

## **Nature PEI: Species at Risk on PEI**

### **What are species at risk?**

Species at risk are species that are at risk of extinction or extirpation to some degree.

- Extinct: Species which no longer exist anywhere
- Extirpated: Species which no longer exist in the wild in one area of its range but still exists elsewhere
- Endangered: Species facing imminent extirpation or extinction
- Threatened: Species which are likely to become endangered if nothing is done to reverse the factors leading to their extirpation or extinction
- Special Concern: Species which may become threatened or endangered because of a combination of biological characteristics and identified threats

### **What is the Species at Risk Act (SARA)?**

The Species at Risk Act is a Canadian federal legislation that was written in 2002. Its purpose is to provide legal protection of wildlife species and the conservation of their biological diversity. Species at risk are recommended to SARA by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Once a species is listed as Endangered or Threatened under SARA, it becomes protected on federal lands such as national parks or around lighthouses.

### **What is COSEWIC?**

COSEWIC was created under SARA as an independent body of experts responsible for identifying and assessing wildlife species considered to be at risk. Once COSEWIC declares a species to be at risk it is then assessed by the Canadian government in order for it to potentially be included under the SARA.

### **Species at risk on PEI**

- 26 species at risk of extinction federally recognized and several more that are under consideration by the Canadian Endangered Species Conservation Council
- No species at risk are listed for special legal protections by the Province
- PEI government has been largely silent about species at risk for a number of years
- 90% of PEI is privately owned land has no doubt influenced the government's approach to species conservation
- Landowners are integral to the conservation of "at risk" species but can do little without awareness of what imperilled species are present and the accepted conservation practices for species at risk

### **How are the species protected provincially on PEI?**

- Currently, there is no standalone law protecting species at risk on PEI unlike most other provinces
- There is the Wildlife Conservation Act (WCA) which was created in 1998 and gives the responsibility and power to the Minister of Environment, Energy and Climate Action to protect species at risk by taking whatever measure they deem necessary

- Under the WCA, the Minister has the responsibility and power to decide whether a species should be designated as endangered, threatened, or of special concern
- Once a species has been declared as such, it can be formally designated under the WCA
- Species considered endangered or threatened under the WCA are automatically protected under the WCA from being harmed or traded and their habitat from being destroyed or disturbed
- As of July 2022, no species has been listed under the WCA and therefore, species at risk are only protected on federal lands on PEI other than the birds listed under the migratory birds act which are protected to some extent

### **What species are at risk on PEI?**

- Mammals:
  - Little Brown Myotis (Endangered), Northern Myotis (Endangered)
  - Threats: White Nose Syndrome, colony eradication, chemical contamination, change in forest structure, and wind turbines
- Ducks, Geese and Swans:
  - Barrow's Goldeneye (Special Concern)
  - Threats: Overwintering in only a few areas along the St. Lawrence corridor so one oil spill could have detrimental effects, contamination of sediment in overwintering areas, hunting (there are limits), forestry can destroy nests and reduces nesting habitat overall and forces them to nest further away from ponds increasing the predation risk, stocking of fish in previously fishless lakes might be reducing the habitat quality for them
- Shorebirds:
  - Leach's Storm Petrel (Threatened), Piping Plover (Endangered), Lesser Yellowlegs (Threatened- COSEWIC), Eskimo Curlew (Endangered), Red Knot (Endangered), Hudsonian Godwit (Threatened- COSEWIC), Red-necked Phalarope (Special Concern)
  - Threats: Predation, human disturbance, habitat loss or degradation in both breeding, migration and wintering range, sea level rise, ocean acidification, increases in severe weather, global warming, industry, light pollution, oil spills, hunting, and declining food resources
- Typical Owls:
  - Short-eared Owl (Special Concern)
  - Threats: Natural system modifications, climate change, severe weather, shrubification leading to reduced prey availability and increased predation
- Goatsuckers:
  - Common Nighthawk (Threatened)
  - Threats: Reduced aerial insects due to agriculture and other pesticides, changes in precipitation and hydrological extremes, changes in temperature regimes, increased frequency of severe or extreme weather
- Tyrant Flycatchers:
  - Olive-sided Flycatcher (Threatened), Eastern Wood-pewee (Special Concern)

- Threats: Loss and degradation of habitat quality on the breeding and wintering grounds due to urban development and/or changes in forest management, large-scale changes in availability of flying insects, pesticide use, high rates of mortality during migration, high rates of nest predation from increasing numbers of avian predators, fire regimes, and fire suppression
- Swallows:
  - Bank Swallow (Threatened), Barn Swallow (Special Concern)
  - Threats: Loss of breeding and foraging habitat, disturbance and persecution at roosting sites, changes in agriculture, predation, climate change, pesticide use reducing insects, pollution, and severe weather
- Wood Warblers:
  - Canada Warbler (Special Concern)
  - Threats: Habitat loss and degradation in their wintering range breeding range, and migration areas, wet forests being drained for development, and during migrations they are vulnerable to collisions with tall buildings and other structures
- Blackbirds and Allies:
  - Bobolink (Threatened), Rusty Blackbird (Special Concern)
  - Threats: Loss and degradation of habitat on breeding and overwintering grounds, incident mortality from agricultural operations, haying destroying nests and birds, pesticides, changes in surface hydrology due to damming activities, large scale blackbird control programs in agricultural areas, and contamination and degradation of wetlands in breeding grounds
- Finches and Allies:
  - Evening Grosbeak (Special Concern)
  - Threats: Fluctuate alongside Spruce Budworm, mortality by window strikes, reduction of mature and old growth, mixed wood forests fur to commercial forest management, mortality due to road collisions, mortality related to ingestion of sodium chloride, and potential loss of breeding habitat due to climate change
- Fishes:
  - Atlantic Salmon (Special Concern- COSEWIC), Striped Bass (Special Concern- COSEWIC), American Eel (Threatened- COSEWIC)
  - Threats: Spawn in specific waters (Atlantic Salmon- natal streams, American Eel- Sargasso Sea, Striped Bass- PEI's Striped Bass spawn in Miramichi River), overfishing, habitat loss and deterioration, climate change, dams and obstructions, agriculture, urbanization, acidification, aquaculture, and invasive species
- Bumble Bees:
  - Yellow-banded Bumble Bee (Special Concern), Gypsy Cuckoo Bumble Bee (Endangered), Suckley's Cuckoo Bumble Bee (Threatened-COSEWIC)
  - Threats: Habitat loss, mortality from pesticide use, climate change, intensive agriculture, introduced disease from managed bumble bees
- Coleoptera:

- Transverse Lady Beetle (Special Concern)
- Threats: Negative interactions with non-native species through competition, intraguild predation or indirect effects through the introduction of pathogens, land use changes, agricultural pesticide and chemical use to control the prey species, habitat loss through urban expansion, conversion of farmland to forest, and other human disturbances
- Butterfly:
  - Monarch (Endangered)
  - Threats: Habitat loss in overwintering habitat, habitat fragmentation, extreme weather events, fire, diseases, predation, anthropogenic threats, herbicide use, reduction of milkweeds, neonicotinoid pesticides
- Vascular Plants:
  - Black Ash (Threatened-COSEWIC)
    - Threats: Emerald Ash Borer, introduced pathogens (Asian fungal disease), climate change altering their habitat
  - Gulf of St. Lawrence Aster (Threatened)
    - Threats: Interspecific competition, vegetation canopy closure, cottage construction, and fill operations
  - Beach Pinweed (Special Concern)
    - Threats: Requires specialized habitat, sea-level rise, climate change-induced increases in storm frequency and intensity, storm-caused decline in habitat quality, ATV traffic and trampling, and forest cover
- Lichen:
  - Wrinkled Shingle Lichen (Threatened), White-rimmed Shingle Lichen (Threatened-COSEWIC), Blue Felt Lichen (Special Concern), Frosted Glass-whiskers (Special Concern)
  - Threats: Forest harvesting resulting in a loss of host trees and changes in microclimate, lack of old growth forests, climate change, road construction, development, air pollution, and forest fires

### **Species PEI has Lost due to Extirpation (Curley et al. 2019; Mammals of Prince Edward Island and Adjacent Marine Waters)**

- Atlantic Walrus
  - There were records of the Atlantic Walrus in Seacow Head and Seacow Pond on PEI. Their main herd was located on Sable Island and around the Gulf. They began to be exploited for oil, ivory, their skins, and meat in the 1500s which led to its decline and eventual extirpation in the 1800s
- North American Beaver
  - Beavers were present on PEI prior to French settlement in 1719 as old teeth have indicated the presence of beavers. By French settlement, beavers had already been trapped out and extirpated from PEI due to the fur trade. Beavers have reinvaded PEI in recent times possibly by swimming
- Caribou

- There is evidence of caribou from teeth, bones, antlers, and reports. They were last recorded on PEI in 1765. They became extirpated likely due to the introduction of the European fur trade, settlement, and other factors
- Eastern Wolf
  - There were a couple of reports of wolves on PEI from 1721 and 1846. If they were present on PEI, they likely became extirpated due to a lack of food from the loss of caribou
- American Marten
  - Martens were once abundant on PEI. In the 1800s they were heavily trapped, but after the human population began to rapidly increase after 1840 there was a loss of forest habitat. Even after seasonal trapping prohibitions were put into place, they were extirpated by 1937 due to unregulated trapping and forest loss
- Canada Lynx
  - They were widely recorded on PEI, but they were responsible for preying upon livestock leading to a bounty on them from 1825-1862. By 1890 they were extirpated due to habitat loss and hunting
- American Black Bear
  - They were widely present on PEI but feared on PEI due to the threat they presented to both livestock and humans. Between 1790 and 1855 there was a bounty for bears. By 1828 they were notably declining and by 1900 only 30% of PEI remained forested. The last known bear was shot in 1927 and then the species was considered extirpated due to hunting and deforestation
- River Otter
  - River otters were recorded beginning in 1721. They were in demand due to their fur and were hunted and trapped freely until it was only permitted seasonally starting in 1879. Around 1898 they were believed to be extirpated from PEI due to trapping although there were two records of them in the 20<sup>th</sup> century. Between 2017 and 2019 there were five sightings of them, and they were then confirmed to have a breeding population on PEI again as they likely swam to PEI

### **How can you help the species at risk on PEI?**

- Report sightings of species with pictures on iNaturalist.ca
- Keep old growth trees and forests
- Plant native species of plants and trees
- Encourage native pollinators by planting native flowering plants that bloom at overlapping times from April-October
- Leave leaf litter until bumble bees are out of hibernation
- Avoid the use of pesticides
- Build bat and bird houses
- Practice agricultural practices that benefit species at risk

### **Species at Risk Quiz**

1. What are two threats facing the bumble bees at risk on PEI?
2. What three shorebirds are considered Endangered?
3. What is the name of the federal act protecting these species?
4. Species that are no longer present anywhere are referred to as extinct  
True/False
5. How many species have been declared as endangered, threatened, or special concern under the Wildlife Conservation Act?
6. What pest is threatening Black Ash?
7. When was the last bear shot on PEI?

### Quiz Answers

1. Habitat loss, mortality from pesticide use, climate change, intensive agriculture, introduced disease from managed bumble bees
2. Piping Plover, Eskimo Curlew, Red Knot
3. Species at Risk Act
4. True
5. None
6. Emerald Ash Borer
7. 1927