CAPE BRETON PRIVATELAND PARTNERSHIP

Nova Scotia At-Risk Pollinators

Gypsy Cuckoo Bumble Bee (*Bombus Bohemicus)*

Status

- Endangered (NS)

Species Description

- Medium-sized bumble bee at 11-19mm in length
- Almost entirely black head
- Distinctive white or pale yellow 'tail'
- Sides of thorax (midsection) are mostly black
- Thorax above the wings is mostly yellow
- 1st and 2nd abdominal segments are black
- Remaining segments have white/yellow hairs
- Nest parasite bumble bees
    - Females invade nests of other bees
    - Displace resident queen
    - Enslaves resident worker bees
- Do not have pollen baskets on their hind legs
- Females have a curved abdomen to help usurp the host colony's queen
- Only males and queen-sized females exist
    - No worker caste
- Species distribution is shrinking and is thought to have disappeared in Nova Scotia in the last 20 years

Threats

- Decline in host species
- Pathogens and parasites
- Habitat loss, fragmentation and degradation
- Pesticide use
- Climate change

Habitat Characteristics

- Nesting habitat for the Gypsy Cuckoo depend on the requirements of the host species (Rusty-patched Bumble Bee and Yellow-banded Bumble Bee)
    - Both host species primarily use rodent burrows for their nesting habitat
- Foraging habitat includes old fields, grasslands, dunes, alvars, forests and roadsides
- Foraging plants include both native and non-native species such as the following examples
    - Allium
    - Canada Goldenrod (*Solidago canadensis)*
    - New England Aster (*Symphyotrichum novae-angliae)*
    - Sweet Clover (*Melilotus albus)*
    - Common Lilac (*Syringa vulgaris)*
    - Red Clover (*Trifolium pratense)*

- There is no known information regarding mating and overwintering habitat requirements for this species

Resources

- General Info: Species at risk - Government of Nova Scotia, Canada
- Recovery Plan: RECOVERY_PLAN_Adopted_Gypsy_Cuckoo_Bumble_Bee_15Feb2022.pdf (novascotia.ca)

Monarch (*Danaus Plexippus*)

Status

- Endangered (NS)

Species Description

- Large, showy butterfly with a wingspan of 93-105mm
- Wings are orange with black veins and a thick black margin with white dots
- Eggs are dull green
- Larvae are marked with black, white and yellow bands
- Chrysalids are pale green with a row of gold spots

Threats

- Residential and commercial development
- Agriculture and aquaculture
- Industrial herbicides
- Pollution
    - Agricultural and forestry effluents
- Climate change and severe weather
    - Habitat shifting and alteration
    - Droughts
    - Temperature extremes
    - Storms and flooding

Habitat Description

- Can be found throughout Nova Scotia during the summer and early fall
    - Most common in the western and southern portions of the mainland
- Can breed where milkweed is found (including gardens)
- Breeding habitat is dependent on the presence of swamp and common milkweed; specifically of the genus *Asclepias.* Milkweed is vital for supporting the egg, larval and chrysalid stages of Monarch's life
- Swamp milkweed is a native species occurring in marshes, fens, and rocky freshwater shorelines
    - Most abundant in southwestern Cape Breton and central southwestern Nova Scotia
- Common milkweed can be found in well drained soils and anthropogenic areas such as rail verges, roadsides, old fields and gardens
- Nectaring habitats occur throughout the breeding range in environments ranging from native grasslands, gardens and roadsides
- Adult Monarchs feed on the nectar of several wildflowers including the following:
    - Goldenrods (*Solidago* spp. and *Euthamia* spp.)
    - Asters (primarily *Symphyotrichum*)
    - Milkweed (of the *Asclepias* genus)
    - Red clover (*Trifolium pratense)*

- Staging areas are vital for allowing the Monarch to feed, build fat stores, and to rest before resuming flight
- Roost sites include pines, conifers, maples, oaks, pecans and willows
- Staging areas within close proximity to large geographic obstacles (i.e.: large water bodies) serve as communal roosts for migrating adults
- Overwintering sites for the eastern population of Monarch, including Nova Scotia Monarchs, include the Oyamel Fir forests of central Mexico
    - Overwintering does not occur in Nova Scotia

Resources

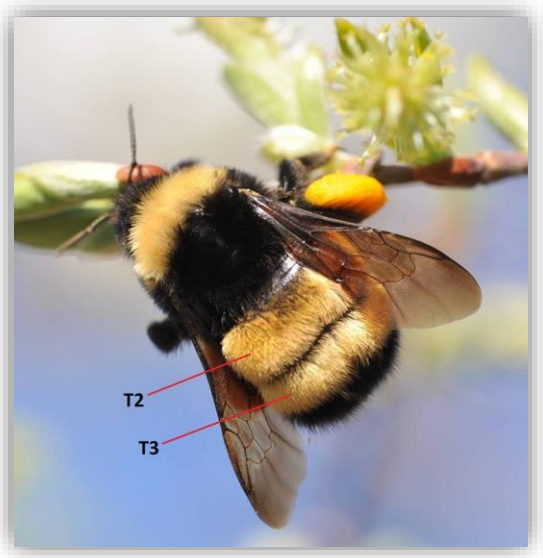
- General Info: Species at risk - Government of Nova Scotia, Canada
- Recovery Plan: MonarchRecoveryPlan.pdf (novascotia.ca)

Yellow Banded Bumble Bee (*Bombus Terricola*)

Status

- Vulnerable (NS)

Species Description



- Medium-sized bumble bee
- Queens, reproductive males and smaller worker bee caste
- Short face and tongue length compared to most other bumble bees
- Most of the upper side of their abdomen is black
- Distinctive, broad band of golden yellow hair across segments 2 and 3 (refer to photo)
- Segment 5 is black or pale yellow-brown
- Males typically have more yellow hairs on their face
    - Intermediate size between queens and workers
    - Relatively short antennae

Threats

- Competition and disease
- Pesticides, insecticides and herbicides
- Climate change
- Habitat loss due to urbanization

Habitat Description

- Nest sites are typically 2-15cm underground in soil cavities or rotting logs
- Habitat generalists
    - Meadows with coniferous, deciduous and mixed-wood forests and woodlands
    - Taiga
    - Prairie grasslands
    - Riparian zones
    - Urban parks
    - Gardens
    - Agricultural areas
    - Roadsides
- Generalist pollen forager however requires relatively shallow flowers for pollen gathering
- Colonies are only active for one season and thus overwintering habitats are mostly unknown

Resources

- General Info: Species at risk - Government of Nova Scotia, Canada
- Proposed Management Plan: Yellow-banded Bumble Bee (Bombus terricola): management plan proposed 2022 - Canada.ca