

## 3.6 Fauna

The Ottawa River is home to many different ecosystems, each playing an important role in sustaining Canada's biodiversity. More than 300 species of bird have been inventoried along the river (Haxton and Chubbuck 4). Of these, about half are migratory species that use the Ottawa River region as one of the continent's most important migratory halts. Along the river, 33 species of reptiles and amphibians, 53 species of mammals (DDEPQ), and 85 species of fish (Haxton and Chubbuck 3) can also be observed. Among these, several are rare or at risk.

### 3.6.1 Fish

The 85 species of fish documented to inhabit the Ottawa River live in turbid to slow moving waters, deep lakes, wetlands and shallow bays: each of these fish species are adapted to specific features of the river. As a result, not all species can be found in each section of the river (see Appendix I).

The various ecosystems of the Ottawa River offer habitat for spawning, nurseries and rearing. The distribution and abundance of fish varies based on the habitat and the location. In general, the most diverse fish communities exist in the shallow shoreline areas; both warmwater and coldwater fish communities are found here. North of Lac La Cave, most fish species are coldwater.

The diversity and the distribution of fish species have been significantly affected by development of the Ottawa River, particularly by hydroelectric generation. Hydro dams have blocked migratory species, such as the American Shad and Eels, to such an extent that they are now very low in numbers or absent from the river (Haxton and Chubbuck 3).

Muskellunge and Pike are known to spawn in the Ottawa River's numerous wetlands. These two species play an important role in the food web of wetland ecosystems: they are fierce predators. When wetlands are filled in for agriculture and urban development, their populations diminish. Industrial pollution may also impact on their populations.

Walleye may spawn in turbid areas. Walleye are known to spawn below dams in tributaries as well as along the Ottawa River. Since their passage is blocked by dams, they are numerous downstream of dams, but relatively scarce upstream. Sauger, a species similar to Walleye, can be found in the same habitats and is known to occasionally hybridize with Walleye.

### Living Dinosaurs of the Ottawa River!

The Longnose Gar is a highly predaceous, scaly, needle-nosed, and quite large fish, often growing to 1 metre in length and to a weight of 10 kilograms. Although startling, it is in fact a common species on the Ottawa River.

Like another Ottawa River native, the Stately Sturgeon, the Longnose Gar is an ancient species, dating back to the Cretaceous period of up to 140 million years ago. It is one of only two gar

Figure 3.31 Longnose Gar



Source : Petawawa Civic Centre

species found in Canada, its relative being the threatened spotted gar (COSEWIC: “Species Database”). The Longnose Gar populates the Saint Lawrence River and the southern Great Lakes, but is particularly prevalent in the Ottawa River and its tributaries.

Living up to 22 years, this impressive species has a number of distinctive characteristics that enable it to maintain its role as a top-level predator of other fish, crustaceans, frogs, and insects:

- A torpedo-shaped body
- Needle-sharp teeth
- Strong jaws
- Hard, diamond-shaped scales
- A slender, needle-like snout 15 to 20 times its width
- Skin so tough that it has historically been used as an abrasive material; its enamel-like scales have been used as arrowheads and jewellery.

The gar is specifically adapted to murky, stagnant, low-oxygen conditions, and has a lung-like gas bladder that allows it to breathe air. The Longnose Gar will drift close to the surface of shallow bays, pools, or backwaters and gulp air to supplement its gills.

Finally, the Longnose Gar lays poisonous eggs. The fish spawns in the weeds of shallow inlets or offshore shoals, and provides no subsequent care for its young. Instead, the eggs are coated with an adhesive substance that attaches them to underwater vegetation, and is highly toxic to its predators, including humans (Rivers, Inc.: “Ottawa River”).

The River Redhorse is a freshwater fish found in the Ottawa River that inhabits moderate to large rivers where the current is fast, and the bottom is composed of stones, rubble and bedrock with very little siltation. In Canada, River Redhorses are found only in southern Ontario and southwestern Quebec. Its population seems to be declining (CWS: “Species at Risk”). This fish species has restrictive habitat requirements and is sensitive to siltation and pollution along the Ottawa River. In Canada, it is considered

**Figure 3.32 Channel Catfish**



Source : Petawawa Civic Centre

a species of “special concern” by COSEWIC (“Species Database”). In the United States, the River Redhorse is listed as endangered, threatened, rare or extirpated in several states (CWS: “Species at Risk”).

The American Shad, a species that spawns in the Ottawa, is also at risk due to the many dams along the river. The American Shad was found in great numbers before hydroelectric

development. The village of Chute-à-Blondeau was once renowned for its exceptional fishing grounds upon which several varieties of fish, and Shad in particular, were being caught in large numbers. In the mid-19th century, as many as 1,200 fish could be caught in a single day (Haxton and Chubbuck). The Lake Sturgeon has recently been added as a Species of Concern to the list of endangered species present in Ottawa River environments (COSEWIC: “Species Database”).

Sport fishing has a long history on the Ottawa River. The numerous catches commonly include Muskellunge, Largemouth and Smallmouth Bass, Yellow Perch, Walleye and Northern Pike. Other species have been unsuccessfully introduced in the river for sport, such as Lake Trout introduced to the

Deep River area in 1993, with only a few individuals reported since. Please refer to Chapter 4.2.1: Fishing for a more detailed description of sport fishing.

A few commercial fishing operations exist on both shores of the Ottawa River. Companies are licensed to harvest the following species: Sunfish, Bullhead, Yellow Perch, White Perch, Suckers, Carp, Channel Catfish, Freshwater Drum, Black Crappie, Rock Bass, Lake Sturgeon and American Eel (Haxton and Chubbuck 3).

### 3.6.2 Mammals

Though few mammals inhabit the Ottawa River itself, numerous mammal species live near its banks or frequently travel to its shores. Mink and Beaver are often observed, and Muskrat and Otter communities have been reported in various wetlands along the river.

Many mammals inhabit the mixed wood lowlands of the river watershed. Some of the most abundant species of mammals here are rarely seen by humans. These species include Southern and Northern Flying Squirrels, Northern Water Shrews, Short-tailed Shrews, White-footed Mice and Meadow Voles. Sightings of Woodchucks, Red Squirrels, and Eastern Chipmunks are frequent. Snowshoe Hares, Eastern Cottontail Rabbits, Grey Squirrels, Raccoons, Coyotes, Muskrats, Red Foxes, Ermines, Deer Mice, Mink, Striped Skunk, Porcupines, White-tailed Deer and both Little Brown and Big Brown Bats are also numerous. Red Squirrels, Red Foxes, Ermines, Little Brown and Big Brown Bats and Striped Skunk have been observed in the past.

Wolf, Lynx, Moose, Marten, and Wolverine are more restricted to the boreal forest of the upper reaches of the Ottawa River. The Black Bear inhabits the entire watershed, often living near lakes and rivers. This omnivore mostly feeds on vegetation but also consumes fish.

#### The Beaver

The Beaver is Canada's animal mascot, chosen because it represents the country's fur trade heritage.

As in the days of Champlain, the North American Beaver remains present in great numbers in the Ottawa River watershed. It is easily distinguished by its fat, leathery, paddle-shaped tail, large, webbed hind feet, delicate, agile front paws and thick coat of brown fur. Its homes, mud-plastered lodges with mound-shaped domes, are often visible even when the animals themselves are not.

Figure 3.33 Beaver



Source - Petawawa Civic Centre

## Island Mammals

Certain islands of the Ottawa River are home to different species of mammals, depending of their size and condition during the flood season each spring. For instance, Woodchuck, Red Squirrel, Grey Squirrel, Beaver, Muskrat, Porcupine, Raccoon, Mink, and White-tailed Deer have been reported on the Petrie Islands (Hanrahan and Darbyshire).

Mammal populations have greatly changed with the replacement of forest with agricultural land and urban development. New species have appeared, either introduced for sport or better suited to the new conditions. Currently, species such as Snowshoe Hare, Eastern Cottontail Rabbit, Deer Mouse and White-Tailed Deer are common in agricultural and urban areas. White-tailed Deer populations are on the rise in many parts of southern Ontario and Quebec. They benefit from farmlands by feeding on the highly nutritious agricultural crops, and often take cover in nearby woodlots (Haxton and Chubbuck).

### 3.6.3 Birds

Figure 3.34 Tree Swallow



Source : Ottawa River Legacy Landmark Network

Canada Geese. Over 300,000 Canada Geese stop here to feed in spring, more than half of the entire Atlantic corridor population. Other migratory birds with stops on the Ottawa include northern species such as Brant Geese, Artic Tern, and Red-Throated Loon (Haxton and Chubbuck).

Sand flats provide habitat for the American Golden Plover, Red Knot, Western Sandpiper, Buff-Breasted Sandpiper, Black-Backed and Glaucous Gulls and the rarer Mew Gull. Marshes are home to many waterfowl during their breeding season. Colonies of Great Blue Heron are also found along the river. Common Mergansers, Harlequin Ducks, Barrow's Goldeneyes and Common Goldeneyes have been reported to spend the winter in the open waters near rapids and dams. Eleven species of raptor breed in the forests bordering the Ottawa River,

Over 300 species of birds are found along the Ottawa River. About half of these are migratory birds. Situated in the heart of the Atlantic Flyway, the Ottawa River is one of North America's most important halts for migrating waterfowl, a crucial staging area for many species (Dulude 28).

One of the richest habitats for migratory waterfowl is located between Montebello and Gatineau; species that stop here include Black Duck, Mallard, Northern Pintail, Northern Shoveler, Green-Winged Teal, Blue-Winged Teal, Wood Duck and American Wigeon. This same stretch is known for its abundant population of

Figure 3.35 Bald Eagle



Source : Ottawa River Legacy Landmark Network

including Cooper's Hawk, Red-Tailed Hawk, Merlin, Bald Eagle and the rare Red-Shouldered Hawk. Please see Appendix J for a full list of breeding birds along the Ottawa River.

### The Peregrine Falcon

The Peregrine Falcon, one of the bird species that breed on the cliffs beside the Ottawa River, was considered an endangered species in Canada from 1978 to 1999. Like the Bald Eagle, its population crashed in the 1950s due to the presence of agricultural pesticides, especially organochlorine compounds such as DDT, in the environment. These compounds caused the birds' egg-shells to thin and eggs to break, leading to reduced hatching success, reduced brood-size, and therefore reduced overall breeding success. Because Peregrine Falcons are at the top of the food chain, they are victims of biomagnification: their tissues accumulate high concentrations of the toxic substances present in their environment.

Due to more stringent regulations governing pesticide use, organochlorine contamination in Canada is no longer a major limiting factor for Peregrines. Unfortunately, the species is still considered threatened. Organochlorine compounds may still be in use in the birds' southern wintering range. Furthermore, there is uncertainty about the stability of small reintroduced populations in southern Canada, and the birds' overall population remains small. The birds also face diminishing quality of habitat. Locally, Peregrines may be affected by destruction of breeding sites and breeding areas, or by human intrusion near nest sites (CWS: "Species at Risk").

The Ottawa River's bird populations were first disturbed by intensive hunting, and more recently by the construction of hydroelectric dams. Today, bird hunting is still permitted in many areas of the river.

### The Least Bittern: A Threatened Bird of the Outaouais Region

The Least Bittern, *Ixobrychus exilis*, is seen at times in the Outaouais region, primarily in the wetlands bordering the Ottawa River between Gatineau and Papineauville. Perras Bay is considered an excellent site for observing this species, though it is also often seen at the Rubaniers Marsh, the Massettes Marsh, the Laîches Marsh, the Noire Ouest Bay and McLaurin Bay. The density of the population seems to be low upstream of Gatineau (Chabot and St-Hilaire).

COSEWIC has designated the Least Bittern a threatened species in Canada. This status was conferred because its population is small and continues to decline as a result of the loss or degradation of high quality marsh habitats across its range. There are presently only about 1000 pairs left in Canada, most of which are in southern Ontario and Quebec.

## 3.6.4 Reptiles and Amphibians

There are 33 species of amphibian and reptile in the Ottawa River and its watershed (DDEPQ). The health of these populations depends intimately on the health of the river itself. Some amphibians and reptiles depend exclusively on the river and associated bodies of water for their habitat, while others use the river during only a short cycle of their life.

This is the case for many salamanders and frogs that lay their eggs in ponds and swamps. Young salamanders and frogs inhabit ponds and swamps during their juvenile life cycle. The Mudpuppy is strictly aquatic and therefore found in the river year-round. The Spring Peeper, Bullfrog, and Green Frog are abundant and common in almost all areas of the river. Considered a vulnerable species in Quebec, the Western (Striped) Chorus Frog has been reported in the vicinity of Allumette Island.

Numerous turtles can also be observed in the slow-moving waters and wetlands bordering the Ottawa River. The most common and noticeable are the Common Snapping Turtle and the Midland Painted Turtle. These species are mostly found in the southern reaches of the river, although they live in other parts as well. The Red-Eared Slider turtle is a common aquarium species that has been introduced in many areas in Canada. Unfortunately, it competes with the Midland Painted Turtle for habitat and food.

Rare, and only in the Lower Ottawa River, are the Eastern Spiny Softshell Turtle (at risk in Canada, Quebec, and Ontario), the Common Map Turtle (at risk in Ontario) and the Wood Turtle, also at risk.

**Figure 3.36 Wood Turtle**



Source: Petawawa Civic Centre

COSEWIC recently added the Stinkpot Turtle (2002) and the Blanding's Turtle (2005), both present in the Ottawa River, to the list of species threatened in Canada. (COSEWIC: "Species Database"). The Wood Turtle is widespread but in low densities and numbers across much of southeastern Canada. Its populations are highly sensitive to commercial exploitation for the pet trade. The species is close to extirpation in southern Ontario. This turtle has a low reproduction rate and a late age at maturity. Its population is probably limited by temperature and habitat requirements (particularly clear, sandy or gravel-bottomed streams) (CWS:

"Species at Risk"). In addition, two populations of Spotted Turtle have been discovered in the Ottawa Valley. This endangered species is the rarest turtle in Algonquin Park.

### The Spotted Turtle: An Endangered Species Along the Ottawa River

The Spotted Turtle, *Clemmys guttata*, is an endangered species in Canada present in Ontario and Quebec. The turtle occurs at low density, has an unusually low reproductive potential, combined with long-lived history, and occurs in small numbers in bogs and marshes that are fragmented and disappearing. In small protected areas, these turtles have a low probability of persistence, as low population numbers and isolation reduce population viability. Another threat to their persistence is from collection for the pet trade (COSEWIC: "Species Database").

**Figure 3.37 Spotted Turtle**



Source: Petawawa Civic Centre

As with other wildlife along the Ottawa River, threats to turtle populations include substantial habitat loss, often restricting the distribution of turtle species to only portions of their former range. Habitat degradation through development and recreation may block access to nesting, hibernation, feeding and basking sites. Other potential threats include the partial or complete isolation of segments of turtle populations by dams and other structures, the reduction of juvenile recruitment by high predation rates on nests, and high mortality rates due to collisions with motor boats, trapping, and incidental mortality from fisheries (CWS: “Species at Risk”).

At least seven species of snake have been reported in the Ottawa River area. Water snakes are often sighted in the river. The Eastern Milksnake and the Eastern Ribbon Snake are both considered species of special concern by COSEWIC.

### Two Snake Species of Special Concern Along the Ottawa River

Figure 3.38 Milksnake



#### The Milksnake

The name “Milksnake” stems from the erroneous belief that these snakes would enter barns and steal milk from cows. This is definitely false, as the snake’s jaw is not adapted for sucking, and its teeth are very sharp! Instead, Milksnakes visit barns in search of rodents, which they consume in large numbers. Young Milksnakes eat worms and young snakes of other species. Milksnakes are constrictors, suffocating their prey before swallowing it.

Milksnake habitat is ideally close to water, and provides opportunities for basking and egg laying (CWS: “Species at Risk”). The Milksnake is still widely distributed in Ontario, but anecdotal information indicates that it occurs in small numbers. The species maintains a small but seemingly stable population in Quebec.

The Milksnake is subject to high levels of road kill and is still deliberately killed because it resembles venomous species. In addition, milksnakes are affected by habitat loss and modification due to urbanization (COSEWIC: “Species Database”).

#### The Eastern Ribbonsnake

The Eastern Ribbonsnake strongly resembles the more common Eastern Garter Snake in both colour and size. However, ribbonsnakes are more slender and have longer tails than garter snakes. The Eastern Ribbonsnake is semi-aquatic. It is most frequently found along the edges of shallow ponds, streams, marshes, swamps, or bogs bordered by dense vegetation that provides cover. It feeds primarily on amphibians, particularly frogs.

This snake has probably always been rare in Ontario. However, there is evidence that it is becoming increasingly localized, even extirpated, in areas where it was once widespread.

Threats to the Great Lakes population of the Eastern Ribbonsnake include loss and degradation of wetland and lakeshore habitats, declines in amphibian prey, persecution, collecting, accidental death on roads, and predation by pets and native wildlife (CWS: “Species at Risk”).

Riparian zones are home to many organisms. The Tremblay’s Salamander is one example deserving particular attention. It occurs at the southern limit of the Blue-spotted Salamander’s range. These salamanders reproduce by parthenogenesis: they have to mate to stimulate their eggs to develop into embryos. Since there are no male Tremblay’s Salamanders, all females must mate with a male Blue-spotted Salamander (Collicutt: “Blue-spotted Salamander”).

### 3.6.5 Invertebrates

Invertebrates are excellent indicators of the health of an aquatic system. Many breathe through a sensitive epidermis that readily absorbs and accumulates pollutants. Studying invertebrates such as insect larvae and mussels can often enable scientists to assess the health of an overall ecosystem.

The Ottawa River is home to insect species associated with most rivers, including Clubtails, Damselflies, Dragonflies, Backswimmers, Water Boatmen, and Water Striders. Mayflies are the primary indicators of pollution because they require clean, well-oxygenated water that is free of pollutants. Thus, they are one of the first aquatic species to disappear when water pollution occurs.

Various snails, crayfish and mussels can be found in the Ottawa River. The Yellow Lampmussel is found in the Lower Ottawa River (NEWP: “Mussel Atlas”). Unfortunately, the Zebra Mussel has found its way into the river as well. It was inadvertently introduced in the mid-1980s from the drainage of ballast water from cargo ships. The Zebra Mussel impacts the river system by competing with native mussels and by clogging water pipes from water inlets and outlets (GLIN: “Zebra Mussels”).

#### Species at Risk Along the Ottawa River

The recent acceptance of the federal Species at Risk Act in 2003 reflects Canada’s increasing commitment to preserving the nation’s biodiversity. In addition to a Canada-wide list of species at risk, both Ontario and Quebec maintain separate lists of Species at Risk specific to each province.

At least 50 provincially or nationally at-risk species of flora and fauna exist within the Ottawa River Valley, many of which have been mentioned previously in this study; please refer to Appendix H for a full list. The region is one of the most threatened landscapes in Canada, although its microclimate, sand and limestone substrate support rich habitats with a diversity of flora and fauna (Nature Conservancy of Canada: “Ottawa River Valley”). A variety of factors, including urban sprawl, agriculture and recreational activities play a role in the disappearance of habitat and therefore species along the Ottawa River; this is symptomatic of changes happening on a global scale. These factors are explored in more detail in Chapter 6.2.2: Potential Challenges in Managing the Ottawa River as a Canadian Heritage River.