

## COSSARO Species at Risk Classifications (2013)

### Meeting Location and Dates

The Committee held meetings on January 22-23, 2013 in Toronto and on June 4-6, 2013 on Pelee Island. At the meetings, 22 Ontario species/populations were assessed.

### Results of the January and June 2013 COSSARO Meetings

#### Classifications and Assessments\*

Species Group	Common Name	Scientific Name	Current Classification under the ESA	Classification by COSSARO in this Report	Meeting Date
Amphibians	Eastern Tiger Salamander	<i>Ambystoma tigrinum</i>	Extirpated	Extirpated	January 2013
Birds	Eastern Wood-Pewee	<i>Contopus virens</i>	N/A	Special Concern	January 2013
Birds	Wood Thrush	<i>Hylocichla mustelina</i>	N/A	Special Concern	January 2013
Birds	Bank Swallow	<i>Riparia riparia</i>	N/A	Threatened	June 2013
Birds	Northern Bobwhite	<i>Colinus virginianus</i>	Endangered	Endangered	June 2013
Fishes	American Eel	<i>Anguilla rostrata</i>	Endangered	Endangered	January 2013
Fishes	Bridle Shiner	<i>Notropis bifrenatus</i>	Special Concern	Special Concern	June 2013
Fishes	Pugnose Shiner	<i>Notropis anogenus</i>	Endangered	Threatened	June 2013
Insects	Mottled Duskywing	<i>Erynnis martialis</i>	N/A	Endangered	January 2013
Insects	Riverine Clubtail	<i>Stylurus amincola</i>	N/A	Endangered	January 2013
Mammals	Eastern Small-footed Myotis	<i>Myotis leibii</i>	N/A	Endangered	January 2013
Molluscs	Lilliput	<i>Taxolasma parvum</i>	N/A	Threatened	June 2013
Molluscs	Threehorn Wartyback	<i>Obliquaria reflexa</i>	N/A	Threatened	June 2013
Molluscs	Kidneyshell	<i>Ptychobranchus</i>	Endangered	Endangered	June 2013

		<i>fasciolaris</i>			
Molluscs	Round Hickorynut	<i>Obovaria subrotunda</i>	Endangered	Endangered	June 2013
Reptiles	Eastern Musk Turtle	<i>Sternotherus odoratus</i>	Threatened	Special Concern	January 2013
Reptiles	Northern Map Turtle	<i>Graptemys geographica</i>	Special Concern	Special Concern	January 2013
Reptiles	Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	Special Concern	Special Concern	January 2013
Reptiles	Massasauga (Great Lakes - St. Lawrence population)	<i>Sistrurus catenatus</i>	Threatened	Threatened	January 2013
Reptiles	Massasauga (Carolinian population)	<i>Sistrurus catenatus</i>	Threatened	Endangered	January 2013
Vascular Plants	Crooked-stem Aster	<i>Symphyotrichum prenanthoides</i>	Threatened	Special Concern	January 2013
Vascular Plants	Slender Bush-clover	<i>Lespedeza virginica</i>	Endangered	Endangered	June 2013

\* The assessments and classifications of American Badger (*Taxidea taxus*) and Tricolored Bat (Eastern Pipistrelle) (*Perimyotis subflavus*) were deferred to a future meeting.

### Name Changes

Current SARO List Schedule and Item	Species Group	Current Common and Scientific Name	Common and Scientific Name changed to
3 – 51	Birds	Eastern Whip-poor-will ( <i>Caprimulgus vociferus</i> )	Eastern Whip-poor-will ( <i>Antrostomus vociferus</i> )

## Rationale for Conservation Status Classifications of Species in 2013

### **American Eel (*Anguilla rostrata*)**

The American Eel is a diadromous migratory species that spawns in the Sargasso Sea in the Atlantic Ocean and returns to freshwater habitat as juveniles. The American Eel is a valid species and is the only North American member of the genus; no evidence for more than one DU within Ontario exists. The range of American Eel in Ontario is primarily along the St. Lawrence River, Lake Ontario and various tributaries. American Eel habitat includes freshwater rivers and lakes where they can tolerate temperatures from 4 to 25 °C. American Eel have experienced dramatic declines within Ontario (~99% decline since 1970s), although numbers remain high in more southerly North American ranges. No commercial or recreational harvest has been permitted since the mid 2000s. Specific threats include physical barriers, mortality at hydro-electric facilities, habitat degradation and introduced species. Due to population declines, continuing and increasing threats and growing new habitat threats (such as climate change and introduced species) the COSSARO evaluation criteria indicate that the American Eel is **Endangered** in Ontario.

### **Bank Swallow (*Riparia riparia*)**

The Bank Swallow is a small, globally distributed avian insectivore. It nests colonially in nesting burrows excavated in vertical silt and sand banks. There is one Designatable Unit in Ontario. It nests in a wide variety of naturally and anthropogenically created vertical banks, which often erode and change over time; many nests are in active or former aggregate pits. Bank Swallow is well distributed across southern Ontario, and has a broad but scattered distribution across northern Ontario. The largest, natural Ontario colonies are found along the Lake Erie and Lake Ontario shorelines, and the Saugeen and Albany rivers (the latter in far northwestern Ontario near Hudson Bay). Although still widespread in Ontario, the species has declined in both abundance and distribution. Atlas data indicate a 45% decline in the probability of observation province-wide, and the centre of Bank Swallow distribution in Ontario has shifted southward in the past 2 decades. Provincial BBS data indicate that the species has declined by 40% over the past decade and 96% over a 45-year period. Threats are believed to be cumulative, including loss of breeding and foraging habitat, destruction during aggregate excavation, collision with vehicles, widespread pesticide use affecting prey abundance, and impacts of climate change. Aggregate and other human activity have created many nesting habitats over time, and also have the potential to destroy many nests and breeding sites. The significant population and distribution decline, coupled with ongoing, poorly understood threats, support a designation of **Threatened** for this species.

### **Bridle Shiner (*Notropis bifrenatus*)**

The Bridle Shiner is a small warm water fish that prefers clear, slow-moving or standing water. The Bridle Shiner is usually associated with soft substrate and uses aquatic vegetation for spawning. The Bridle Shiner is found in eastern North America, from South Carolina to Southern Quebec and from the Atlantic states to eastern Lake Ontario. Within Ontario, it constitutes a single DU with ~19 locations in Lake Ontario drainage, St. Lawrence River and Rideau River. The known range of the Bridle Shiner in Ontario has increased with targeted sampling in 2010, and there is no evidence for reproductive failure or small population sizes. The Bridle Shiner is thought to be sensitive to habitat degradation due to increased turbidity, pollution, water level and flow fluctuations and invasive species. The Bridle Shiner is not used in the bait industry, and by-catch is believed to be minimal. The Bridle Shiner is extremely difficult to identify and is likely commonly misidentified as the more common Blackchin Shiner

(*Notropis heterodon*) or Blacknose Shiner (*N. heterolepis*). The Bridle Shiner is ranked G3, or vulnerable, globally and has exhibited a decline in some parts of its North American range. Bridle Shiner is classified as **Special Concern** in Ontario.

#### **Crooked-stem Aster (*Symphyotrichum prenanthoides*)**

Crooked-stem Aster is a perennial wildflower up to 90 cm tall with pale blue flower heads and zigzagging stems. Its range encompasses Ontario and 20 eastern U.S. states. Canadian populations of Crooked-stem Aster occur in the Carolinian Forest Region at the northern limit of the species' range. There are 11 known populations in Ontario, and a further 11 for which status is uncertain, but likely extant. There is no evidence of decline in either extent of occurrence or area of occupancy within the last 10 years, although some sites have not been surveyed in more than 10 years. Populations may be threatened by introduced invasive plant species and by habitat loss. Most populations are relatively small, although accurate counts are difficult because of high density and clonal spread. The Great Lakes likely form an insurmountable barrier to gene flow from the USA into Canada. The small number of populations, and in some cases their small sizes, has led to classification of Crooked-stem Aster as Special Concern in Ontario. Because some populations have a greater number of stems than in previous surveys, and two new sites were discovered in 2007, it was downlisted from the previous status of **Threatened**.

#### **Eastern Musk Turtle (*Sternotherus odoratus*)**

Eastern Musk Turtle is a small freshwater turtle ranging from Florida to Ontario and Quebec and west to Wisconsin and central Texas. It secretes a musky odour and is sometimes known as "Stinkpot". In Ontario, it occurs along southern edge of the Canadian Shield, on the shores of lakes Huron, Erie, and Ontario, and north to the Sudbury and Pembroke areas. The species is crepuscular and rarely leaves the water, and is therefore seldom seen. It inhabits shallow waters of lakes, rivers, and ponds. Although population trends are not well understood, the species has apparently declined substantially in southwestern Ontario. However, recent surveys have discovered several new populations in eastern Ontario. The most significant threats include commercial fisheries bycatch (especially hoop nets) and habitat destruction and alteration (shoreline development, dams, dredging, and draining of wetlands). Added sources of mortality include angling, collisions with power boats, road kills, and nest predation by Raccoons and other subsidized predators. The species has delayed maturity and a low reproductive rate with a small clutch size. Eastern Musk Turtle is classified as **Special Concern**.

#### **Eastern Ribbonsnake (*Thamnophis sauritus*)**

The Eastern Ribbonsnake is a slender gartersnake that is characterized by clean black and yellow stripes with a lower lateral chestnut stripe, a slender neck and white scale in front of the eye. It is found in a variety of open or semi open wetland habitats including marshes, bogs and fens. It is found through much of the United States east of the Mississippi River extending into southern Ontario north to Manitoulin Island and the southern Canadian Shield. Eastern Ribbonsnake may be fairly abundant in some locations, but is patchily distributed and absent from many areas within its range. There is a lack of comprehensive population studies in the province; however, a population decline is inferred due to the continued loss of wetland habitat as well as an increase in roads and traffic through much of its range. Ribbonsnakes are highly susceptible to road mortality. Consequently, a status of **Special Concern** is appropriate.

### **Eastern Small-footed Myotis (Bat) (*Myotis leibii*)**

Eastern Small-footed Myotis (Bat) is the smallest bat in eastern North America. It ranges from southern Ontario and Quebec, south to northern Alabama and eastern Oklahoma and is apparently rare wherever it occurs. Very little is known of this species in Ontario, but its range extends from the east shore of Lake Superior, east to the Quebec border and south to Lake Erie. Like other members of the genus *Myotis*, it hibernates in caves and mines. Although Ontario population trends have not been documented, Eastern Small-footed Myotis (Bat) is at high risk from White-nose Syndrome (WNS), a fungal disease that has invaded Ontario since about 2010. This disease causes hibernating bats to exhaust their fat supplies in midwinter and has a very high mortality rate. WNS is present in many Eastern Small-footed Myotis (Bat) hibernacula in Ontario and this disease has been demonstrated to cause declines of the species in the northeastern US. Eastern Small-footed Myotis (Bat) is classified as **Endangered** due to the high risk of severe population declines caused by WNS.

### **Eastern Tiger Salamander (*Ambystoma tigrinum*)**

The Eastern Tiger Salamander is a large burrowing salamander that occurs through much of the lowland area of the eastern United States but only marginally extends into extreme southwestern Ontario and southeastern Manitoba. Its presence in Ontario is based on a single specimen that was collected at Point Pelee in 1915, and two other specimens from Pelee Island collected in 1950, although there is some question on the collection locality of all of these specimens. Despite extensive surveys at both locations since then, as well as elsewhere in southwestern Ontario, and genetic analysis of salamanders on Pelee Island, there have been no other reports. Since it is highly unlikely that an Eastern Tiger Salamander population still persists, the species is designated as **Extirpated** in Ontario.

### **Eastern Wood-Pewee (*Contopus virens*)**

The Eastern Wood-Pewee is a small woodland bird that breeds throughout most of eastern and central North America. It has always been a common summer resident in southern and central Ontario, and the current population in the province is estimated to be 250,000 to 300,000 individuals, representing approximately 5.3% of the global population. The Eastern Wood-Pewee, like many other long-distance migrants that specialize on a diet of flying insects, seems to be declining in Canada and the United States, with a range-wide population decline of approximately 45% over the last 45 years. In Ontario, these declines are evident in Breeding Bird Survey data which show a 68% population decline between 1970 and 2011 and a 23% decline between 2001 and 2011. However, the Ontario Breeding Bird Atlas shows a more stable population that is shifting northward, and migration monitoring also indicates a stable population. Eastern Wood-Pewee is classified as **Special Concern** in Ontario. Although, it is still a common bird in the province, there are clear and significant long-term declines throughout its range and uncertainty regarding provincial population trends. Further research should be encouraged, particularly in regard to a northward shift in the Eastern Wood-Pewee's provincial range.

### **Kidneyshell (*Ptychobranhus fasciolaris*)**

Kidneyshell is a large mussel that occurs throughout the Ohio, Tennessee and Cumberland river systems, and in the southern Great Lakes basin. In Ontario, Kidneyshell once occurred in Lake Erie, Lake St. Clair, southern Lake Huron and their connecting channels and watersheds. It experienced two periods of decline: 1) in the late 1800s when it was extirpated from the Grand, Welland and Thames Rivers due to siltation, and 2) in the 1990s-2000s when it was lost from Lake Erie, Lake St. Clair and connecting channels due to competition from Zebra and

Quagga Mussels. This resulted in an overall range decline of 70% in Ontario. The current distribution of the Kidneyshell is restricted to the Ausable River and East Sydenham River, with very low numbers in the Lake St. Clair delta and Medway Creek. Although many measures of water quality in the Sydenham and Ausable rivers are stable or improving, Kidneyshell is threatened at these sites by the continued spread of invasive mussels and Round Goby. The Kidneyshell is classified as **Endangered** in Ontario because it only occurs at four sites, and there has been a significant decline in the last 30 years through the loss of all Lake Erie occurrences. Only two of the existing sites appear to have healthy populations, and these are threatened by the spread of aquatic invasive species.

### **Lilliput (*Taxolasma parvum*)**

The Lilliput is a small freshwater clam reaching an average length of 25 mm and a maximum of 50 mm. It is elliptical to ovate in shape with a smooth cloth-like surface. The species is quite widespread in the east-central US from the Gulf of Mexico to the Great Lakes. In Canada, it occurs in eight rivers or basins in the Carolinian Zone of southern Ontario, but has disappeared from the Detroit River. Lilliput lives an average of six years and burrow in soft bottoms to filter-feed. Like most similar mussels, Lilliput females place their glochidia in the gills of a host species of fish, and they live as parasites on these fish before forming into free-living clams. Likely host species are Johnny Darter, White Crappie, Bluegill and Green Sunfish. Current populations are generally small and have declined, but because the species has never been common trends in abundance are poorly quantified. Major threats are pollution from urban and agricultural sources, increased sediment in their rivers and invasive Zebra and Quagga Mussels. Given the loss of much of its Ontario range and the small number of remaining locations, this species was assessed as **Threatened**.

### **Massasauga (Carolinian population) (*Sistrurus catenatus*)**

The Massasauga is a relatively small, thick-bodied rattlesnake with distinctive hourglass markings on its dorsum. It ranges from southern Ontario west and southwest through the Midwestern United States into northern Mexico. In Ontario, the Massasauga occurs as two Designatable Units: (1) in the Georgian Bay region and (2) in the Carolinian region along the north side of Lake Erie. The two DUs are widely separated by about 200 km with no evidence they were ever connected historically. Massasaugas from these two regions differ genetically, and occupy different habitats. The Carolinian DU historically occurred in at least 17 locations in southwest Ontario between Toronto and Windsor, but since the 1970s only two widely separated populations remain: in remnant tallgrass prairie at Ojibway Prairie in Windsor, and in remnant peatlands in Wainfleet Bog near Port Colborne. This part of Ontario is intensively agricultural and becoming increasingly urbanized. These Massasaugas have experienced extreme habitat loss, and high road mortality from the extensive road network. Being venomous they have suffered heavily from human persecution. The Ojibway Prairie population is currently so reduced that extirpation in the coming years is likely. Consequently the Carolinian DU is designated as **Endangered** in Ontario.

### **Massasauga (Great Lakes/St. Lawrence population) (*Sistrurus catenatus*)**

The Massasauga is a relatively small, thick-bodied rattlesnake with distinctive hourglass markings on its dorsum. It ranges from southern Ontario west and southwest through the midwestern United States into northern Mexico. In Ontario, the Massasauga occurs as two Designatable Units: (1) the Great Lakes/St. Lawrence DU in the Georgian Bay region, and (2) the Carolinian DU along the north shore of Lake Erie. The two DUs are separated by about 200 km, and there is no evidence they were ever connected historically. Populations in the

Great Lakes/St. Lawrence DU are concentrated in the upper Bruce Peninsula and east side of Georgian Bay. Massasaugas require semi-open habitat to provide both cover and opportunities for thermoregulation. In Georgian Bay, Massasaugas use a mosaic of bedrock barrens, conifer swamps, beaver meadows, fens, bogs, and shoreline habitats, distinct from habitat used in the Carolinian DU. Although several populations are protected in national and provincial parks, and much of this area is relatively undeveloped, Massasaugas are subjected to substantially increased road mortality due to expanding road networks. They are also affected by habitat loss from recreational development and, being venomous, continue to suffer heavily from human persecution. The Great Lakes/St. Lawrence DU is designated as **Threatened** in Ontario.

### **Mottled Duskywing (*Erynnis martialis*)**

Mottled Duskywing is in the family of butterflies known as the skippers (Hesperiidae). Its range extends from Ontario and Manitoba, south to Georgia and eastern and central Texas. It lives in sites that contain dry or sandy soils, early successional habitat, and the presence of its host plants Prairie Redroot (*Ceanothus herbaceus*) or New Jersey Tea (*Ceanothus americanus*). The Mottled Duskywing has experienced widespread declines across much of its known range, and has disappeared from many of its historically known sites throughout Ontario over the past 20 years. Although precise numbers are unknown, and therefore the extent of the decline cannot be accurately quantified, almost all current sites are facing one or several threats, including urban development, natural succession, incompatible prescribed fires, spraying for Gypsy Moth control, flooding, and planting of Jack Pine. These threats, combined with recent declines and loss of populations, has led to the classification of the Mottled Duskywing as **Endangered** in Ontario.

### **Northern Bobwhite (*Colinus virginianus*)**

The Northern Bobwhite is a quail species of southeastern North America, occurring from southern Ontario south to Florida and Central America, and west to the Midwest U.S.A. In Canada, it occurs only in Ontario. It is found in grassland and tallgrass prairie habitat, and often in association with agricultural habitat. In Ontario, the status of the native population has worsened since the 2003 status report, and shows no sign of recovery. It is now believed to be restricted to Walpole Island in extreme southwestern Ontario, largely as a result of habitat loss and fragmentation. This population is also extremely imperiled and in danger of extirpation, with no breeding birds heard during a 2013 survey, and no winter birds seen on Christmas Bird Counts since 2003. There are a number of small groups of birds originating from introductions across southwestern Ontario that confound determination of population status. These populations do not persist very long and pose a potential threat through genetic dilution of native gene pools. Habitat loss and fragmentation are continuing threats to this population. Northern Bobwhite meets many criteria for endangered status in Ontario, including a small and declining population. These factors all indicate strongly that Northern Bobwhite is **Endangered** in Ontario, and is at risk of extirpation.

### **Northern Map Turtle (*Graptemys geographica*)**

The Northern Map Turtle is highly aquatic. Its olive-brown carapace has a reticulate pattern of pale yellow lines that fade as the turtle matures and resemble lines on a contour map. Adults show extreme sexual size dimorphism with females being much larger than males. There are no recognized subspecies, and this is the only *Graptemys* species to occur within Canada. Map turtles inhabit rivers and lakes and bask on emergent objects throughout the active season. In winter, map turtles hibernate on the bottom of deep, slow-moving sections of rivers

or lakes. Northern Map Turtles are widely distributed throughout the eastern United States, southern Ontario, and southwestern Québec. In Ontario, they occur throughout the Great Lakes-St. Lawrence basin and across the southern Shield from the St. Lawrence River to Blind River. Approximately 10% of the Northern Map Turtle's global range is in Ontario. This species has a stable distribution with declining numbers and is limited by temperature and a long-lived life history with late maturity. Major threats are collisions with motor boats, loss of shoreline habitat, and high rates of nest predation. Road kill, illegal collection and fisheries bycatch comprise additional threats. The Northern Map Turtle is assessed as **Special Concern**.

### **Pugnose Shiner (*Notropis anogenus*)**

The Pugnose Shiner is native to central North America in the upper Mississippi River and Great Lakes watersheds plus the Red River drainage in Minnesota and North Dakota. The Pugnose Shiner is a small fish that prefers slow-moving and standing clear water with sand and silt substrate with aquatic vegetation. The Pugnose Shiner occurs in Canada only in Ontario as a single DU in a highly fragmented range including Lakes Huron, St. Clair, Erie and Ontario drainages, and the St. Lawrence River. Globally, the Pugnose Shiner has been declining; however, there are no data pertaining to declines for Ontario populations. Direct threats of particular concern include habitat modifications and nutrient and sediment loading. Pugnose Shiner is classified as **Threatened**. The down listing from Endangered to Threatened was driven by an increase in the number of new locations of capture resulting from additional targeted sampling since it was last assessed in 2002 coupled with evidence for healthy populations in the St. Lawrence River.

### **Riverine Clubtail (*Stylurus amincola*)**

The Riverine Clubtail is a small dragonfly that is ranked as globally apparently secure (G4) but is uncommon throughout much of its range in eastern North America. It was first discovered in Ontario in 1999 and was most likely a native species that had been overlooked owing to its small size and inconspicuous behaviour. It is found in and near streams and small to large rivers with sandy or gravelly substrates. Adults forage for small prey in streamside vegetation such as grasses, sedges, and trees where they hang vertically, making them difficult for observers to detect. Larvae prey on small animals in streams. In Ontario, the species has been found repeatedly at two streams emptying into Lake Erie near Long Point, and nowhere else despite considerable search effort in southwestern Ontario. There is no information on population size or trends. Water drawdown for irrigation and dams that could change water flow are considered potential threats in these two streams. Owing primarily to its rarity in Ontario and in adjacent jurisdictions in northeastern North America, the Riverine Clubtail is designated as **Endangered** in Ontario.

### **Round Hickorynut (*Obovaria subrotunda*)**

Round Hickorynut is a species of freshwater mussel that is named for its rounded shape and dark brown colour. Adults are relatively small, growing to about 6 cm long, and live attached to gravel and sand substrates in rivers and shallow lake delta regions. Adults prefer moderately-flowing water so that they can filter algae and bacteria with their gills. As with other freshwater mussel species, the larva is parasitic on a fish host for a portion of its development. Round Hickorynut historically occurred in 12 states and the province of Ontario. Most populations in the United States are in decline, and it has been recently extirpated from two states. The Round Hickorynut has been lost from approximately 90% of its historical range in Canada. Populations in the Grand and Thames rivers in Ontario are extirpated, and the Sydenham River population is probably close to extirpation. The biggest threat to Great Lakes Round

Hickorynut populations is Zebra Mussels, which colonize substrate and swamp native mussels. The only significant Round Hickorynut population remaining in Canada is in a shallow area of Lake St. Clair near Walpole Island, although it is not known whether or not this population is continuing to successfully reproduce. Round Hickorynut is classified as **Endangered** in Ontario.

### **Slender Bush-clover (*Lespedeza virginica*)**

Slender Bush-clover is a perennial herb in the pea family that produces flowers and fruits many times over its lifespan, which can last up to 17 years. Plants produce flowers that are pea-like in appearance, normally pink to purple, and can be either chasmogamous (open) flowers, pollinated mainly by bees and butterflies, or cleistogamous (closed) flowers that self-pollinate in bud. The distribution of the Slender Bush-clover ranges from eastern Texas and northern Florida to central New England, southern Ontario, and southern Michigan, with disjunct populations in Wisconsin, Minnesota, and Mexico. In Canada, it is currently known from a single occurrence in the City of Windsor, southern Ontario, where it is restricted to the critically imperiled habitats of tallgrass prairie and savanna of the Ojibway Prairie complex. In addition to habitat fragmentation and the critically imperiled state of its habitat, Canadian Slender Bush-clover is threatened by succession, and by interspecific competition from invasive species. Slender Bush-clover is classified as **Endangered** in Ontario.

### **Threehorn Wartyback (*Obliquaria reflexa*)**

The Threehorn Wartyback is a medium-sized freshwater clam averaging 40 mm in length (maximum of 55 mm in Ontario). It has a thick, triangular shell with a row of 3-5 knobs (horns). The species occurs in central North America from the Gulf of Mexico to the Great Lakes. In Canada, it occurs in three rivers in southern Ontario, but has disappeared from Lake Erie, Lake St. Clair and the Detroit River. Typically, this mussel is found in large rivers with moderate current and stable substrates of gravel, sand and mud. This species lives up to 18 years and burrows in the riverbed to filter-feed. Like other unionid mussels, the Threehorn Wartyback females place their young in the gills of a host species, usually a fish, and the juveniles parasitize these hosts, then transform into small free-living clams. Likely host species are the Common Shiner and Longnose Dace. Current populations are generally small and have declined, but trends in abundance are poorly quantified. Major threats are pollution from urban and agricultural sources, increased sediment in their rivers and invasive Zebra and Quagga Mussels. Given the loss of much of its Ontario range, ongoing threats, and the small number of remaining locations, this species was assessed as **Threatened**.

### **Wood Thrush (*Hylocichla mustelina*)**

Wood Thrush is a widespread bird of the deciduous forests of eastern North America. In Ontario it occurs in the forests of central and southern Ontario, with a broadly continuous distribution south of the French and Mattawa rivers, a scattered distribution north of the north shore of Georgian Bay, and a small isolated population in the Rainy River District of northwestern Ontario. There is one recognized DU in Canada, and Wood Thrush has been designated as Threatened by COSEWIC. The Wood Thrush has undergone significant declines in abundance across its Canadian range, although the declines appear to have lessened in Ontario in recent decades. Breeding Bird Atlas data indicate a non-significant decline in the number of occupied atlas squares overall, and a significant decline in the Southern Shield. Major threats appear to be forest fragmentation, urban, suburban and cottage development, overbrowsing by White-tailed Deer in some locales, and Brown-headed Cowbird parasitism. Development in forested areas in particular has negative impacts on Wood Thrush

breeding. Loss and fragmentation of winter habitat may also be a concern. Wood Thrush distribution and populations still appear to be relatively robust in Ontario, despite declines. The species is considered to be **Special Concern** in Ontario.