

Wildlife



Birds

Research and monitoring

Almost 300 species of birds have been recorded throughout the Gardens' varied habitats. Our nature sanctuaries play host to a wide variety of migrant bird species, as well as both summer and winter residents. Cootes Paradise is particularly important as breeding habitat for marshbirds, and was originally protected because in significance as a staging ground for migratory waterbirds.

The Gardens has a number of bird-related research programs through which ecologists monitor species population levels, ecosystem health and habitat usage, and provide feedback for the success of the restoration activities. These programs include the

monitoring of spring nesting birds and fall migratory waterbirds, and the use of nesting boxes located throughout the Gardens.

Monitoring in 2009 found an average of 31 birds per monitoring site.

Restoration

There are several habitat restoration and enhancement projects currently being undertaken by RBG to benefit bird populations. The most important of these include providing quality habitat and space for endangered species such as prothonotary warbler and least bittern populations, and providing nest boxes for species like wood duck, eastern bluebird and American kestrel.

The restoration of Cootes Paradise Marsh under Project Paradise, is improving habitat quality and quantity, benefiting a variety of bird populations. Locally, nesting species like black-crowned night heron and caspian tern, and regional migratory species such as American green-winged teal and northern shoveler, which use the marsh as a staging ground, are being provided with quality feeding habitat.

Insects

Research and monitoring

Insects are the most numerous and diverse creatures on the planet. Most of the Gardens' programs regarding insects are horticulture related, such as monitoring insect pest populations in the living plant collections. However, some insect monitoring is conducted in the natural lands. An annual count of butterflies is carried out in July and an investigation of the abundance and distribution of dragonflies and damselflies at the Gardens is underway.

Restoration

The restoration of wetlands under Project Paradise and prairies in specific areas of the sanctuaries along with ongoing protection of old Growth Carolinian Forest is improving habitat quality and quantity for a broad spectrum of insect species. In addition, the use of pesticides that may prove harmful to native insect species, particularly pollinators and predators, has been reduced greatly.

Reptiles

Research and monitoring

Snakes and turtles are the reptiles found at Royal Botanical Gardens. Despite decreases in habitat quality and quantity many species such as eastern garter snake, northern brown snake and midland painted turtle, still have robust local populations. However, a few species are cause for concern, such as northern water snake, which is

in decline, and Blanding's turtle, which is represented by a small and decreasing number of individuals.

The Gardens' monitoring program studies reptile populations of local concern, particularly focusing on turtles. Turtle nesting sites are monitored, as is vehicle-related mortality on roads surrounding the Gardens' properties. Sporadically, turtles are caught during operation of the Cootes Paradise Fishway. This has led to the rediscovery of both eastern spiny softshell and common musk turtle — species once thought extirpated.

Restoration

Many female common snapping turtles are hit by cars as they move to and from nesting sites located in gravel road margins. Hatchlings, too, are hit by cars upon emergence from their eggs and dispersal to new ground. In an effort to reduce this vehicle-related mortality the Gardens' has constructed artificial turtle nesting sites located away from road traffic in the Laking Garden and in Hendrie Park. The monitoring of these sites, along with a study of the turtle populations resident in the Hendrie Valley, has been supported by a donation from Ontario Ministry of Natural Resources' Community Fisheries/Wildlife Involvement Project.

Amphibians

Research and monitoring

At the Gardens, toads, frogs, salamanders and newts represent the class Amphibia. Historically noted for an abundant and diverse amphibian population, nine of 15 amphibian species were extirpated through isolation, and habitat loss and degradation from the 1920s through 1992.

Amphibians are vital to both a healthy marsh and forest ecosystem and are closely associated with water. As a result, their distribution and abundance reveal much about the environment in which they live. The Gardens conducts a variety of amphibian monitoring programs, including amphibian call counts, egg mass counts, and coverboard monitoring, to measure the effects of the restoration activities of Project Paradise and to determine the health of local habitats.

Restoration

The Gardens has an extensive amphibian restoration program concentrating on returning and supporting viable populations of amphibians. Amphibian breeding sites have been constructed in Hickory Valley, Long Valley and Pinetum along the north shore of Cootes Paradise, with further sites being investigated in western and southern portions of the marsh and on the escarpment.

Through the creation of the amphibian breeding sites, carp exclusion through the successful operation of the Fishway, and improvements in local water quality, three

species of frog have successfully re-colonized Cootes Paradise. These are northern spring peeper, wood frog, and grey treefrog, while populations of American toad, green frog and leopard frog have increased dramatically. Salamanders are also increasing in numbers.

Mammals

Research and monitoring

The Gardens is home to a wide variety of mammals ranging from little brown myotis and beaver to coyote and whitetail deer. Most of the Gardens' activities relating to mammals involve preventing them from damaging the living collections, such as fencing off the hedge collection to prevent deer browse damage during the winter. However, mammals associated with aquatic environments, such as beaver and muskrat, are monitored, and an inventory of small mammals is periodically performed.

Restoration

The gradual degradation of Cootes Paradise was detrimental to the resident muskrat population. [Click here](#) for more information about Cootes Paradise. In the late 1940s to early 1950s an estimated 5,000 muskrat were found in the marsh and the area once supported muskrat trapping. Yet, by the early 1990s only about 70 individuals were left.

Improvements in habitat have allowed the local muskrat population to gradually increase. This is most evident in the ponds of Hendrie Valley where sightings of muskrat are common, with the valley itself now containing well over 100 muskrats and a dozen beavers. Muskrat lodges are also creating new habitat for waterbirds to nest on.

Regrettably, the increase in the number of muskrat has led to some difficulties in the various marsh restoration planting activities. New plantings of aquatic vegetation need to be protected by wire mesh to prevent excessive feeding by muskrats. At the same time mink, a natural muskrat predator, are also increasing, helping to keep muskrat numbers in balance.