), and native-only plantings in the marsh.
- e. Investigate the pathways/vectors of transportation and spread and effort made to reduce that.
- f. Form long-term partnerships with community groups (e.g. CARP, naturalists, skate park advocates, etc.) to assist with management activities.

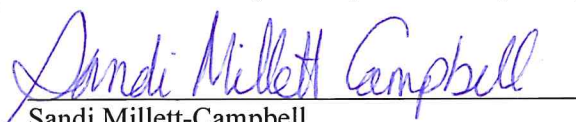
Repeal and Replace

- 1. Policy #2011-3, the Policy on Invasive Alien Species, is repealed.



**THIS IS TO CERTIFY** that this policy was duly passed by a majority vote of the whole Council at a duly called Council meeting held on the 19 day of April 2021.

**GIVEN** under the hand of the CAO and under the seal of The Town of Annapolis Royal the 22 day of April 2021.



Sandi Millett-Campbell  
Chief Administrative Officer

## **Resources**

### **Invasive Species Centre (Canada)**

<https://www.invasivespeciescentre.ca/>

### **Nova Scotia Invasive Species Council**

<https://nsinvasives.ca/>

### **Alien Invasive Species Guide, Nova Scotia**

<https://www.merseytobeatic.ca/projects-invasive-species.php>

## **Government**

<https://www.canada.ca/en/services/environment/wildlife-plants-species/invasive-species.html>

[https://novascotia.ca/natr/biodiversity/pdf/Biodiversity\\_AlienSpecies\\_Apr25.pdf](https://novascotia.ca/natr/biodiversity/pdf/Biodiversity_AlienSpecies_Apr25.pdf)

## **Aquatic Invasive Species**

<http://www.invasivespeciesinfo.gov/international/canada.shtml>

<https://novascotia.ca/fish/sportfishing/resource-management/ais/>

<https://www.annapolisriver.ca/ais>

## **Appendix A**

### **Autumn Olive (*Elaeagnus umbellata*)**

#### **PHYSICAL DESCRIPTION:**

**Form** – shrub or small tree

**Height** – 6 m

**Leaves** – long, thin

**Flowers** – white, honeysuckle like

**Fruit** – drupe, green when unripe transitioning to red when ripe

**Blooms in** – March to July

**Other Features** – resembles invasive honeysuckles

**Likely to be found** – old fields, roadsides, forest edges

**Important management considerations** – tends to re-sprout vigorously if cut

### **Canada Thistle (*Cirsium arvense*)**

#### **PHYSICAL DESCRIPTION:**

**Form** – erect, branched stem

**Height** – 0.3m to 1.5m

**Leaves** – simple, alternate, lace-shaped, deeply lobed, spiny, may clasp stem

**Flowers** – generally in clusters, purple or pink colour

**Fruit** – small, dry, single-seeded (up to 4cm long), feathery structure attached to seed base

**Blooms in** – June through October

**Other Features** – extensive, creeping roots

**Likely to be found** – meadows, fields, crops, waste areas

**NOTE** – Thistles may be difficult to distinguish from one another – if you're not sure, ask for help

**Important management considerations** – covered in spines, handle with care

### **Chinese Mystery Snail (*Cipangopaludina chinensis*)**

#### **PHYSICAL DESCRIPTION:**

**Form** – snail

**Size** – up to 6 cm

**Other Features** – large, rounded shell

**Likely to be found** – slow moving water bodies

### **Common Buckthorn (*Rhamnus cathartica*)**

#### **PHYSICAL DESCRIPTION:**

**Form** – shrub or small tree

**Height** – up to 7m

**Leaves** – simple, alternate, oval, finely toothed

**Flowers** – in clusters, greenish-yellow colour, small regular flowers, 4 petals

**Fruit** – berries, red turning to black when ripe, each with 3-4 seeds

**Blooms in** – spring through fall

**Other Features** – may have small spines at twig tips; keeps foliage, flowers, and berries longer than most native shrubs (long growing season)

**Likely to be found** – open woods, wetlands, gardens, and yards

**Common Reed (*Phragmites australis*)**

**PHYSICAL DESCRIPTION:**

**Form** – very tall, usually in dense, single species stands

**Height** – can exceed 5m

**Leaves** – simple, long, narrow, smooth, wide (up to 4cm)

**Flowers** – in plume like spikes (up to 30cm long), purple colour (changing to grey in late summer), individual flowers have long silky hairs

**Fruit** – flower heads look fluffy as seeds within mature

**Blooms in** – late July and August

**Other Features** – extensive, creeping roots

**Likely to be found** – wetland fringes, including salt marshes

**NOTE** – There is also a native Common Reed, and they may be difficult to distinguish

**Eurasian Water-Milfoil (*Myriophyllum spicatum*)**

**PHYSICAL DESCRIPTION:**

**Form** – upright (deeper water), trailing (shallow water)

**Height** – stems up to 2.5m

**Leaves** – whorled, feathery

**Flowers** – clusters of red bud like flowers

**Fruit** – small green seedpods

**Blooms in** – June to October

**Other Features** – resembles native milfoil species

**Likely to be found** – slow moving waterbodies, more common in shallow water (1-3 m)

**Important management considerations** – can regrow from fragments, unless fragments contained physical removal may cause new plants to spout downstream

**Emerald Ash Borer (*Agilus planipennis*)**

**PHYSICAL DESCRIPTION:**

**Form** – beetle

**Size** – Adults 8-14 mm

**Other Features** – adults have elongated bodies and a metallic green colour; may be detected by presence of D shaped bore holes in host trees

**Likely to be found** – ash trees

**Important management considerations** – transport of wood products (especially ash) out of infected areas

**European Fire Ant (*Myrmica rubra*)**

**PHYSICAL DESCRIPTION:**

**Form** – ant

**Size** – workers are 2-6 mm, queens can be as large as 25 mm in length

**Other Features** – two small segments or nodes between the thorax and abdomen, and a two-segmented club at the end of each antenna

**Likely to be found** – gardens, roadsides, moist irrigated soils, rotting stumps or logs

**Important management considerations** – aggressive with painful bite; can be spread by moving infested materials

**Garlic Mustard (*Alliaria petiolata*)**

**PHYSICAL DESCRIPTION:**

**Form** – first year plant is a rosette, second year plant is an erect stem

**Height** – 0.6m to 1.05m

**Leaves** – simple, alternate, triangular, serrated (toothed)

**Flowers** – in clusters, white colour, small regular flowers, 4 petals in cross shape

**Fruit** – oblong pod (up to 10cm long) containing seeds

**Blooms in** – spring, plants dead by late June

**Other Features** – crushed stem and leaves have garlic odour

**Likely to be found** – shady forest understories

**NOTE** – On the first-year rosette, leaves are more kidney shaped, and round-toothed (less serrate) than those on the second year plant

**Important management considerations** – can have allelopathic effect, especially in areas with long establishment

**Giant Hogweed (*Heracleum mantegazzianum*)**

**PHYSICAL DESCRIPTION:**

**Form** – erect stem

**Height** – up to 5m

**Leaves** – shiny, large, deeply serrated like a jagged saw edge

**Flowers** – white

**Fruit** – tan seed

**Blooms in** – June -and July

**Other Features** – resamples native cow parsnip

**Likely to be found** – disturbed places with moist soil, vacant lots, waste areas, riverbanks, along roadways, agricultural lands

**Important management considerations** – take great caution around this plant; Skin contact with the sap in the presence of UV light (such as sunlight) can cause swelling, itching, and blistering that lasts for months; If the sap gets into your eyes, it can cause permanent blindness; do not bushhog, as this can aerosolize the sap

**Glossy Buckthorn (*Rhamnus frangula*)**

**PHYSICAL DESCRIPTION:**

**Form** – shrub or small tree

**Height** – up to 7m

**Leaves** – simple, alternate, oval, smooth

**Flowers** – in clusters, greenish-yellow colour, small regular flowers, 5 petals

**Fruit** – berries, red turning to black when ripe, each with 3-4 seeds

**Blooms in** – spring through fall

**Other Features** – keeps foliage, flowers, and berries longer than most native shrubs (long growing season)

**Likely to be found** – open woods, wetlands, gardens, and yards

**Important management considerations** – seeds persist in the soil for many years

**Goutweed (*Aegopodium podagraria*)****PHYSICAL DESCRIPTION:**

**Form** – low growing groundcover

**Height** – up to 30 cm

**Leaves** – trifoliate, serrated

**Flowers** – white flat topped

**Fruit** – small green seedpods

**Blooms in** – May to July

**Other Features** – superficially resembles native poison ivy

**Likely to be found** – gardens, forest edges, waste places

**Important management considerations** – new plants able to grow from root fragments

**Hemlock Woolly Adelgid (*Adelges tsugae*)****PHYSICAL DESCRIPTION:**

**Form** – tiny aphid, forming woolly sacs

**Size** – adults are less than 1.4 cm, eggs are 0.2 mm wide

**Other Features** – forms woolly sacs on branches of host trees

**Likely to be found** – hemlock trees

**Important management considerations** – potential to transport from one site to another via clothing, pets, etc.

**Himalayan Balsam (*Impatiens glandulifera*)****PHYSICAL DESCRIPTION:**

**Form** – erect stem

**Height** – up to 3m

**Leaves** – serrated

**Flowers** – light to dark pink, resembling lips

**Fruit** – seed pod

**Blooms in** – June to November

**Other Features** – leaves more deeply serrated than leaves of native jewelweed

**Likely to be found** – moist shady places

**Japanese Knotweed (*Polygonum cuspidatum*)****PHYSICAL DESCRIPTION:**

**Form** – upright, usually in clumps (shrublike)

**Height** – may be taller than 3m

**Leaves** – large, simple, alternate, smooth, oval with pointed tip

**Flowers** – in linear clusters, greenish-white colour, very small

**Fruit** – small, winged, containing tiny, triangular seeds

**Blooms in** – August and September

**Other Features** – very extensive, creeping roots; large, hollow stems with pronounced nodes; resembles bamboo.

**Likely to be found** – riparian areas, ditches, yards

**Important management considerations** – new plants able to grow from root fragments

**Multiflora Rose (*Rosa multiflora*)****PHYSICAL DESCRIPTION:**

**Form** – shrub, forms dense thickets, arching stems

**Height** – generally forms a 1m to 2m thicket, but can climb trees, attaining great heights

**Leaves** – compound, alternate, finely toothed, 5-11 leaflets (generally 7 or 9)

**Flowers** – in clusters, white colour, small regular flowers, 5 petals

**Fruit** – rose hips, small, red, remaining on plant through winter

**Blooms in** – June and July

**Other Features** – can be distinguished from native roses by fringed bracts at base of each leaf stalk, and by arching stems

**Likely to be found** – open woods, gardens, fields, many habitats

**Important management considerations** – sharp thorns oriented inwards

**Oriental Bittersweet (*Celastrus orbiculatus*)****PHYSICAL DESCRIPTION:**

**Form** – woody vine or trailing shrub

**Height** – can reach heights of over 18m

**Leaves** – simple, alternate, roundish, slightly toothed

**Flowers** – small and in clusters with 5 petals

**Fruit** – yellow when mature, opening up to 3 red seed pods

**Blooms in** – spring or early summer

**Other Features** – roots typically bright orange

**Likely to be found** – forests, fields, habitat edges, coastal areas

**Important management considerations** – heavy infestations may destabilize trees

**Purple Loosestrife (*Lythrum salicaria*)****PHYSICAL DESCRIPTION:**

**Form** – upright, stout, branched stem

**Height** – 0.5m to 1.5m

**Leaves** – simple, opposite, or in whorls of 3, smooth, no stalks, downy

**Flowers** – in spikes, magenta colour, small regular flowers, 5-7 petals

**Fruit** – small capsule (6mm long) containing many dark seeds

**Blooms in** – July through September (and later)

**Other Features** – stems feel square, whole plant usually covered in downy hairs, may have many stems (up to 50) on one plant

**Likely to be found:** wetlands, ditches, gardens

**Wild Parsnip (*Pastinaca sativa*)****PHYSICAL DESCRIPTION –**

**Form** – erect stem

**Height** – up to 1.5 m

**Leaves** – alternate, serrated

**Flowers** – Yellow, flat topped

**Fruit** – tan seed

**Blooms in** – primarily July and August. Blooms possible outside this range

**Other Features** – wild form of cultivated parsnip



**Likely to be found** – fields, roadsides, forest edges

**Important management considerations** – contact with skin can cause painful blistering; Caution must be taken if burning an area containing Wild Parsnip. Burning could release sap into the air, potentially causing severe reactions to people downwind

**Scotch Broom** (*Cytisus scoparius*)

**PHYSICAL DESCRIPTION:**

**Form** – stiff, bushy, usually in clumps

**Height** – 2m to 3m

**Leaves** – small, lower have 3 leaflets, upper may be simple

**Flowers** – bright yellow colour, regular, pea-like

**Fruit** – pod (4-5 cm long) with long hairs along seam

**Blooms in** – June and July

**Other Features** – up to 3500 seeds explode out of each seed pod when ripe, and can survive in the soil for decades!

**Likely to be found** – open woods, gardens, disturbed areas

**Important management considerations** – higher plant mortality when cut in bloom