Thunder Bay
Field Naturalists

Checklist of Fishes of Thunder Bay District, Ontario

31 December 2019

Introduction

This first edition of *Checklist of Fishes of Thunder Bay District* adds to existing checklists prepared by members of the Thunder Bay Field Naturalists (TBFN) covering other vertebrate taxa (mammals, birds, reptiles & amphibians), as well vascular plants, butterflies, and odonates. As with these other checklists, it covers the official judicial District of Thunder Bay (Figure 1). The District extends from the eastern border of Quetico Provincial Park east to White River, and from the international border north to Lake St. Joseph and the Albany River. Much of the District (60%) is within the Great Lakes watershed, with the remaining draining into the Arctic Ocean either north via the Hudson Bay Lowlands, or west via Rainy Lake/Lake of the Woods and the Nelson River watershed.

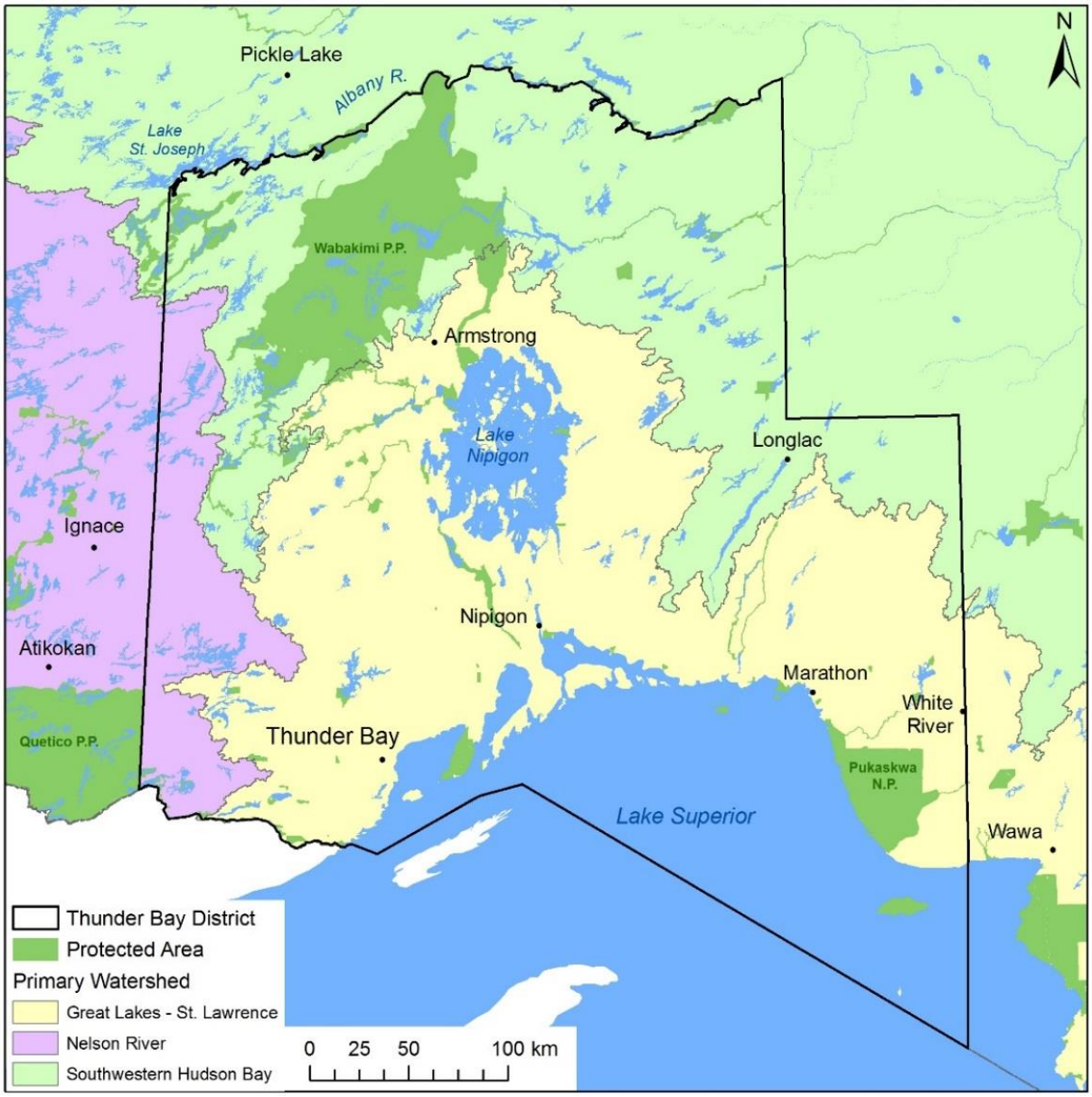

Figure 1. Judicial District of Thunder Bay with primary watersheds and protected areas.

The fish species of the Thunder Bay District mostly reflect post-glacial colonization, modified by more recent ecological and anthropogenic influences. The Wisconsinan ice mass began to retreat north of Lake Superior circa 10,700 BP (Farrand and Drexler 1985), allowing fish to initially colonize the Thunder Bay area (Momot and Stephenson 1996). The Marquette advance circa 9900 BP likely wiped out these early colonizers, but its retreat around 9700 BP allowed many species access from glacial refugia in the Mississippi River basin to the south (Mandrak and Crossman 1992b; Stephenson and Momot 1994). Some species invaded from the east via the outlet of Lake Minong and Lake Superiors' other post-glacial predecessors. A few species (e.g., Iowa Darter) also invaded from other refugia via glacial Lake Agassiz in the west, through an overflow spillway into what is now Lake Nipigon (Hartviksen and Momot 1989). Species (typically cold-tolerant) present in high elevation lakes such as Loch Lomond, suggest early arrival post-glaciation when water levels allowed them access - as glacial lake levels dropped, late arrivals could no longer access these waterbodies particularly if isostatic rebound created barrier falls (Momot and Stephenson 1996; Stephenson and Momot 1994).

Some historical patterns of fish distribution within the District remain problematic due to series of intentional and accidental introductions beginning in the late 1800s. Fish were deliberately introduced from other parts of North America e.g., Pacific salmon and Rainbow Trout. Some native species have been intentionally transplanted within the District by stocking sport fish and deliberately "seeding" baitfish lakes. Anadromous and estuarine species from Lake Ontario and the Atlantic coast have invaded the upper Great Lakes after the Welland Canal was built circa 1829. This allowed passage upstream past Niagara Falls. Finally, the dumping of ballast water into the Great Lakes has led to the introduction of several Eurasian exotics, some of which may threaten the ecological integrity of the Great Lakes.

This annotated checklist builds upon the seminal *Fishes of the Thunder Bay Area of Ontario* by Hartviksen and Momot (1989), the *Atlas of the distribution of fish within the Canadian tributaries of western Lake Superior* (Momot and Stephenson 1996), and the more recent *Freshwater Fishes of Ontario* (Holm et al. 2009). The main checklist includes 75 species (61 native, 14 non-native) that occur in the District. An appendix lists an additional 21 taxa that are extirpated, hybrids, whose status are uncertain, or that are known to occur immediately adjacent to Thunder Bay District (and therefore might occur in the District). The checklist does not include marine species (e.g., European Flounder, *Platichthys flesus*) transported in ballast water but never established.

Each species' account briefly notes whether it is native to Thunder Bay District or not, its distribution/abundance within the District, typical habitat, any nomenclature issues, and conservation status where relevant. The checklist follows the taxonomy used by the American Fisheries Society's (AFS) *Common and Scientific Names of Fishes from the United States, Canada, and Mexico* (Page et al. 2013)[1], with other frequently used common names included where relevant. As with the AFS checklist, the TBFN checklist is presented in phylogenetic order

[1] except for a few recent unpublished revisions accepted by the AFS Name Committee; these are mentioned under individual species accounts

by Order and Family (Salmonidae is further broken down into Subfamily), then alphabetically by scientific name for each species. A one-page checklist summary is provided before the main annotated checklist for ease of reference.

An updated bibliography of references and field guides for fish within the Thunder Bay District and adjacent areas is provided.

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CHECKLIST SUMMARY

Included in Checklist

Northern Brook Lamprey (*Ichthyomyzon fossor*)
Silver Lamprey (*Ichthyomyzon unicuspis*)
American Brook Lamprey (*Lethenteron appendix*)
Sea Lamprey (*Petromyzon marinus*)
Lake Sturgeon (*Acipenser fulvescens*)
Alewife (*Alosa pseudoharengus*)
Common Carp (*Cyprinus carpio*)
Northern Redbelly Dace (*Chrosomus eos*)
Finescale Dace (*Chrosomus neogaeus*)
Lake Chub (*Couesius plumbeus*)
Brassy Minnow (*Hybognathus hankinsoni*)
Common Shiner (*Luxilus cornutus*)
Northern Pearl Dace (*Margariscus nachtriebi*)
Golden Shiner (*Notemigonus crysoleucas*)
Emerald Shiner (*Notropis atherinoides*)
Blacknose Shiner (*Notropis heterolepis*)
Spottail Shiner (*Notropis hudsonius*)
Rosyface Shiner (*Notropis rubellus*)
Sand Shiner (*Notropis stramineus*)
Mimic Shiner (*Notropis volucellus*)
Bluntnose Minnow (*Pimephales notatus*)
Fathead Minnow (*Pimephales promelas*)
Western Blacknose Dace (*Rhinichthys obtusus*)
Longnose Dace (*Rhinichthys cataractae*)
Creek Chub (*Semotilus atromaculatus*)
Longnose Sucker (*Catostomus catostomus*)
White Sucker (*Catostomus commersonii*)
Silver Redhorse (*Moxostoma anisurum*)
Shorthead Redhorse (*Moxostoma macrolepidotum*)
Black Bullhead (*Ameiurus melas*)
Northern Pike (*Esox lucius*)
Muskellunge (*Esox masquinongy*)
Central Mudminnow (*Umbra limi*)
Rainbow Smelt (*Osmerus mordax*)
Cisco (*Coregonus artedi*)
Lake Whitefish (*Coregonus clupeaformis*)
Bloater (*Coregonus hoyi*)
Kiyi (*Coregonus kiyi*)
Blackfin Cisco (*Coregonus nigripinnis*)
Shortjaw Cisco (*Coregonus zenithicus*)
Pygmy Whitefish (*Prosopium coulterii*)
Round Whitefish (*Prosopium cylindraceum*)
Pink Salmon (*Oncorhynchus gorbuscha*)
Coho Salmon (*Oncorhynchus kisutch*)
Rainbow Trout (*Oncorhynchus mykiss*)
Chinook Salmon (*Oncorhynchus tshawytscha*)
Brown Trout (*Salmo trutta*)
Brook Trout (*Salvelinus fontinalis*)
Lake Trout (*Salvelinus namaycush*)
Trout-perch (*Percopsis omiscomaycus*)
Burbot (*Lota lota*)
Fourspine Stickleback (*Apeltes quadracus*)
Brook Stickleback (*Culaea inconstans*)
Threespine Stickleback (*Gasterosteus aculeatus*)
Ninespine Stickleback (*Pungitius pungitius*)
Mottled Sculpin (*Cottus bairdii*)
Slimy Sculpin (*Cottus cognatus*)
Spoonhead Sculpin (*Cottus ricei*)
Deepwater Sculpin (*Myoxocephalus thompsonii*)
Rock Bass (*Ambloplites rupestris*)
Green Sunfish (*Lepomis cyanellus*)
Pumpkinseed (*Lepomis gibbosus*)
Bluegill (*Lepomis macrochirus*)
Smallmouth Bass (*Micropterus dolomieu*)
Largemouth Bass (*Micropterus salmoides*)
Black Crappie (*Pomoxis nigromaculatus*)
Iowa Darter (*Etheostoma exile*)
Johnny Darter (*Etheostoma nigrum*)
Ruffe (*Gymnocephalus cernua*)
Yellow Perch (*Perca flavescens*)
Logperch (*Percina caprodes*)
Sauger (*Sander canadensis*)
Walleye (*Sander vitreus*)
Round Goby (*Neogobius melanostomus*)
Tubenose Goby (*Proterorhinus marmoratus*)

Excluded

Paddlefish (*Polyodon spathula*)
Longnose Gar (*Lepisosteus osseus*)
Bowfin (Amia calva)
Mooneye (*Hiodon tergisus*)
American Eel (*Anguilla rostrata*)
Gizzard Shad (*Dorosoma cepedianum*)
Goldfish (*Carassius auratus*)
Blackchin Shiner (*Notropis heterodon*)
Greater Redhorse (*Moxostsoma valenncienesi*)
Brown Bullhead (*Ameiurus nebulosus*)
Channel Catfish (*Ictalurus punctatus*)
Tadpole Madtom (*Noturus gyrinus*)
Nipigon Cisco (*Coregonus nipigon*)
Shortnose Cisco (*Coregonus reighardi*)
Atlantic Salmon (*Salmo salar*)
Splake (*Salvelinus namaycush* x *fontinalis*)
Arctic Grayling (*Thymallus arcticus*)
White Perch (*Morone americana*)
Least Darter (*Etheostoma microperca*)
Northern Sunfish (*Lepomis peltastes*)
River Darter (*Percina shumard*i)

Common Name	Scientific Name	TBFN District Notes
ORDER PETROMYZONTIFORMES – Lampreys (4 spp.)		
Family Petromyzontidae – Lampreys		
Northern Brook Lamprey	*Ichthyomyzon fossor*	Native. Adults and larvae have been found in L. Superior tributaries (e.g., Black Sturgeon, Gravel, Pic, Prairie, and Pearl rivers) downstream and upstream of barriers (DFO no date; Schuldt and Goold 1980). *Ichthyomyzon* larvae (ammocoetes) have been found in 14 L. Superior tributaries within the District, and may be either Northern Brook or Silver Lamprey (DFO no date). Very closely related to Silver Lamprey, and may indeed be same species but with different feeding morphs (DFO 2018). Great Lakes - Upper St. Lawrence population listed as Special Concern in Ontario and federally, mainly due to impacts from Sea Lamprey control (COSEWIC 2007b).
Silver Lamprey	*Ichthyomyzon unicuspis*	Native. Adults found in L. Superior and some lakes in the southwestern portion of the District within the Nelson R. watershed (COSEWIC 2011b; Holm et al. 2009). Silver Lamprey have been confirmed from the Neebing-McIntyre R. (COSEWIC 2011b), and *Ichthyomyzon* larvae (ammocoetes) have been found in 13 other L. Superior tributaries within the District – these may be either Northern Brook or Silver Lamprey (DFO no date). Silver Lamprey may be conspecific or very recently diverged from Northern Brook Lamprey (DFO 2018). Great Lakes - Upper St. Lawrence population listed as Special Concern provincially and federally, mainly due to impacts from Sea Lamprey control (COSEWIC 2011).
American Brook Lamprey	*Lethenteron appendix*	Native. Adults and larvae have been confirmed in the Neebing and McIntyre rivers (Momot and Stephenson 1996) and also reported from other L. Superior tributaries such as the Black Sturgeon, Gravel, Kaministiquia, Nipigon, and Wolf rivers (DFO no date;). Formerly *Lampetra appendix* and *L. lammotei.*
Sea Lamprey	*Petromyzon marinus*	Non-native. Accessed upper Great Lakes with construction of Welland Canal and reported at Two Harbours MN in 1938 (MN Sea Grant 2019). First record in our area (Isle Royale) in 1946 (Hartviksen and Momot 1989; Lawrie 1970). Parasitic adults found in L. Superior with filter-feeding larvae (ammocoetes) found downstream of barriers (e.g., waterfalls, dams) in 15+ L. Superior tributaries in Thunder Bay District despite 60+ years of lampricide applications (DFO no date).
ORDER ACIPENSERIFORMES – Sturgeons, Spoonfishes, and Paddlefishes (1 sp.)		
Family Acipenseridae- Sturgeons		
Lake Sturgeon	*Acipenser fulvescens*	Native. Found in L. Superior, L. Nipigon, and their larger tributaries such as the Black, Black Sturgeon, Gull, Kaministiquia, Namewaminikan, Nipigon, Pic, and White rivers (Kerr 2002) . Also found in the Albany R. within the Hudson Bay watershed (COSEWIC 2017b). The Great Lakes –

Common Name	Scientific Name	TBFN District Notes
		Upper St. Lawrence population is now listed as Endangered and the Southern Hudson Bay – James Bay population is Special Concern.
ORDER CLUPEIFORMES – Anchovies and Herrings (1 sp.)		
Family Clupeidae – Herrings		
Alewife (Mulhaden)	*Alosa pseudoharengus*	Non-native species that colonized upper Great Lakes after construction of Welland Canal. Relatively uncommon along north shore of L. Superior with approximately 30+ records scattered across Thunder Bay District (e.g., Nipigon Bay, Peninsula Harbour, Thunder Bay), as recently as 2018 (F. Fischer pers. comm. 2019; Fuller et al. 2019; Momot and Stephenson 1996; OMNRF 2018b). For example, a school of Alewife were trapnetted in Steamboat Bay of L. Helen near Nipigon in July 1989 (R. Swainson pers. comm. 2019).
ORDER CYPRINIFORMES – Minnows and Suckers (23 spp.)		
Family Cyprinidae – Carps		
Common Carp	*Cyprinus carpio*	Native to Asia, introduced into L. Superior circa 1897 (MN Sea Grant 2019). Recorded in 1954 near Simpson Island (Hartviksen and Momot 1989) and established in Nipigon R. by 1957 (Allin 1957). Based on commercial carp harvest data (e.g., CDMF 1909), commercially harvested in Canadian waters of L. Superior, 1915-1950 (OMNRF 2015). In Thunder Bay District, now abundant in Mission Marsh at the mouth of the Kaministiquia R. (Parker et al. 2008) and reported from Black and Nipigon bays (OMNRF 2018b), Cloud R. (Momot and Stephenson 1996), Black R. (NSES 2002), and Nipigon R. (Foster pers. obs.).
Family Leuciscidae – True Minnows (recently split from Cyprinidae)		
Northern Redbelly Dace (Red Bellied Dace)	*Chrosomus eos*	Native. Common and widespread across District in clear, often peaty, slow-moving streams, ponds, and small lakes (Hartviksen and Momot 1989; Holm et al. 2009). Hybridizes with Finescale Dace (Stewart and Watkinson 2004). Formerly *Phoxinus eos.*
Finescale Dace	*Chrosomus neogaeus*	Native. Relatively common and widespread across the District in cool, stained bog lakes, streams, and some larger lakes (Hartviksen and Momot 1989). Hybridizes with Northern Redbelly Dace (Stewart and Watkinson 2004). Formerly *Phoxinus neogaeus.*
Lake Chub	*Couesius plumbeus*	Native. Widespread across District in lakes and large rivers (Hartviksen and Momot 1989; Momot and Stephenson 1996; OMNRF 2019a).
Brassy Minnow	*Hybognathus hankinsoni*	Native. Rare and apparently restricted to the southwestern portion of the District in cool, clear, slow-moving, heavily vegetated streams and boggy ponds (Hartviksen and Momot 1989; Holm et al. 2009; Momot and Stephenson 1996)

Common Name	Scientific Name	TBFN District Notes
Common Shiner	*Luxilus cornutus*	Native. Known from streams and rivers of the southwest corner of the District (e.g., Mosquito Cr., Arrow, McIntyre, Slate, and Whitefish rivers) (Hartviksen and Momot 1989; iNaturalist 2019; R. Tyhuis pers. comm. 2019; ROM 2019). Known from multiple lakes in the Graham Rd. area (e.g. Pakashkan L.) (OMNRF 2019a; B. Wasylenko pers. comm. 2019), as well as the northwest portion of the District (e.g., Bukemiga, Pruner, Kawaweogama and Wawaig lakes) (OMNRF 2019a; ROM 2019). Mapped as absent east of Nipigon by Scott and Crossman (1973), but not more recent sources (e.g., Holm et al 2019) and recently sampled from Onaman and Kenogamisis lakes in the eastern half of the District (OMNRF 2019a). Formerly *Notropis cornutus.*
Northern Pearl Dace (Pearl Dace)	*Margariscus nachtriebi*	Native. Sporadic across District in cold, clear streams, ponds, and at least 40+ small lakes (Foster 2019; Hartviksen and Momot 1989; Holm et al. 2009; OMNRF 2019a; ROM 2019). Formerly *Semotilus margarita* and *Margariscus margarita.*
Golden Shiner	*Notemigonus crysoleucas*	Native. Considered rare in Thunder Bay District by Hartviksen and Momot (1989), but with scattered records across district e.g., Black R. (NSES 2002; Foster and Tost 2010), Pearly L. near Manitouwadge (ROM 2019), Crescent L. north of L. Nipigon (ROM 2019), L. Marie Louise (Hartviksen and Momot 1989), Lac des Milles Lacs (D. Viebeck pers. comm. 2019), and several lakes northeast of Ignace (ROM 2019), as well as Arrow, Greenwood, Purdom, and Arnott lakes (OMNRFa). Prefers shallows of cool, heavily vegetated rivers and lakes (Hartviksen and Momot 1989; Holm et al. 2009).
Emerald Shiner	*Notropis atherinoides*	Native. Reported as scarce in Thunder Bay District by Hartviksen and Momot (1989) likely due to their pelagic behaviour. However, recent sampling has found it in 25+ lakes across the District (OMNRF 2019a; ROM 2019), including L. Superior, L. Nipigon, and numerous tributaries. Prefers the cool, open water of large lakes and rivers (Hartviksen and Momot 1989; Holm et al. 2009).
Blacknose Shiner	*Notropis heterolepis*	Native. Widespread but sporadic across District in slow, clear streams and shallows of lakes (Hartviksen and Momot 1989; OMNRF 2019a; ROM 2019).
Spottail Shiner	*Notropis hudsonius*	Native. Widespread and abundant in larger rivers and lakes across Thunder Bay District (Hartviksen and Momot 1989; ROM 2019; OMNRF 2019a).
Rosyface Shiner	*Notropis rubellus*	Native. In Thunder Bay District, recently discovered in the Black R. (iNaturalist 2019), where it is at the northern edge of its range and separated by 250+ km from the nearest known population near Sault Ste. Marie (Holm et al. 2009). Generally found in streams with sand or gravel substrates, and occasionally lakes (Holm et al. 2019).

Common Name	Scientific Name	TBFN District Notes
Sand Shiner	*Notropis stramineus*	Presumed native. Known only from one 1923 specimen from the mouth of the Whitesand R. and seven 1981 specimens from the Little Jackfish R. system (Crescent L.), both tributaries on the north shore of L. Nipigon (E. Holm pers. comm. 2019; ROM 2019). Although Momot and Stephenson (1996) suggested the Crescent L. individuals could be misidentified Mimic Shiners, their identification has recently been reconfirmed (E. Holm pers. comm. 2019). Typically found in warm sandy areas of lakes and slow-moving streams, Sand Shiners are also native in the L. of the Woods area (Holm et al. 2009), as well as the U.S. waters of L. Superior (MN Sea Grant 2019).
Mimic Shiner	*Notropis volucellus*	Native. Uncommon in Thunder Bay District (Hartviksen and Momot 1989). Found in L. Superior, L. Nipigon, and some of their tributaries as well as 10+ other lakes, mainly in the western half of the District (Holm et al 2009; OMNRF 2019a; ROM 2019). Prefers quiet, vegetated shorelines of lakes and slow-moving streams with sand/gravel substrates (Holm et al. 2009).
Bluntnose Minnow	*Pimephales notatus*	Native. District distribution poorly known. Reported by Hartviksen and Momot (1989) as very abundant in Quetico but lacking verified records near Thunder Bay. However, Momot and Stephenson (1996) report it from Arrow L area of the Pigeon R. watershed (2AA) and) there are verified specimens from Arrow L. (1975) and Redfox L. (1981) southwest of Thunder Bay, as well as Felix L. (1975) near Long L. (ROM 2019). Mandrak and Crossman (1992a) show additional District Records west of Nipigon, but with a gap farther east along the north shore of L. Superior; Holm et al. (2009) also shows this distributional gap. Recent BSM sampling (OMNRF 2019a) reports its presence in Frazer L. west of Nipigon, but also Fernow and Pagawachuan lakes east of Longlac. Prefers shallow, warm waters of streams, rivers, ponds, and lakes with sand and gravel substrate (Holm et al. 2009), but appear to avoid densely vegetated areas (Hartviksen and Momot 1989).
Fathead Minnow	*Pimephales promelas*	Native. Common and abundant across Thunder Bay District in shallow, warm waters of slow-moving streams, ponds, small rivers and lakes with muddy substrate, often with dense submerged aquatic vegetation (Hartviksen and Momot 1989; Eakins 2018)
Western Blacknose Dace	*Rhinichthys obtusus*	Native. Sporadic in southern portion of District in cool, clear, swift, gravelly, streams and rivers (Hartviksen and Momot 1989; Holm et al. 2009) such as Current R, Mackenzie R., and Heaven Cr. (ROM 2019). Also records from Lac du Mileu and Sparkling L. (OMNRF 2019a). Formerly Kraczkowski, M.L. and B. Chernoff. 2014). Blacknose dace were recently split into the Western Blacknose Dace (*R. obtusus*) and the Eastern Blacknose Dace (*R. atratulus*) (Kraczkowski and Chernoff 2014). This split has recently been recognized by the AFS (E. Holm pers. comm. 2019).
Longnose Dace	*Rhinichthys cataractae*	Native. Widespread across District in cool, clear, swift, streams and rivers with gravel/cobble substrate; also similar lakeshores (Hartviksen and Momot 1989; Holm et al. 2009; ROM 2019).

Common Name	Scientific Name	TBFN District Notes
Creek Chub	*Semotilus atromaculatus*	Native. Restricted to the southern portions of the District to the Pigeon R. (2AA) and Kaministiquia R. (2AB) watersheds (Momot and Stephenson 1996; ROM 2019) and apparently absent from much of the north shore of L. Superior (Holm et al. 2009; iNaturalist 2019). Found in streams, rivers, and shores of small lakes (Hartviksen and Momot 1989).
Family Catostomidae - Suckers		
Longnose Sucker (Mullet)	*Catostomus catostomus*	Native. L. Superior and its tributaries where they spawn, and scattered across District in 20+ lakes (OMNRF 2019a), typically large, cold, clear, and oligotrophic (Momot and Stephenson 1996; OMNRF 2019a).
White Sucker (Mullet)	*Catostomus commersonii*	Native. Widespread across entire District in cold, clear lakes and spawning tributaries.
Silver Redhorse	*Moxostoma anisurum*	Native. Scarce across District in large streams and rivers e.g., Kaministiquia R. (where it is locally abundant), Whitefish, Gull, and Jackfish rivers (Hartviksen and Momot 1989; Momot and Stephenson 1996; ROM 2019). Less commonly found in lakes e.g., L. Superior, L. Nipigon, and Chipman, Fernow, Harmon, Onaman, and Wabinosh lakes (iNaturalist 2019; OMNRF 2019a; ROM 2019).
Shorthead Redhorse	*Moxostoma macrolepidotum*	Native. Scarce across District (Hartviksen and Momot 1989) in 20+ lakes including L Superior and L. Nipigon (OMNRF 2019a), as well as their tributaries (e.g., Black, Kaministiquia , Little Jackfish rivers) where they spawn (Foster and Tost 2010; ROM 2019). Probably more common than expected (B. Wasylenko pers. comm. 2019). Prefers cool bottom waters of large streams and lakes (Holm et al. 2009).
ORDER SILURIFORMES – Catfishes (1 sp.)		
Family Ictaluridae- North American Catfishes		
Black Bullhead	*Ameiurus melas*	Non-native. Reportedly planted in Hynrick L. near Macdiarmid by an area lodge owner (R. Swainson pers. comm[2].). Caught in Hynrick L. in 1973 and 1975, and at the mouth of the Postagoni R. in Pijitawabik Bay, L. Nipigon in 1977 (ROM 2019). Still present in Hynrick L. and caught by minnow trap in Marilyn L. in early 1990s (R. Swainson pers. comm. 2019); current status unknown. Two unconfirmed 1968 records from Pocket and Tartan lakes near Dorion (*see* Brown Bullhead). Native west of the District in L. of the Woods area (Holm et al. 2009). Prefers warm rivers, ponds, and lakes with soft substrates (Eakins 2018). Formerly known as *Ictalurus melas.*
ORDER ESOCIFORMES – Mudminnows and Pikes (3 spp.)		

[2] L. Townes pers. comm. to R. Swainson

Common Name	Scientific Name	TBFN District Notes
Family Esocidae -Pikes		
Northern Pike (Jack, Jackfish, Northern)	*Esox lucius*	Native. Widespread and abundant across Thunder Bay District. Prefers clear, warm/cool, weedy embayments and slow rivers, but also found in colder, deeper waters of lakes (Holm et al. 2009; Scott and Crossman 1973).
Muskellunge (Muskie, Musky, Maskinonge)	*Esox masquinongy*	Native. Known only from Sturgeon L. in the extreme northwest of the Thunder Bay District (Mandrak and Crossman 1992a), as well as the Pic and Black rivers near Marathon (Foster and Tost 2010; NSES 2002; ROM 2019). Apparently unsuccessfully introduced into Lac des Mille Lacs in the mid-1950s (Allin 1957). Unverified report of one caught in Nipigon Lagoon in 2018 (G. Ellis pers. comm. 2019). Prefers warm to cool, medium to large lakes and slow rivers, often more turbid than those preferred by Northern Pike (Scott and Crossman 1973).
Central Mudminnow	*Umbra limi*	Native. Common on the Sibley Peninsula (Stephenson and Momot 1996) and west within the District (Holm et al. 2009; G. Ellis pers. comm. 2019). Also found in small waterbodies in the Spruce R. watershed near Black Sturgeon L. (R. Tyhuis pers. comm. 2019). There is a 1986 specimen from a small, unnamed lake near Geraldton (ROM 2019) and one was recently (2019) caught approximately 60 km downstream in the Namewaminikan R. (iNaturalist 2019). Prefers heavily vegetated ponds, wetlands, streams, and quiet, shallow areas of lakes with mud/organic substrates (Holm et al. 2009; Scott and Crossman 1973). Formerly in its own family, Umbridae.
ORDER OSMERIFORMES – Argentines and Smelts (1 sp.)		
Family Osmeridae - Smelts		
Rainbow Smelt	*Osmerus mordax*	Native to the Atlantic coast, it was first stocked in the St. Mary's R. in 1909 and Crystal L. (MI) in 1912, from which it eventually made its way through the Upper Great Lakes (Emery 1985). First noted in Whitefish Bay circa 1930 (Van Oosten 1937); now found throughout the L. Superior waters of Thunder Bay District. Spawns on shoals and in dozens of L. Superior and L. Nipigon tributaries (e.g., McVicar's Cr., Current R., MacKenzie R.). Introduced, often inadvertently as bait, to 15+ inland lakes within the District such as L. Nipigon, Arrow, Cloud, Hawkeye, Long, Northern Light, and Saganaga lakes (OMNRF 2019a,b; P. Wilson pers. comm. 2019).
ORDER SALMONIFORMES – Salmons (15 spp.)		
Family Salmonidae – Trouts and Salmons		
Subfamily Coregoninae - Coregonines		
Cisco (Lake Herring, Herring)	*Coregonus artedi*	Native. Widespread across District in cool/cold lakes, including L. Superior and L. Nipigon.
Lake Whitefish	*Coregonus clupeaformis*	Native. Widespread across District in cool/cold lakes and rivers where they spawn and/or are resident (Holm et al. 2009; OMNRF 2018b; Scott and Crossman 1973)

Common Name	Scientific Name	TBFN District Notes
Bloater (Hoy's Cisco)	*Coregonus hoyi*	Native. Abundant in L. Superior and L. Nipigon, typically at shallower depths than other "deepwater" ciscoes (Eshenroder et al. 2017; Scott and Crossman 1973).
Kiyi	*Coregonus kiyi*	Native. The Upper Great Lake Kiyi (*C. k. kiyi*) is now restricted to L. Superior, as it is extirpated from L. Michigan and L. Huron[3] (COSEWIC 2005). Typically found at greater depths than closely related Shortjaw Cisco or Bloater (DFO 2016). Special Concern provincially and federally.
Blackfin Cisco (Black-fin Tullibee)	*Coregonus nigripinnis*	Native. The *C. n. regalis* subspecies is restricted to L. Nipigon where it remains abundant but declining (Eshenroder et al. 2017; Turgeon et al. 1999). According to Eshenroder et al. (2017) the *C. n. nigripinnis* subspecies was never present in L. Superior and is now extirpated from lakes Michigan and Huron. Blackfin Cisco was also netted in Long L. in 2006 by OMNR (P. Wilson pers. comm. 2019) and in Sand L. north of Terrace Bay (R. Tyhuis pers. comm. 2019). It is mapped as occurring within the District in a tributary of the Albany R. by Scott and Crossman (1973). Listed as Data Deficient provincially and by COSEWIC (2007a) due to taxonomic uncertainties
Shortjaw Cisco (Light-back Tullibee)	*Coregonus zenithicus*	Native. Confirmed in L. Superior and L. Nipigon (Eshenroder 2017; Pratt 2013) where it is thought to prefer deeper water than Bloater, but not as deep as the Kiyi (COSEWIC 2003). Found in many southern James Bay tributaries in OMNRF's Nipigon District (P. Wilson pers. comm. 2019). Etnier and Skelton (2003) reported it from Saganaga L. on the ON/MN border. Threatened provincially and federally[4].
Pygmy Whitefish (Coulter's Whitefish)	*Prosopium coulterii*	Native. Glacial relict, disjunct with other populations in western and northern Canada (Scott and Crossman 1973). In Ontario, previously thought to be restricted to the cold, deep waters of L. Superior in the Thunder Bay District (Eschmeyer and Bailey 1955; Holm et al. 2009), but recently discovered in the Kenora District (Blanchfield et al. 2014), including Mamegweiss L. (OMNRF 2019a) just west of the Thunder Bay District boundary. One recently found (Nov. 2019) washed up on a L. Superior beach near Marathon (iNaturalist 2019) and reported from Big Trout Bay, L. Superior in 2017 (E. Holm pers. comm. 2018).
Round Whitefish (Menominee Whitefish)	*Prosopium cylindraceum*	Native. In Thunder Bay District, found only in L. Superior, L. Nipigon and their tributaries such as the Gravel, Kaministiquia, Little Pic, and Namewaminikan rivers (Foster and Marshall 2017; Hartviksen and Momot 1989; ROM 2019). Abundant in the lower Nipigon R. eating eggs during the salmon run (R. Swainson pers. comm. 2019).
Subfamily Salmoninae - Salmonines		

[3] The other subspecies, the Lake Ontario Kiyi (*C. k. orientalis*), is extinct (COSEWIC 2005).

[4] Shortjaw Cisco are listed in Schedule 2, defined as species that had been designated as Endangered or Threatened, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1 under SARA.

Common Name	Scientific Name	TBFN District Notes
Pink Salmon	*Oncorhynchus gorbuscha*	Native to Pacific Coast. Inadvertent introduction (escapement) from the Port Arthur Fish Hatchery (Current R.) into L. Superior in 1956 (Bobrowicz 2011). Within the Thunder Bay District, found in L. Superior and at least 15 spawning tributaries notably the Black Sturgeon, Kaministiquia, Nipigon, and Pic rivers (Momot and Stephenson 1996; OMNRF 2019b; G. Ellis pers. comm. 2019). Runs typically heaviest in odd-numbered years, but some tributaries (e.g., Steel R.) have significant runs in even and odd years (J. George pers. comm. 2019).
Coho Salmon	*Oncorhynchus kisutch*	Non-native. First stocked into Upper Great Lakes in 1966 from Pacific Coast. Within the Thunder Bay District, restricted to L. Superior and spawning tributaries, particularly smaller ones (G. Ellis pers. comm. 2019). Reproducing in nearly all permanently flowing streams from Thunder Bay to Pukaskwa (n=15+), as well as larger tributaries such as the Black, Cypress, Gravel, Jackpine, Kaministiquia, Nipigon, McKenzie Pic, Prairie, and Steel rivers (J. George pers. comm. 2019; iNaturalist 2019; OMNRF 2019b; Momot and Stephenson 1996).
Rainbow Trout (Steelhead)	*Oncorhynchus mykiss*	Non-native. First stocked in L. Superior in 1883 from Pacific Coast. Within the Thunder Bay District, restricted to L. Superior and spawning tributaries, notably the McIntyre, Black Sturgeon, Nipigon (large run), Jackpine, Steel, and Prairie rivers. Continues to be stocked by OMNRF in 6 lakes in the western part of the District (M. Klich 2019), and has been stocked in about 20 lakes in the Longlac – White R. areas in the eastern part of the District (OMNRF 2018b). Formerly *Salmo gairdneri*.
Chinook Salmon	*Oncorhynchus tshawytscha*	Non-native. First introduced into L. Superior in 1873 from Pacific Coast (Hartviksen and Momot 1989) but did not become established; first modern stockings in L. Superior were in Michigan waters in 1967 (Crawford 2001; Emery 1985). Within the Thunder Bay District, restricted to L. Superior and approximately 20 spawning tributaries (Peck et al. 1996), notably the Black Sturgeon, Kaministiquia, Nipigon, Pic, and Wolf rivers. Still stocked in Kaministiquia R. by Thunder Bay Salmon Association, as well as U.S. waterbodies.
Brown Trout	*Salmo trutta*	Native to Europe. Uncommon in District. First introduced into L. Superior in 1883 (USGS 2019b) and still stocked in L. Superior tributaries by U.S. agencies; individuals occasionally are reported along the North Shore (e.g., iNaturalist 2019), especially at mouths of North Shore tributaries (e.g., Kaministiquia R., Steel R., Sibley Cr., Mink Cr.) (ROM 2019). Stocked in the upper reaches of Arrow R. in the early 1990s, where a self-sustaining population persists. Also planted from the CN rail line into JoJo L. and the Whitesand R. system north of L. Nipigon circa 1925; have persisted and are occasionally caught downstream in L. Nipigon (R. Swainson pers. comm. 2019). Generally prefers warmer water than Brook Trout (Scott and Crossman 1973).
Brook Trout (Speckled Trout, Rock Trout)	*Salvelinus fontinalis*	Native and widespread in Thunder Bay District in L. Superior, L. Nipigon, and smaller coldwater, (often spring-fed) lakes, as well as coldwater streams and rivers in the Great Lakes - St.

Common Name	Scientific Name	TBFN District Notes
		Lawrence and Southwestern Hudson Bay watersheds. The larger "coaster" Brook Trout form found in L. Superior is not a distinct genetic strain but rather an ecotype (Wilson et al. 2008). The "Aurora Trout", was formerly believed to be a subspecies (*S. f. timagamiensis*), but genetics and breeding studies have confirmed it to be a colour variant of Brook Trout (COSEWIC 2011a). Brook Trout are stocked by OMNRF in numerous (70+) small lakes in the District, including in the Nelson R. watershed outside its native range (e.g., Inwood L.) (M. Klich pers. comm. 2019; OMNF 2019a). The Aurora Trout form has been stocked in several lakes in the Thunder Bay Judicial District including Borealis, Claire, and Young lakes (OMNRF 2019b; R. Tyhuis pers. comm. 2019) and are occasionally reported (e.g., iNaturalist 2019). Northeast and Southeast Campcot lakes near Terrace Bay were also restocked in the early 2000s with a ¾ Aurora/Brook Trout backcross and are now self-supporting (R. Tyhuis pers. comm. 2019).
Lake Trout	*Salvelinus namaycush*	Native. Widespread in cold, clear lakes (Holm et al. 2009). Typically spawns on shoals but formerly with spawning runs in the Michipicoten and Steel rivers (Goodier 1981). In contrast to inland lakes, L. Superior formerly had a broader diversity of lake trout forms representing semi-isolated spawning populations (Goodier 1981; Krueger and Ihssen 1995). While some forms have been lost, three main morphotypes still remain: shallow-water "leans", "humpers" (or "bankers"), and deepwater "siscowets" (or "fats") (Krueger and Ebener 2007). Some (e.g., Bronte et al. 2003; Hansen et al. 2016) recognize a fourth extant Lake Trout morph, the "redfin".
ORDER PERCOPSIFORMES – Trout-perches (1 sp.)		
Family Percopsidae – Trout-perches		
Trout-perch	*Percopsis omiscomaycus*	Native. Widespread across District. Prefers deeper waters of larger lakes typically with sand/gravel substrates, moving into shallows at night to feed; also found in medium to large rivers, including turbid ones (Hartviksen and Momot 1989; Holm et al. 2009).
ORDER GADIFORMES – Cods and Hakes (1 sp.)		
Family Gadidae - Cods		
Burbot (Ling, Lawyer, Eelpout)	*Lota lota*	Native. Widespread in Thunder Bay District in deep waters of L. Superior and larger inland lakes, as well as riffles/rapids of many cooler streams and rivers (Momot and Stephenson 1996; OMNRF 2019a; ROM 2019).
ORDER GASTEROSTEIFORMES – Pipefishes and Sticklebacks (4 spp.)		
Family Gasterosteidae - Sticklebacks		
Fourspine Stickleback	*Apeltes quadracus*	Native to Atlantic coast; first recorded in 1986 from the Neebing Marsh in the Thunder Bay Harbour, likely transported by ballast water (Holm and Hamilton 1988; ROM 2019). Successfully

Common Name	Scientific Name	TBFN District Notes
		reproducing in Thunder Bay Harbour (Ball and Tost 1992) and reported from Nipigon and Black rivers (Stephenson and Momot 2000) as well as Cloud Bay (iNaturalist 2019).
Brook Stickleback (Fivespine Stickleback)	*Culaea inconstans*	Native. Very widespread in Thunder Bay District in clear, cool, heavily vegetated streams, ponds, and lake margins, as well as deeper waters of L. Superior (Hartviksen and Momot 1989; Holm et al. 2009).
Threespine Stickleback	*Gasterosteus aculeatus*	Non-native. Native to L. Ontario, the Atlantic coast, Hudson/James bays, and beyond (Scott and Crossman 1973). First recorded in Thunder Bay Harbour in 1987, likely transported by ballast water (Hartviksen and Momot 1989). Has spread throughout L. Superior waters and tributaries as far east as the Black R (NSES 2002; Foster and Tost 2010; Stephenson and Momot 2000). Recently found in Winnange L. in nearby Kenora District (OMNR 2019a), where it could be an introduction, or possibly a glacial relict as in Neultin L., Manitoba (Schroeder 2012).
Ninespine Stickleback	*Pungitius pungitius*	Native and widespread across Thunder Bay District in a wide variety of habitats, from cool, shallow streams to the deep waters of L. Superior (Hartviksen and Momot 1989; Holm et al. 2009).
ORDER SCORPAENIFORMES – Mail-cheeked fishes (4 spp.)		
Family Cottidae - Sculpins		
Mottled Sculpin (Muddler)	*Cottus bairdii*	Native. Widespread across District in cool streams and lakes (Hartviksen and Momot 1989), typically in shallower waters or more commonly on sandy substrates than Slimy Sculpin (Hubbs and Lagler 2004; Scott and Crossman 1973). Hybridizes with Slimy Sculpin (Strauss 1986).
Slimy Sculpin (Cockatouch; Slimy Muddler)	*Cottus cognatus*	Native. Widespread across District in cool streams and lakes, typically with gravel or cobble substrates (Hartviksen and Momot 1989) and deeper/colder waters than Mottled Sculpin (Hubbs and Lagler 2004). Hybridizes with Mottled Sculpin (Strauss 1986).
Spoonhead Sculpin	*Cottus ricei*	Native. Rarely observed and poorly known due to its deepwater habitat (Hartviksen and Momot 1989; Scott and Crossman 1993). Known from L. Superior, L. Nipigon, and 15+ other lakes scattered across the District (iNaturalist 2019; OMNRF 2019a; ROM 2019). Typically found at intermediate depths between Slimy Sculpin and Deepwater Sculpin (Hubbs and Lagler 2004).
Deepwater Sculpin	*Myoxocephalus thompsonii*	Native. Glacial relict (Sheldon et al 2008), rarely observed due to its preference for cold, deepwater habitats. Within the District, initially reported from only L. Superior and L. Nipigon (Scott and Crossman 1973), now also known from Saganaga, Burchell, and other lakes in the southwest corner of the District, as well as Sturgeon and MaCrea lakes in the Hudson Bay watershed (Black and Lankester 1981; COSEWIC 2017a). Recent sampling has found it in an additional 9 lakes in the western part of the District (OMNRF 2019a). Great Lakes-Western St. Lawrence population is listed as Special Concern federally; populations in the Nelson R. and

Common Name	Scientific Name	TBFN District Notes
		southern Hudson Bay watersheds are Not At Risk or Data Deficient respectively (COSEWIC 2017a). Not listed provincially as a SAR (OMNRF 2019c).
ORDER PERCIFORMES – Perch-like Fishes (16 spp.)		
Family Centrarchidae – Sunfishes and Basses		
Rock Bass	*Ambloplites rupestris*	Native. Found primarily in the Thunder Bay area and 20+ lakes in the western portion of the District (OMNRF 2019a). Historically absent from L. Nipigon basin east to Wawa (Holm et al. 2009) but has expanded its range due to illegal introductions. Now known in the L. Nipigon watershed from Loganberry L. (ROM 2019), Waweig L. (OMNRF 2019b), Gull R. (iNaturalist 2019), and Gull Bay, L. Nipigon (Foster 2014). Also known from nearshore waters of L. Superior such as Thunder Bay Harbour (Harris et al. 2009; Parker et al. 2008) and Cloud Bay (iNaturalist 2019). Prefers cool waters of lakes and slow-moving streams, often with rocky substrates (Holm et al. 2009)
Green Sunfish	*Lepomis cyanellus*	Native. Known from a few records southeast of Thunder Bay near Greenwood L. (ROM 2019), Rose and Rudge lakes (Momot and Stephenson 1996), and the Matawin R. (iNaturalist 2019). Prefers shallow, warm slow-moving streams with abundant submergent vegetation (Holm et al. 2009; B. Jackson pers. comm. 2019).
Pumpkinseed	*Lepomis gibbosus*	Native. Found in a small number of lakes (e.g., Prelate L., Crayfish L., Northern Lights L.) in the southwestern corner of District (Houston 1993; OMNRF 2019a,b), where it is presumed native (ROM 2019). There is an OMNRF (2019a) record of it from Greenwater L., which is a possible misidentification (B. Wasylenko pers. comm. 2019). There is also a 1977 specimen from the McIntyre R. (ROM 2019) – likely an introduction that did not persist. Prefers cool to warm waters of lakes and slow-moving streams with abundant aquatic vegetation (Holm et al. 2009).
Bluegill	*Lepomis macrochirus*	Native. Reported from Bemar L. (OMNRF 2018b) in the southeastern corner of the District and known from Quetico P.P. just to the west (Crossman 1976; Holm et al. 2009). Also known from a 1961 specimen from L. Nipigon (ROM 2019), where it was presumably introduced and did not persist. Prefers warm waters of lakes and slow-moving streams with abundant aquatic vegetation (Holm et al. 2009).
Smallmouth Bass (Small-mouthed Black Bass)	*Micropterus dolomieu*	Widespread in lakes and rivers across the District, including some nearshore waters of L. Superior (e.g., Thunder Bay). The extent of its original range in the District has been obscured by widespread stocking in the early part of the 20th century and subsequent dispersal (Funnel 2012; Hartviksen and Momot 1989; Lasenby and Kerr 2000). Smallmouth Bass was stocked in 1920 in L. Nipigon (Orient Bay) where it reproduced for at least several years (Dymond 1923, 1926). Dymond (1926) stated that it is native to Black Sturgeon and Bass lakes (1923, 1926), although supporting evidence is lacking. It is considered native in the L. Superior watershed by

Common Name	Scientific Name	TBFN District Notes
		some (e.g., Macleod 1962 *as cited in* Funnell 2012; MN Sea Grant 2019; Robbins and MacCrimmon 1974; Page and Burr 1991), but others (e.g., Holm et al. 2009) treat L. Superior populations within the District as introduced. There are occasional angler reports of Smallmouth Bass from L. Helen and mouths of north shore tributaries farther east (e.g., Jackpine R.)(G. Ellis pers. comm. 2019), and they are now present in Whitesand L, Whitesand R., and Beartrap L. near Rossport, as well as Long L. and the Aguasabon R. (R. Tyhuis pers. comm. 2019). Smallmouth Bass were introduced to Cordingley L. northeast of L. Nipigon in 1940, and have dispersed northeast into connecting lakes and into the Little Current R. via the Esnagami and Squaw rivers (P. Wilson pers. comm. 2019). U.S. authorities (e.g., Page and Burr 1991; USGS 2019a) consider Smallmouth Bass populations in the Minnesota portion of the Nelson R. watershed as non-native. Others (e.g., Holm et al. 2009) consider downstream Ontario populations within the Nelson R. watershed as native, despite stocking efforts in the region as far back as 1895 (Armstrong and MacKereth 2000; Lasenby and Kerr 2000). Largemouth Bass is native to the Nelson R. drainage including Quetico (Holm et al. 2009; Lasenby and Kerr 2000), which may have led to erroneous reports of Smallmouth Bass from that area (B. Jackson pers. comm. 2019).
Largemouth Bass (Black Bass)	*Micropterus salmoides*	Non-native. Rare in Thunder Bay District. Native elsewhere in Ontario including Quetico and the Nelson R. drainage (Holm et al. 2009; Lazenby and Kerr 2000). It was stocked in Pounsford L. on the Sibley Peninsula in 1959 (Hartviksen and Momot 1989) and spread downstream to Wiswell L. (Momot and Stephenson 1996). It still persists in at least Pounsford L. (M. Klich pers. comm. 2019). The OMNRF (2019b) report of it in from Sward L. near Dorion is erroneous (M. Deschamps pers. comm. 2019), as is Upper Twin L. (M. P. Wilson pers. comm. 2019). Largemouth Bass has been confirmed in Upper and Middle Shebandowan lakes as of 2010 (D. Viehbeck pers. comm. 2019). Unverified report of one caught in Nipigon Lagoon in 2018 (G. Ellis pers. comm. 2019). Prefers warm, heavily vegetated shallows of bays and small lakes with soft substrates and abundant woody debris.
Black Crappie	*Pomoxis nigromaculatus*	Native. Reported in the lower Kaministiquia R. in 1987 (Cullis et al. 1989; Hartviksen and Momot 1989) and still extant there and within Thunder Bay Harbour (Friday pers. comm. 2019; OMNRF 2018b; Parker et al. 2008). Historical (1957-1958) records from Black Bay (Ryder 1959), Nipigon Bay, and off Spar Island (L. Superior) (Hartviksen and Momot 1989; ROM 2019) are apparently strays since no recent records there. Stocked in 1949 in Addison L. (Sibley Peninsula), but now extirpated (Allin 1957; Stephenson and Momot 1994). Apparently credible report of one caught in Shebandowan L. (M. Klich & B. Wasylenko pers. comm. 2019). Black Crappie have spread into portions of Saganaga L. (Curran's Bay) through the Seagull L. system in

Common Name	Scientific Name	TBFN District Notes
		northern MN (D. Viehbeck pers. comm. 2019). Prefers shallow, warm embayments and slow-moving rivers with abundant submergent vegetation (Holm et al. 2009).
Family Percidae – Perches and Darters		
Iowa Darter	*Etheostoma exile*	Native. Widespread but generally uncommon across Thunder Bay District in clear streams and lakes (Hartviksen and Momot 1989; Holm et al. 2009; iNaturalist 2019; OMNRF 2019a; ROM 2019; Stephenson 1991).
Johnny Darter	*Etheostoma nigrum*	Native. Widespread across Thunder Bay District in clear streams and lakes (Hartviksen and Momot 1989; Holm et al. 2009; OMNRF 2019a; ROM 2019).
Ruffe (River Ruffe)	*Gymnocephalus cernua*	Native to Eurasia; introduced into Duluth-Superior harbour in early 1980s, likely via ballast water (Pratt et al. 1992). First recorded in the District in Thunder Bay in 1991 (Johnson 1991). Now well-established in Kaministiquia R. and Thunder Bay Harbour (Slade et al. 1995; Parker et al. 2008) and was reported from Black Bay in 2015-2016 (Fuller et al. 2019) and Cloud Bay more recently (iNaturalist 2019).
Yellow Perch	*Perca flavescens*	Native. Widespread in lakes and rivers throughout the Thunder Bay District, particularly in shallow, vegetated bays and slow-moving reaches. Prefers shallow, heavily vegetated areas of slow-moving rivers and warm ponds and lakes with sandy to rocky bottoms (Hartviksen and Momot 1989).
Logperch	*Percina caprodes*	Native. Widespread across Thunder Bay District in streams and lakes with rocky or sandy substrates (Hartviksen and Momot 1989; Holm et al. 2009; OMNRF 2019a; ROM 2019).
Sauger	*Sander canadensis*	Native. Uncommon in Thunder Bay District in shallow turbid lakes, embayments, and slow-moving rivers (Hartviksen and Momot 1989). Confirmed from L. Nipigon (Ombabika, Humbolt, and Windigo bays) (ROM 2019) and adjacent Jessie L. (OMNRF 2019b). Also reported from Windigo L. in the Nelson R. watershed (OMNRF 2019b). Reported from six lakes in the northwest of the District within the Nelson R. watershed (Mandrak and Crossman 1992a; OMNRF 2018b). No verified records for this species from the Canadian waters of L. Superior; reports from historical commercial harvests (1951-1970) from Black Bay may be undersized Walleye (Bobrowicz 2015), although it was reported from Coldwater Cr. (a Black Bay tributary) in 1947 by A.E. Allin (Hartviksen and Momot 1989). Unconfirmed report (and possible walleye misidentification) from Flint L. east of Longlac (OMNRF 2019b). Formerly *Stizostedion canadense*.
Walleye (Pickerel, Yellow Pickerel, Walleyed Pike)	*Sander vitreus*	Native. Widespread in lakes and rivers throughout the Thunder Bay District, including bays of L. Superior and L. Nipigon (Hartviksen and Momot 1989). Widely introduced into waterbodies

Common Name	Scientific Name	TBFN District Notes
		across the District (e.g., Black Bay – L. Superior, Cloud L, Whitefish L.), including those with existing populations (Kerr 2006). Formerly *Stizostedion vitreum*.
Family Gobiidae – Gobies		
Round Goby	*Neogobius melanostomus*	Native to Eurasia; first reported in Great Lakes (St. Clair R.) in 1990, arriving in ballast water (Mills et al. 1993). Spread to L. Superior by freighters ("lakers") operating within the Great Lakes and first reported in Thunder Bay Harbour in 2003 (Fuller et al. 2019), where it is now established.
Tubenose Goby (Freshwater Tubenose Goby)	*Proterorhinus semilunaris*	Native to Eurasia; first reported in Great Lakes in 1990, arriving in ballast water (Fuller et al. 2019). First reported in 2009 near Mission Island, and reported at two other nearby locations in Thunder Bay Harbour in 2010 (Fuller et al. 2019). Formerly *Proterorhinus marmoratus.*

Appendix. Species with questionable status in the Thunder Bay District, are hybrids, or have been reported immediately adjacent to the District.

Common Name	Scientific Name	TBFN District Notes
ORDER ACIPENSERIFORMES – Sturgeons, Spoonfishes, and Paddlefishes (1 sp.)		
Family Polyodontidae- Paddlefishes		
Paddlefish	*Polyodon spathula*	One historical record from L. Helen on the Nipigon R. system (Halkett 1913), but its validity has been questioned (Parker 1988). Native to the Mississippi R. basin in the U.S. and listed as Extirpated in Canada (COSEWIC 2008).
ORDER LEPISOSTEIFORMES – Gars (1 sp.)		
Family Lepisosteidae - Gars		
Longnose Gar	*Lepisosteus osseus*	Not native to Thunder Bay District. Only known in Thunder Bay District from 1961 record from Nipigon Bay (Hartviksen and Momot 1989), almost certainly a stray (Momot and Stephenson 1996). Typically found in marshy shallows of warm lakes and rivers.
ORDER AMIIFORMES – Bowfins (1 sp.)		
Family Amiidae - Bowfins		
Bowfin	*Amia calva*	Native to southern Ontario (Holm et al. 2009). Introduced into Hop L. in the extreme northwest corner of Quetico P.P. (OMNR 2019b) and hydrologically connected to lakes in Thunder Bay District (i.e., Windigoostigwan L.) but no confirmed District records.
ORDER OSTEOGLOSSIFORMES – Bonytongues (1 sp.)		
Family Hiodontidae - Mooneyes		
Mooneye	*Hiodon tergisus*	Known from Wawiag R. on the east side of Quetico (Crossman 1976) and could occur within the Thunder Bay District in the Wawiag R. watershed.
ORDER ANGUILLIFORMES – Eels (1 sp.)		
Family Anguillidae – Freshwater Eels		
American Eel	*Anguilla rostrata*	Occasional vagrant. Catadromous species - adults spawn in Sargasso Sea and juvenile elvers migrate into freshwater, historically as far as L. Ontario (COSEWIC 2012). Since the construction of the Welland Canal, females have dispersed into the upper Great Lakes (Holm et al. 2009). First L. Superior record in 1970 at the mouth of the Current R. (Hartviksen and Momot 1989). Several records from Thunder Bay and Black Bay (Mandrak and Crossman 1992a) and from anglers in L. Superior tributaries (Momot and Stephenson 1996). Provincially listed as Endangered and federally as Threatened.
ORDER CLUPEIFORMES – Anchovies and Herrings (1 sp.)		
Family Clupeidae – Herrings		

Common Name	Scientific Name	TBFN District Notes
Gizzard Shad	*Dorosoma cepedianum*	Non-native. Present in L. Superior (OMNRF 2018b) and reported from Batchewana Bay (Hartviksen and Momot 1989), but apparently no confirmed records for Thunder Bay District. There is an unverified report of an impinged specimen on the intake screen at the Mission Island power station (Momot and Stephenson 1996).
ORDER CYPRINIFORMES – Minnows and Suckers (3 spp.)		
Family Cyprinidae – Minnows and Carps		
Goldfish	*Carassius auratus*	Native to Asia. Known from one 1963 record from Ishkibibble Cr. near Thunder Bay (Hartviksen and Momot 1989) and one August 2011 specimen from Mission Marsh (ROM 2019).
Family Leuciscidae – True Minnows (recently split from Cyprinidae)		
Blackchin Shiner	*Notropis heterodon*	Native. Mapped as occurring in southeastern portion of Thunder Bay District (Mandrak and Crossman 1992a; Holm et al. 2009) but no confirmed records (ROM 2019). Known from several lakes in Quetico P.P. (Crossman 1976; ROM 2019), some within 12 km of the District boundary. Found in clear, cool, shallow, vegetated waters of stream and lakes. One BSM record from Barbara L. northeast of Nipigon (OMNRF 2019a) but no reference specimen.
Family Catostomidae - Suckers		
Greater Redhorse	*Moxostsoma valenncienesi*	Presumed native. Known in Thunder Bay District from only one 1959 specimen from the Kaministiquia R. (ROM 2019) whose identification has recently been reconfirmed (E. Holm pers. comm. 2019). In Ontario, generally restricted to southern and eastern Ontario (Holm et al. 2009), but one individual was recently caught in Dogpaw L. near Sioux Narrows (E. Holm pers. comm. 2019), and it is known from northern Wisconsin (Roughfish.com 2019). Typically found in large streams and small rivers (Holm et al. 2009), they can sometimes be found in northern lakes (Roughfish.com 2019).
ORDER SILURIFORMES – Catfishes (3 spp.)		
Family Ictaluridae- North American Catfishes		
Brown Bullhead	*Ameiurus nebulosus*	Presumed non-native. "Black bullhead???" were listed on 1968 Department of Lands and Forests lake surveys from Pocket and Tartan (Stewart) lakes near Dorion (OMNRF and ROM unpublished data). These were the basis for the two District Brown Bullhead records portrayed in Mandrak and Crossman[5] (1992a) and the distribution shown in Holm et al. (2009). However, no voucher species exist and no bullheads found in Tartan L. during 1992 OMNR netting (OMNRF unpublished data). Native farther west in Ontario (e.g., L. of the

[5] one incorrectly mapped as west of Thunder Bay

Common Name	Scientific Name	TBFN District Notes
		Woods) in the Nelson R. watershed (ROM 2019). Several reports by commercial fisherman from the Canadian waters of L. Superior, but no confirmed District records (F. Fischer pers. comm. 2019; OMNRF 2018b). Native in U.S. waters of L. Superior (Klossner 1998; MN Sea Grant 2019). Prefers warm rivers, ponds, and lake embayments, with soft substrates. Formerly known as *Ictalurus nebulosus.*
Channel Catfish	*Ictalurus punctatus*	A Channel Catfish was caught in Amethyst Harbour in October 2018 by commercial gill net and confirmed by OMNRF (F. Fischer pers. comm. 2019) and another was angled in the Kaministiquia river in the early 2000s (M. Klich pers. comm. 2019). Native to L. Superior (MN Sea Grant 2019) but not believed to be resident in Canadian waters of L. Superior (Holm et al. 2009).
Tadpole Madtom	*Noturus gyrinus*	Known from Quetico (Crossman 1976) but not from Thunder Bay District. Prefers slow-moving streams and rivers, and clear waters of shallow lakes and ponds with soft, muddy substrates and extensive vegetation (Eakins 2018).
ORDER SALMONIFORMES – Salmons (5 spp.)		
Family Salmonidae – Trouts and Salmons		
Subfamily Coregoninae - Coregonines		
Nipigon Cisco (Nipigon Tullibee)	*Coregonus nipigon*	Reported by Hubbs and Lagler (2004) as occurring in shallow waters of L. Nipigon, Black Sturgeon L., Saganaga L, and other lakes of northwestern Ontario. Etnier and Skelton (2003) reported it from Saganaga L. on the ON/MN border and argued that it is a distinct taxon. It is not recognized as a distinct species by Page et al. (2013), nor by Eshenroder et al. (2017) in their review of ciscoes of the Laurentian Great Lakes and L. Nipigon.
Shortnose Cisco	*Coregonus reighardi*	One historical record from Thunder Bay Harbour (Hartviksen and Momot 1989) and L. Nipigon (Dymond 1926), it is now thought to never have been present in L. Superior or L. Nipigon (COSEWIC 2005; Eshenroder 2017; DFO 2012). Endangered provincially and federally.
Subfamily Salmoninae - Salmonines		
Atlantic Salmon	*Salmo salar*	Non-native. Rare in L. Superior waters of Thunder Bay District. Unsuccessfully stocked within the Thunder Bay District (1955-1956) in Arrow, Athelstane, and Half Moon (Cliff) lakes (Hartviksen and Momot 1989). First introduced into U.S. waters of L. Superior in 1873 from Atlantic coast (Parsons 1973) and continue to be stocked by U.S. bodies in St. Mary's R. (Johnson 2017). Occasional fish caught by angler but no reproductive population known to exist in the area (Momot and Stephenson 1996); considered non-reproducing in L. Superior (MN Sea Grant 2019).

Common Name	Scientific Name	TBFN District Notes
Splake	*Salvelinus namaycush x Salvelinius fontinalis*	Hybrid between Brook Trout and Lake Trout that is currently stocked by OMNRF in 20+ small, coldwater lakes in the Thunder Bay Judicial District (M. Klich pers. comm 2019; OMNRF 2018b; P. Wilson pers. comm.). Stocked populations in Cavern and Dog lakes are now extirpated. First stocked in 1970s in U.S. waters of L. Superior (MacCallum and Selgeby 1987). Despite recent research demonstrating presence of fertile F1 Splake at Lake Trout and Brook Trout spawning grounds (e.g., Feringa et al. 2016), Splake continues to be stocked in Michigan waters of L. Superior; as a result, they are often caught in Canadian waters of L. Superior within the District near Terrace Bay, and less frequently at Bay's End (Thunder Bay) and the Nipigon R. (G. Ellis pers. comm. 2019).
Subfamily Thymallinae - Graylings		
Arctic Grayling	*Thymallus arcticus*	Non-native. Stocked in the 1950s in a number of lakes and rivers in the Thunder Bay District (e.g., Nipigon R.), but now extirpated (Hartviksen and Momot 1989).
ORDER PERCIFORMES – Perch-like Fishes (4 spp.)		
Family Moronidae – Temperate Basses		
White Perch	*Morone americana*	Native to Atlantic Ocean. Caught in 1977 and 1985 in Thunder Bay by commercial gill net and in the Kaministiquia R. in 2010 by OMNRF (F. Fischer pers. comm. 2019). First reported from St. Louis R. (MN) in 1986 and now reproducing in U.S. waters of L. Superior (MN Sea Grant 2019). Not known to be established in Canadian waters of L. Superior (Holm et al. 2009).
Family Centrarchidae – Sunfishes and Basses		
Northern Sunfish (Northern Longear Sunfish)	*Lepomis peltastes*	Not confirmed from Thunder Bay District but found approximately 50 km to west in Quetico P.P. (e.g., Bart L, Cirrus L., Darky L., Quetico L.) (ROM 2019). Prefers shallow, heavily vegetated areas of slow-moving rivers and warm ponds and lakes with sandy/rocky bottoms (B. Jackson pers. comm. 2019). Great Lakes-Upper St. Lawrence R. population considered Special Concern provincially and Not at Risk in the Saskatchewan-Nelson R. system (COSEWIC 2016a).
Family Percidae – Perches and Darters		
Least Darter	*Etheostoma microperca*	Presumed non-native. Known only from a single 1987 electrofishing boat specimen taken in the main channel of the Nipigon R. on a gravel bar upstream of the docks (Mandrak and Crossman 1992a; ROM 2019). Typically prefers quiet weedy areas of lakes and streams (Holm et al. 2009). Despite intensive sampling in the area, no other individuals have been captured, and Momot and Stephenson (1996) suggest that it may have been a stowaway or represents a mislabelled specimen.
R. Darter	*Percina shumardi*	Known from L. St. Joseph in Kenora District on the northwestern border of Thunder Bay District (COSEWIC 2016b; Pratt et al. 2015). In northwestern Ontario, found over a wide range

Common Name	Scientific Name	TBFN District Notes
		of depths, substrates, and turbidities in lakes and rivers, often in moderate current (Pratt et al. 2015). These populations considered Not At Risk federally and provincially; the Great Lakes – St. Lawrence populations are listed as Endangered.