

Invasive Alien Species Act 2021 Species Examples



GOVERNMENT OF BERMUDA

Ministry of Home Affairs

Department of Environment and Natural Resources

12th July 2021

Modern global travel is essential to Bermuda's economic survival but it also makes the island increasingly vulnerable to the introduction and proliferation of Invasive Alien Species (pests) that can and do have a negative impact on the island's environment, economy, human health and social fabric.

The purpose of the Invasive Alien Species Act 2021 is to improve the island's Biosecurity by allowing for the assessment and listing of a pest species to the corresponding level of actions needed to minimize its impacts.

Proposed Invasive Alien Species Bill 2021

Schedules

To manage Alien Invasive Species it is proposed to have 3 categories listed by schedule:

1. Schedule 1 - Prohibited Species
2. Schedule 2 - Restricted A Species
3. Schedule 3 - Restricted B Species

Prohibited Species

Schedule 1

***Pest species we do not have and do not want to have
e.g. Snakes and Giant Land Snail.***

It is illegal to:

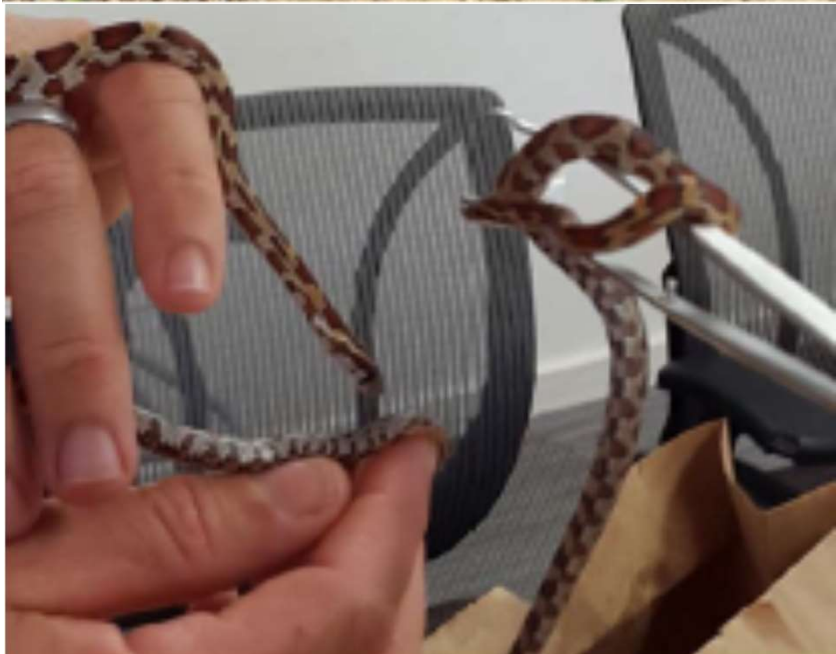
1. import a prohibited invasive species;
2. reproduce, cultivate, or grow a prohibited invasive species;
3. buy, sell, lease, trade, receive, supply or give to another a prohibited invasive species;
4. possess a prohibited invasive species;
5. release a prohibited invasive species into the environment;
6. shelter or sustain a prohibited invasive species in the wild.

Prohibited Species Example

Snakes



Southern Black Racer (*Coluber constrictor Priapus*). Picture of a Racer similar to one found on the Tucker's Point Golf Course, May 2014. Native to the Southeastern United States the Racer is a non-venomous snake which growing up to 1-1/2ft to 5ft. It is a quick mover as its name suggests and feeds on lizards, birds, insects, frogs and rodents.



Corn Snake (*Pantherophis guttatus*)

A suspected breeding pair of baby corn snakes confiscated as a consequence of a police action March 2019. Corn snakes can grow up to 6 foot in length. A popular pet in the exotic pet trade.

Prohibited Species example

Giant Land Snail



Florida Battles Giant African Land Snail Invasion CBS News 15 April 2013

"We have a staff of 50 that's dedicated to nothing but snail hunting," Mark Fagan, Florida Department of Agriculture

The **Giant Land Snail** (*Achatina fulica*) popular in the pet trade.

One of the largest land snails growing up to 8 inches long with an average lifespan of 5-7 years. It is hermaphroditic; meaning it has both male and female reproductive organs and can self fertilise. It can produce 100 eggs per month.

Most active at night the snail eats at least 500 different species of plants. It eats stucco and concrete searching for calcium. It can carry rat lungworm, which the US Centers for Disease Control said is the most common cause of human eosinophilic meningitis. The snails often contract the worms by eating rat feces.

Prohibited Species example

Scorpions

Bark Scorpion (*Centuroides sculpturatus*)

Captured on a desk of a local importer, October 2018. Scorpions are not an agriculture pest but rather a human and animal health issue. While this was an accidental arrival there is an interest in keeping scorpions and other dangerous insects as exotic pets.



Restricted Species A

Schedule 2

A pest species we do have but do not want to make more of through human actions and where possible we want to encourage removal, reduction etc e.g. Casuarina, Lionfish. To be managed through licenses and permits.

Scenerio - Not illegal to own and maintain but it would be illegal to import or propagate and sell without a license.

It is illegal to:

1. release a restricted invasive species into the environment;
2. import a restricted invasive species except under permit;
3. reproduce, cultivate, or grow a restricted invasive species except under licence; buy, sell, lease, trade, receive, supply or give to another a restricted invasive species except under licence.

Restricted Species A example

Anoles

Cuban Brown Anole (*Anole sageri*)

Introduced accidentally in 2016 and now proliferating. Aggressive competitor to native and endemic lizards.

There is interest in keeping them as exotic pets. It is currently not illegal to own one if caught locally.



Restricted Species A example

Pothos Vine



Traditionally kept as a house plant **Pothos Vine** (*Epipremnum pinnatum*) is a multi-stemmed vine with large, rubbery heart shaped green leaves. It is an aggressive climber but can also grow horizontally as a ground cover. It is an epiphytic plant that if left unchecked will completely smother its host plant(s). It can easily regenerate from cuttings.

All parts of the plant are poisonous causing mouth/throat irritation, dermatitis and gastric irritation. It can be toxic to dogs, cats and children if ingested.

Restricted Species A example

Indian Laurel

Known as the Strangler Fig the **Indian Laurel** (*Ficus microcarpa*) is one of Bermuda's most pervasive invasive trees. It tolerates full sun, lack of soil, severe pruning and is proving resistant to many herbicides.

The seeds and roots from this tree find their way into rocky crevices or nooks in trees. It has a very aggressive root system which can cause considerable damage to building foundations, roofs, tanks and walls.

It often grows as an epiphyte on other trees and is self seeding pervasively in many habitats.

Often sold as an indoor plant.



Restricted Species A example

Balloon Vine

The **Large Fruited Balloon Vine**

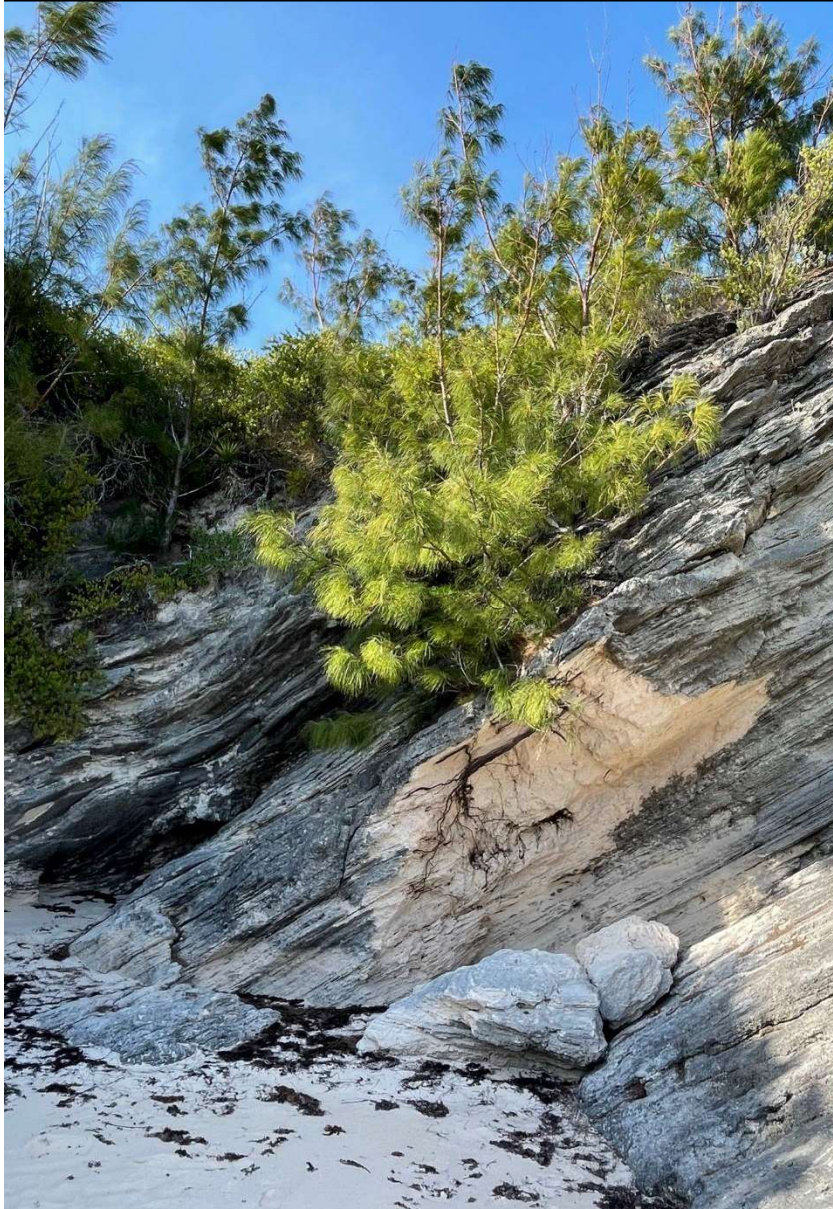
(*Cardiospermum halicacabum*) is a woody perennial vine with heavily toothed compound leaves and reddish-brown stems. Small black seeds are held in thin, inflated capsules or "balloons" up to 1 inch (2.5cm) long. It is pollinated by bees, wasps, flies and butterflies.

Very fast growing, with a tendency to take over and smother canopies. This vine climbs with tendrils and needs some form of support, typically by clinging onto other vegetation. It prefers thickets and disturbed areas. It is identified as a pest in New Zealand and Florida.



Restricted Species A example

Casuarina



A fast growing tree **Casuarina** (*Casuarina equisetifolia*) grows well in all of Bermuda's habitats, up to 6 feet (1.8m) per year. It is very drought and salt tolerant. It is wind resistant at an early age but unless managed it is very susceptible to wind blow down due to its shallow root system - a main cause of coastal erosion and damage to structures. Its profuse needle drop creates dense mats which sterilize the soil. Even careful management will result in seed production and eventual spread from its intended location. It is ranked as a Category I invasive by the *Florida Exotic Plant Pest Council*.

Restricted Species A example

Lionfish

Lionfish (*Pterois volitans*)

A voracious marine predator recently established in local waters with no predators. Despite aggressive control measures there is still interest in keeping them as exotic pets in salt water aquariums.



Restricted Species B

Schedule 3

A species we do have that could become a problem if it were to be imported or sold commercially e.g. insects – to be managed through licenses and permits.

Scenario – Bermuda has several species of cockroaches but does not want more of the same or others. It is not illegal to have in house but a person could not import or reproduce them without a license.

It is illegal to:

1. import a restricted invasive species except under permit;
2. buy, sell, lease, trade to another a restricted invasive species-except under license.

Restricted Species B example

Asian paper wasp



Butterflies are a beautiful addition to a garden however there are numerous ailments that butterflies can have that Bermuda does not want such as the **Asian paper wasp** (*Polistes chinensis antennalis*).

Butterflies can become the unwilling hosts to the larva of the Asian Paper Wasp.

Restricted Species B example

Spiders



Black Widow Spider (*Latrodectus Hesperus*)

An occasional visitor with human health issues. there is interest in keeping them as exotic pets.

Information



For further information contact:

The Biodiversity Section
Department of Environment and
Natural Resources
'Shorelands'
#40 North Shore Road
Hamilton

Tel: 293-2727

Email: environment@gov.bm

Image – Bermuda Cedar being strangled by
Large Fruited Balloon Vine.