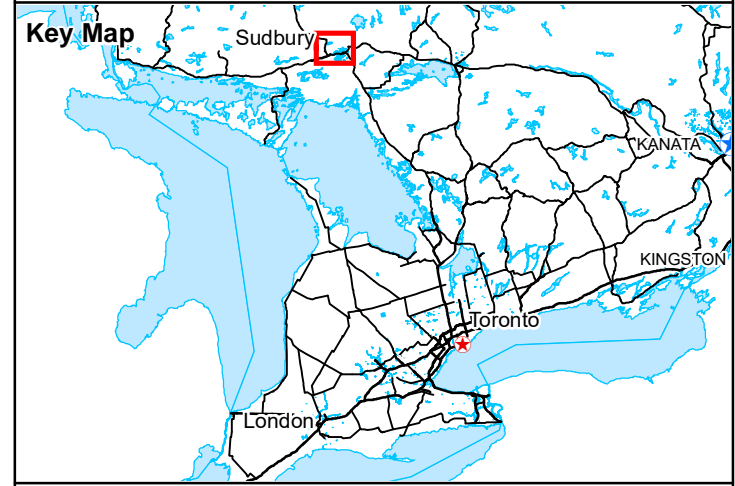


Figure B1
Junction Creek
Subwatershed Study
Background Information



- Legend**
- Study Area (Junction Creek)
 - Watershed
 - Utility Line
 - Railway
 - Highway
 - Primary Road
 - Secondary Road
 - Permanent Watercourse
 - Intermittent Watercourse
 - Water Body
 - Other Wetland (Non-PSW)
 - Unevaluated Wetland
 - Wooded Area
 - Provincial Park (Regulated)

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Project: 1844 Date: January 24, 2017	NAD83 - UTM Zone 17 Size: 11x17" 1:125,000
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Table B1: Bird Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	OBBA ⁵										Sudbury CBC ⁶	NHIC Data ⁷	Habitat Preference
						17MM73	17MM83	17MM93	17MM84	17MM94	17MM95	17NM06	17NM05	17NM04	17NM15	2006 to 2015		
Anatidae	Ducks, Geese & Swans																	
<i>Branta canadensis</i>	Canada Goose	S5				CO	CO	CO	CO	CO	PO	CO	CO	CO		X		GL
<i>Cygnus buccinator</i>	Trumpeter Swan	S4	NAR	NAR				CO	PO							X		
<i>Cygnus columbianus</i>	Tundra Swan	S4														X		L
<i>Aix sponsa</i>	Wood Duck	S5				CO	CO	PR	CO	CO	PO	PR	CO	CO				WL
<i>Anas strepera</i>	Gadwall	S4								CO			CO			X		SL
<i>Anas americana</i>	American Wigeon	S4							PR	CO			PR		PR	X		WT
<i>Anas rubripes</i>	American Black Duck	S4				PR			CO	PR		PR	PR			X		SL, WT
<i>Anas platyrhynchos</i>	Mallard	S5				PR	CO	CO	CO	CO	PO	CO	CO	CO	PR	X		
<i>Anas discors</i>	Blue-winged Teal	S4				CO	PR	PR		CO	PR	PR	CO	PO				SL, WT
<i>Anas clypeata</i>	Northern Shoveler	S4				PO				CO			CO	PO				SL
<i>Anas acuta</i>	Northern Pintail	S5				PO							CO			X		SL, WT
<i>Anas crecca</i>	Green-winged Teal	S4				PR			CO	CO	PO	PR		PR		X		SL, WT
<i>Aythya collaris</i>	Ring-necked Duck	S5				PR	PR	PR	PR		PR	PO	PR	CO	PR	X		WT
<i>Aythya affinis</i>	Lesser Scaup	S4				PO				PO						X		L, WM
<i>Bucephala albeola</i>	Bufflehead	S4														X		WL
<i>Bucephala clangula</i>	Common Goldeneye	S5				PO										X		WL
<i>Lophodytes cucullatus</i>	Hooded Merganser	S5B, S5N				PR	PR	CO	PO	CO				PO		X		WL
<i>Mergus merganser</i>	Common Merganser	S5B, S5N				PR	CO	CO		CO		PO		PR		X		WL
Phasianidae	Partridges, Grouse & Turkeys																	
<i>Bonasa umbellus</i>	Ruffed Grouse	S4				CO	CO	CO	CO	CO	PO	PO	PO	PO	PO	X		SG
Podicipediformes	Grebes																	
<i>Podilymbus podiceps</i>	Pied-billed Grebe	S4B, S4N				CO		CO	CO	CO		PO	CO	CO	PO			WT
<i>Podiceps grisegena</i>	Red-necked Grebe	S3B, S4N	NAR	NAR						CO								WT
Columbidae	Pigeons & Doves																	
<i>Columba livia</i>	Rock Pigeon	SNA				PR	PR	CO	CO	PR	PR	CO		CO		X		D
<i>Zenaidura macroura</i>	Mourning Dove	S5				CO	CO	CO	CO	CO	PR	CO	PO	CO	CO	X		OP, ED
Cuculiformes	Cuckoos & Anis																	
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	S4B				PR												SB
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	S5B				PR	PR	PR	CO	PR	PO	PO	PO	PR	PR			SB
Caprimulgidae	Goatsuckers																	
<i>Chordeiles minor</i>	Common Nighthawk	S4B	SC	T	Schedule 1	PO	PO	PR	PR	PR		PR						OP
<i>Caprimulgus vociferus</i>	Eastern Whip-poor-will	S4B	THR	T	Schedule 1	PR	PR	PR	PR	PR				PR	PR			OW, ED
Apodidae	Swifts																	
<i>Chaetura pelagica</i>	Chimney Swift	S4B, S4N	THR	T	Schedule 1	PR			PR	CO				PR				OP
Trochilidae	Hummingbirds																	
<i>Archilochus colubris</i>	Ruby-throated Hummingbird	S5B				CO	PR	PR	PR	PR		PR		PO				GA

Table B1: Bird Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	OBBA ⁵										Sudbury CBC ⁶	NHIC Data ⁷	Habitat Preference
						17MM73	17MM83	17MM93	17MM84	17MM94	17MM95	17NM06	17NM05	17NM04	17NM15	2006 to 2015		
Rallidae	Railes, Gallinules & Coots																	
<i>Rallus limicola</i>	Virginia Rail	S5B				PR	PR	PR		PR		PR	PO	PR	PR			WT
<i>Porzana carolina</i>	Sora	S4B				PR	PR	PR		PR	PO	PR	PR	PO	PO			WT
<i>Fulica americana</i>	American Coot	S4B	NAR	NAR						PR			CO			X		WT
Gruidae	Cranes																	
<i>Grus canadensis</i>	Sandhill Crane	S5B				PR	PR	CO	PR	PR	PR	CO		CO				WT, OP
Charadriidae	Plovers																	
<i>Charadrius vociferus</i>	Killdeer	S5B, S5N				PR	CO	CO	CO	CO		CO	PO		CO			OP
Scolopacidae	Waders																	
<i>Bartramia longicauda</i>	Upland Sandpiper	S4B										PO						GL
<i>Gallinago delicata</i>	Wilson's Snipe	S5B				PO		PR	PR	PR	PR	PR	PO	PR	CO			WT, OP
<i>Scolopax minor</i>	American Woodcock	S4B				CO	PR	CO	CO	CO	PR		PO	PR				SG
<i>Actitis macularia</i>	Spotted Sandpiper	S5				PR	PR	PR	CO	PR	PO	PR	PR	PR				SH
Laridae	Gulls, Terns & Skimmers																	
<i>Larus delawarensis</i>	Ring-billed Gull	S5B, S4N								CO				PO		X		SH, L, OP
<i>Larus argentatus</i>	Herring Gull	S5B, S5N							CO	CO	PO	CO		CO		X		SH, L, R
<i>Larus glaucoides</i>	Iceland Gull	S4N														X		SH, L
<i>Larus fuscus</i>	Lesser Black-backed Gull	SNA														X		SH, L, R
<i>Larus hyperboreus</i>	Glaucous Gull	S4N														X		
<i>Larus marinus</i>	Great Black-backed Gull	S2B														X		SH
Graviidae	Loons																	
<i>Gavia immer</i>	Common Loon	S5B, S5N	NAR	NAR		CO	CO	CO	CO	CO	PO	CO		CO		X		L
Phalacrocoracidae	Cormorants																	
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	S5B	NAR	NAR						PO	CO			PO				L
Ardeidae	Hérons & Bitterns																	
<i>Botaurus lentiginosus</i>	American Bittern	S4B				PO	CO	PR	PO	PR	PR	PR	PO	PO	PO			WT
<i>Ardea herodias</i>	Great Blue Heron	S4B					PO	PO	PO					PO		X		SL
Cathartidae	Vultures																	
<i>Cathartes aura</i>	Turkey Vulture	S5B				PR	PO	PO	PO									OP
Accipitridae	Hawks, Kites, Eagles & Allies																	
<i>Pandion haliaetus</i>	Osprey	S5B				PO	PR		PO									L, R
<i>Haliaeetus leucocephalus</i>	Bald Eagle	S2N, S4B	SC	NAR												X		L
<i>Circus cyaneus</i>	Northern Harrier	S4B	NAR	NAR		PR	PR	PR	CO	PR	PO	PR		PR	PR	X		OP
<i>Accipiter striatus</i>	Sharp-shinned Hawk	S5	NAR			PO		PR	PO	CO	CO	PO	PR		PR	X		M, ED
<i>Accipiter cooperii</i>	Cooper's Hawk	S4	NAR	NAR		PO												M, ED
<i>Accipiter gentilis</i>	Northern Goshawk	S4	NAR	NAR		CO										X		M, ED
<i>Buteo platypterus</i>	Broad-winged Hawk	S5B				CO	CO	CO	PR	CO	PR	PO	PO	CO				M, ED
<i>Buteo jamaicensis</i>	Red-tailed Hawk	S5	NAR	NAR		CO	PR	CO	PR	PO	PO	PO	PO	PO		X		M, ED
<i>Buteo lagopus</i>	Rough-legged Hawk	S1B, S4N	NAR	NAR												X		OP

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						17MM73	17MM83	17MM93	17MM84	17MM94	17MM95	17NM06	17NM05	17NM04	17NM15	2006 to 2015		
Strigidae	Typical Owls																	
<i>Bubo virginianus</i>	Great Horned Owl	S4				PR	PR	PO	PO					CO		X		M, ED
<i>Surnia ulula</i>	Northern Hawk Owl	S4	NAR	NAR												X		OW
<i>Strix varia</i>	Barred Owl	S5				PR	PR	PR			PR					X		M, WT
<i>Asio otus</i>	Long-eared Owl	S4							PO	CO								M
<i>Asio flammeus</i>	Short-eared Owl	S2N, S4B	SC	SC	Schedule 3	PR					PO							GL, WM, WT
<i>Aegolius acadicus</i>	Northern Saw-whet Owl	S4				PR		PR	CO		PO							M
Alcedinidae	Kingfishers																	
<i>Megaceryle alcyon</i>	Belted Kingfisher	S4B				CO	PR	PR	CO	PR	PR	CO		PO	CO	X		L, R
Picidae	Woodpeckers																	
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	S4B	SC	T	Schedule 1											X		OW
<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	S5B				CO	PR	CO	CO		PO	CO						M
<i>Picoides pubescens</i>	Downy Woodpecker	S5				CO	CO	CO	CO	PR		CO	PO		CO	X		OW
<i>Picoides villosus</i>	Hairy Woodpecker	S5				CO	PR	CO	CO	CO	PO	CO	PO	CO	CO	X		M, ED, B
<i>Picoides arcticus</i>	Black-backed Woodpecker	S4						PO								X		M, B
<i>Colaptes auratus</i>	Northern Flicker	S4B				CO	CO	CO	CO	CO	CO	CO	PR	CO	CO	X		OW
<i>Dryocopus pileatus</i>	Pileated Woodpecker	S5				CO	PR	PR	PO	PO				PO		X		M
Falconidae	Caracaras & Falcons																	
<i>Falco sparverius</i>	American Kestrel	S4				CO	CO	CO	CO	CO	CO	CO	PR	PO	PO			OP
<i>Falco columbarius</i>	Merlin	S5B	NAR	NAR		CO	PR	PR	CO	CO		PO	PO	CO		X		OP, M, ED
<i>Falco peregrinus anatum/tundrius</i>	Peregrine Falcon	S3B	SC	SC	Schedule 1				CO		PR			CO			X	OP
Tyrannidae	Tyrant Flycatchers																	
<i>Contopus cooperi</i>	Olive-sided Flycatcher	S4B	SC	T	Schedule 1	CO	PR		PO			PO						OW, B
<i>Contopus virens</i>	Eastern Wood-Pewee	S4B	SC	SC		PR			PR									OW
<i>Empidonax alnorum</i>	Alder Flycatcher	S5B				PR	CO	CO	PR	CO	PO	CO	PO	PR	PO			SB, SG, L
<i>Empidonax traillii</i>	Willow Flycatcher	S5B										PO			PO			SB, SG
<i>Empidonax minimus</i>	Least Flycatcher	S4B				PR	PR	PR	CO	PR	PO		PO	PR	PR			OW, SG
<i>Sayornis phoebe</i>	Eastern Phoebe	S5B				CO	CO	CO	CO	CO	PO		PO	CO	PO			SB
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	S4B				CO	PR	PR	CO	PR		PO		PR				M
<i>Tyrannus tyrannus</i>	Eastern Kingbird	S4B				CO	PR	CO	CO	CO	PR	CO	CO	CO	PO			OP
Laniidae	Shrikes																	
<i>Lanius excubitor</i>	Northern Shrike	SNA														X		OW, OP
Vireonidae	Vireos																	
<i>Vireo solitarius</i>	Blue-headed Vireo	S5B					PR	PR	PO			PO	PO					OW
<i>Vireo philadelphicus</i>	Philadelphia Vireo	S5B					PO	PR	PR		PO		PO	PR				OW, ED, SG
<i>Vireo gilvus</i>	Warbling Vireo	S5B				PO	PR		CO	PR	PO	PR		PR	PR			OW, ED
<i>Vireo olivaceus</i>	Red-eyed Vireo	S5B				PR	CO	CO	CO	CO	PR	PR	PR	CO	PR			M, SG
Corvidae	Crows & Jays																	
<i>Perisoreus canadensis</i>	Gray Jay	S5				CO	PR	CO								X		M, ED
<i>Cyanocitta cristata</i>	Blue Jay	S5				CO	CO	CO	PR	CO	PO	PR		CO		X		M, ED
<i>Corvus brachyrhynchos</i>	American Crow	S5B				CO	CO	CO	CO	CO	CO	CO	PR	CO	CO	X		OP, M, ED, L, WM, SH

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						17MM73	17MM83	17MM93	17MM84	17MM94	17MM95	17NM06	17NM05	17NM04	17NM15	2006 to 2015		
<i>Corvus corax</i>	Common Raven	S5				CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	X		OP, M, ED
Alaudidae	Larks																	
<i>Eremophila alpestris</i>	Horned Lark	S5B														X		OP
Hirundinidae	Swallows																	
<i>Tachycineta bicolor</i>	Tree Swallow	S4B				CO	CO	CO	CO	CO	CO	CO	PR	CO	CO			WT, L, WM
<i>Riparia riparia</i>	Bank Swallow	S4B	THR	T		PO			CO	CO								OP
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	S4B				CO			CO		PR							OP, WT, L
<i>Hirundo rustica</i>	Barn Swallow	S4B	THR	T		CO		CO	CO	CO	CO	CO						OP, WT, L
Paridae	Chickadees & Titmice																	
<i>Poecile atricapillus</i>	Black-capped Chickadee	S5				CO	CO	CO	CO	CO	PO	CO	PR	CO	PR	X		M, ED, SG, SB
<i>Poecile hudsonicus</i>	Boreal Chickadee	S5														X		M
Sittidae	Nuthatches																	
<i>Sitta canadensis</i>	Red-breasted Nuthatch	S5				CO	PR	PR	PO	PR	PO	PR		CO		X		M
<i>Sitta carolinensis</i>	White-breasted Nuthatch	S5					PR	PR	CO	PR		PR				X		M
Certhiidae	Creepers																	
<i>Certhia americana</i>	Brown Creeper	S5B				PO						PO						M
Troglodytidae	Wrens																	
<i>Troglodytes aedon</i>	House Wren	S5B					PR	PR	PO	PO	PO			CO				SB, OW, B
<i>Troglodytes hiemalis</i>	Winter Wren	S5B					PR	PR		PO	PO							M
<i>Cistothorus palustris</i>	Marsh Wren	S4B						PR							PO			WT
<i>Thryothorus ludovicianus</i>	Carolina Wren	S4														X		OW, SB
Regulidae	Kinglets																	
<i>Regulus satrapa</i>	Golden-crowned Kinglet	S5B				PR	PR					PO						M
<i>Regulus calendula</i>	Ruby-crowned Kinglet	S4B				PO	PR	PR				PO						M
Turdidae	Thrushes																	
<i>Sialia sialis</i>	Eastern Bluebird	S5B	NAR	NAR		CO		PR	CO		PR	CO						OW, B, OP, ED
<i>Catharus fuscescens</i>	Veery	S4B				PR	PR	CO	PR	PR	PR	PO	PO	PR	PR			OW, SG
<i>Catharus ustulatus</i>	Swainson's Thrush	S4B						PR			PO	PO						SB, SG
<i>Catharus guttatus</i>	Hermit Thrush	S5B				CO	CO	PR	CO	PR	PR	PO	PO	CO	PR	X		M, B, SG
<i>Turdus migratorius</i>	American Robin	S5B				CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	X		OW, OP, GL, SG
Mimidae	Mockingbirds, Thrashers & Allies																	
<i>Dumetella carolinensis</i>	Gray Catbird	S4B				PO	PR	PR	PR	PR	PO	PO		CO	PR	X		SB, ED
<i>Toxostoma rufum</i>	Brown Thrasher	S4B				CO		PR	PR	PR	PO	PR	PO	CO	CO			SB, ED, SG
<i>Mimus polyglottos</i>	Northern Mockingbird	S4								CO		PR			PR	X		SB
Sturnidae	Starlings																	
<i>Sturnus vulgaris</i>	European Starling	SNA				CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	X		D, OP
Bombycillidae	Waxwings																	
<i>Bombycilla garrulus</i>	Bohemian Waxwing	SNA														X		M, SB

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<i>Bombycilla cedrorum</i>	Cedar Waxwing	S5B				CO	PR	PR	CO	PR	PR	PR	CO	CO	PR			OW, SB
Passeridae	Old World Sparrows																	
<i>Passer domesticus</i>	House Sparrow	SNA										PR				X		D, OP
Fringillidae	Finches & Allies																	
<i>Pinicola enucleator</i>	Pine Grosbeak	S4B														X		OW
<i>Carpodacus purpureus</i>	Purple Finch	S4B				CO	PR	CO	PR	CO	PO	PR				X		OW
<i>Loxia curvirostra</i>	Red Crossbill	S4B							PO							X		OW
<i>Loxia leucoptera</i>	White-winged Crossbill	S5B						PR								X		OW
<i>Acanthis flammea</i>	Common Redpoll	S4B														X		OW, OP
<i>Acanthis hornemanni</i>	Hoary Redpoll	SNA														X		OW, OP
<i>Spinus pinus</i>	Pine Siskin	S4B				CO	PR	PR		PR	PO	PR				X		OW, SB
<i>Spinus tristis</i>	American Goldfinch	S5B				CO	PR	PR	CO	CO	PR	PR	PR	CO	CO	X		ED, OP, SB, SG
<i>Coccothraustes vespertinus</i>	Evening Grosbeak	S4B				CO		PO	CO			PR				X		OW, SG
Calcariidae	Longspurs & Snow Buntings																	
<i>Calcarius lapponicus</i>	Lapland Longspur	S3B														X		OP
<i>Plectrophenax nivalis</i>	Snow Bunting	SNA														X		OP
Parulidae	Wood Warblers																	
<i>Seiurus aurocapillus</i>	Ovenbird	S4B				CO	PR	PR	PR	CO	PO	PR	PR	CO	PO			M
<i>Parkesia noveboracensis</i>	Northern Waterthrush	S5B							PO									WT, WL
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	S4B	SC	T	Schedule 1	CO	CO											SB, ED, WT
<i>Mniotilta varia</i>	Black-and-white Warbler	S5B				CO	PR	PR	PO	PR	PO	PO			PO			M
<i>Oreothlypis peregrina</i>	Tennessee Warbler	S5B				PO	PO		PO									OW, SB, ED, WT
<i>Oreothlypis ruficapilla</i>	Nashville Warbler	S5B				CO	CO	CO	PR	CO	CO	PR	PR	PR	PO			SG
<i>Geothlypis philadelphia</i>	Mourning Warbler	S4B				CO	CO	CO	CO	CO	PR	PO	PO	PO	PO			SG, WT
<i>Geothlypis trichas</i>	Common Yellowthroat	S5B				CO	CO	CO	CO	CO	PR	PR	PO	CO	PR			WT, OP
<i>Setophaga ruticilla</i>	American Redstart	S5B				CO	CO	CO	CO	CO	PO	PR	PR	CO	PO			OW, SG
<i>Setophaga tigrina</i>	Cape May Warbler	S5B				PO												OW, ED
<i>Setophaga magnolia</i>	Magnolia Warbler	S5B				CO		PR	PR			PO		PR	PO			M, OW, ED, OP
<i>Setophaga fusca</i>	Blackburnian Warbler	S5B				PO			PO				PO					M
<i>Setophaga petechia</i>	Yellow Warbler	S5B				CO	PR	CO	PR	CO	PO	PR	PO	CO	PR			SB
<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler	S5B				CO	CO	CO	CO	CO	PO	PR	PR	CO	PR			SB, ED, SG
<i>Setophaga caerulea</i>	Black-throated Blue Warbler	S5B				PR	PR	PR		PR								M, SG
<i>Setophaga pinus</i>	Pine Warbler	S5B				PO		PR										M
<i>Setophaga coronata</i>	Yellow-rumped Warbler	S5B				PR	PR	PR	CO	PR	PO	PR	PR	CO	CO			OW, ED
<i>Setophaga virens</i>	Black-throated Green Warbler	S5B				PR	PR	PR		PR	PO		PO					OW, ED
<i>Cardellina canadensis</i>	Canada Warbler	S4B	SC	T	Schedule 1	PO	PR	CO		PR	PO							M, WT
<i>Cardellina pusilla</i>	Wilson's Warbler	S4B				PO	CO	PR	PO	CO	PO	PR			PO			WT, SG
Emberizidae	New World Sparrows & Allies																	
<i>Spizella arborea</i>	American Tree Sparrow	S4B														X		SB, OP
<i>Spizella passerina</i>	Chipping Sparrow	S5B				CO	CO	CO	CO	CO	CO	CO	PR	CO	CO	X		SB, ED, OP
<i>Pooecetes gramineus</i>	Vesper Sparrow	S4B				PO	PR		CO	CO	CO	PO	PO	CO	PO			OP, ED
<i>Passerculus sandwichensis</i>	Savannah Sparrow	S4B				CO	CO	CO	CO	CO	PO	CO	PR	CO	CO			OP, GL, WM

Table B1: Bird Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	OBBA ⁵										Sudbury CBC ⁶ 2006 to 2015	NHIC Data ⁷	Habitat Preference
						17MM73	17MM83	17MM93	17MM84	17MM94	17MM95	17NM06	17NM05	17NM04	17NM15			
<i>Passerella iliaca</i>	Fox Sparrow	S4B														X		SB, ED
<i>Melospiza melodia</i>	Song Sparrow	S5B				CO	CO	CO	CO	CO	PR	CO	CO	CO	PR	X		SB, ED
<i>Melospiza lincolni</i>	Lincoln's Sparrow	S5B				PO			CO			PO	PO					WT, SB, OP, ED
<i>Melospiza georgiana</i>	Swamp Sparrow	S5B				CO	CO	CO	CO	CO	PO	PR	PR	CO	PR			WT, SB, OW
<i>Zonotrichia albicollis</i>	White-throated Sparrow	S5B				PR	CO	CO	CO	CO	PO	CO	PR	CO	PR	X		ED, OW, SB
<i>Junco hyemalis</i>	Dark-eyed Junco	S5B				PO	CO	CO	CO	PR	PO	PO		PR	PR	X		OW, OP, SB, B
Cardinalidae	Cardinals, Grosbeaks & Allies																	
<i>Piranga olivacea</i>	Scarlet Tanager	S4B				CO			PO	PO								M
<i>Cardinalis cardinalis</i>	Northern Cardinal	S5				PR	PR									X		SB, ED
<i>Phoeucticus ludovicianus</i>	Rose-breasted Grosbeak	S4B				CO	PR	PR	PR			PR		PO				M, SG, ED
<i>Passerina cyanea</i>	Indigo Bunting	S4B				PR	CO	CO	CO	CO	PO	PO		CO	PR			M, ED, SG, SB
Icteridae	Blackbirds																	
<i>Dolichonyx oryzivorus</i>	Bobolink	S4B	THR	T	No Schedule	CO					PO	CO		PR				GL, OP
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	S4				PR	CO	CO	CO	CO	PR	PR	PR	CO	CO	X		WT, OP
<i>Sturnella magna</i>	Eastern Meadowlark	S4B	THR	T	No Schedule	CO				PR		PO						GL, OP
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	S4B								CO		PO				X		OP, SB, WT
<i>Quiscalus quiscula</i>	Common Grackle	S5B				CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	X		OP, WT, OW
<i>Molothrus ater</i>	Brown-headed Cowbird	S4B				PR	PR	PR	CO	PR	PO	PR		PR	CO			OP
<i>Icterus galbula</i>	Baltimore Oriole	S4B				CO	PR	PR	CO	PR	CO			CO	PR			OP, OW
Total						123	97	103	109	104	86	99	67	86	65	85	1	

¹MNRF 2014; ²MNRF 2016; ³COSEWIC 2016; ⁴Government of Canada 2016; ⁵Cadman et al. 2007; ⁶Audubon 2017; ⁷OMN

LEGEND		
SRANK	COSEWIC	Habitat Preference
S1 Critically Imperiled	E Endangered	B burntlands
S2 Imperiled	T Threatened	D developed areas
S3 Vulnerable	SC Special Concern	ED edge, hedgerows, scattered trees
S4 Apparently Secure	NAR Not at Risk	GL grassland
S5 Secure	DD Data Deficient	L lakes, ponds, calm water
SU Unrankable	XT Extirpated	M mature dense woodland
SNA Unranked	SARA Schedule	OP open field
SX Presumed Extirpated	Schedule 1 Officially Protected	OW open woodland
SH Possibly Extirpated (Historical)	under SARA	R rivers, streams, flowing water
S#? Rank Uncertain	Breeding Evidence Codes	SB shrubland, thickets
COSSARO	OB Observed	SG second growth, immature woods
END Endangered	PO Possible	SH shoreline
THR Threatened	PR Probable	SL shallow water
SC Special Concern	CO Confirmed	WM wet meadows
NAR Not at Risk		WT wetlands - swamps, marshes, bogs, fens
DD Data Deficient		
EXP Extirpated		

Table B2: Reptile and Amphibian Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	Ontario Reptile and Amphibian Atlas ⁵										NHIC Data ⁶	NDCA ⁷
						17MM73	17MM83	17MM93	17MM84	17MM94	17NM04	17MM95	17NM05	17NM06	17NM15		
Turtles																	
<i>Chelydra serpentina serpentina</i>	Snapping Turtle	S3	SC	SC	Schedule 1	X	X	X	X	X	X		X		X	X	X
<i>Chrysemys picta marginata</i>	Midland Painted Turtle	S5				X	X	X	X	X	X	X	X	X	X		X
<i>Emydoidea blandingii</i>	Blanding's Turtle (<i>Great Lakes/St Lawrence population</i>)	S3	THR	T	Schedule 1	X		X	X	X	X		X	X		X	X
<i>Graptemys geographica</i>	Northern Map Turtle	S3	SC	SC	Schedule 1						X						
Lizards																	
<i>Plestiodon fasciatus</i>	Common Five-lined Skink (<i>Southern Shield population</i>)	S3	SC	SC	Schedule 1												X
Snakes																	
<i>Diadophis punctatus edwardsi</i>	Northern Ring-necked Snake	S4							X		X						
<i>Lampropeltis taylori triangulum</i>	Eastern Milksnake	S4	NAR	SC			X	X	X	X	X		X				
<i>Opheodrys vernalis</i>	Smooth Greensnake	S4				X		X	X		X	X	X	X			X
<i>Nerodia sipedon sipedon</i>	Common Watersnake	S5	NAR	NAR				X			X						
<i>Sistrurus catenatus catenatus</i> pop. 1	Eastern Massasauga Rattlesnake (<i>Great Lakes/St. Lawrence po</i>	S3	THR	T	Schedule 1			X									
<i>Storeria dekayi wrightorum</i>	Midland Brownsnake	SU															
<i>Storeria dekayi dekayi</i>	Northern Brownsnake	S5	NAR	NAR													
<i>Storeria occipitomaculata occipitomaculata</i>	Northern Red-bellied Snake	S5						X	X		X		X	X	X		
<i>Thamnophis sauritus septentrionalis</i>	Eastern Ribbonsnake	S3	SC	SC	Schedule 1												X
<i>Thamnophis sirtalis sirtalis</i>	Eastern Gartersnake	S5				X		X	X	X	X	X	X	X	X		X
Salamanders																	
<i>Ambystoma</i> hybrid pop. 3	Jefferson/Blue-spotted Salamander Complex	S2				X	X				X		X				
<i>Ambystoma laterale</i>	Blue-spotted Salamander	S4				X											X
<i>Ambystoma maculatum</i>	Spotted Salamander	S4						X									
<i>Plethodon cinereus</i>	Eastern Red-backed Salamander	S5						X	X		X						
Toads and Frogs																	
<i>Anaxyrus americanus</i>	American Toad	S5				X		X	X	X	X		X		X		X
<i>Hyla versicolor</i>	Tetraploid Gray Treefrog	S5				X		X	X	X	X	X	X	X	X		
<i>Pseudacris crucifer</i>	Spring Peeper	S5				X		X	X	X	X	X	X	X	X		X
<i>Lithobates catesbeiana</i>	American Bullfrog	S4				X		X	X	X	X		X				X
<i>Lithobates clamitans melanota</i>	Northern Green Frog	S5				X		X	X	X	X	X	X				X
<i>Lithobates palustris</i>	Pickerel Frog	S4	NAR	NAR		X											X
<i>Lithobates pipiens</i>	Northern Leopard Frog	S5	NAR	NAR		X		X	X	X	X	X	X	X	X		X
<i>Lithobates septentrionalis</i>	Mink Frog	S5				X		X	X	X		X	X		X		
<i>Lithobates sylvatica</i>	Wood Frog	S5				X		X	X	X	X		X	X	X		X
Total						16	4	19	17	13	19	8	16	9	10	2	15

¹MNRF 2014; ²MNRF 2016; ³COSEWIC 2016; ⁴Government of Canada 2016; ⁵Ontario Nature 2013; ⁶OMNR 2013c; ⁷NDCA 1980

Legend		
SRANK	COSSARO	COSEWIC
S1 Critically Imperiled	END Endangered	E Endangered
S2 Imperiled	THR Threatened	T Threatened
S3 Vulnerable	SC Special Concern	SC Special Concern
S4 Apparently Secure	NAR Not at Risk	NAR Not at Risk
S5 Secure	DD Data Deficient	DD Data Deficient
SU Unrankable	EXP Extirpated	XT Extirpated
SNA Unranked	SARA Schedule	
SX Presumed Extirpated	Schedule 1 Officially Protected under SARA	
SH Possibly Extirpated (Historical)		
S#? Rank Uncertain		

Table B3: Butterfly Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	TEA Atlas ⁵ (17MM73)	TEA Atlas ⁵ (17MM93)	TEA Atlas ⁵ (17MM84)	TEA Atlas ⁵ (17MM94)	TEA Atlas ⁵ (17MM95)	TEA Atlas ⁵ (17NM04)	TEA Atlas ⁵ (17NM05)	TEA Atlas ⁵ (17NM06)	TEA Atlas ⁵ (17NM15)	NHIC Data ⁶
Hesperiidae	Skippers														
<i>Amblyscirtes hegon</i>	Pepper and Salt Skipper	S4				X									
<i>Ancyloxypha numitor</i>	Least Skipper	S5									X				
<i>Carterocephalus palaemon</i>	Arctic Skipper	S5							X				X		
<i>Erynnis icelus</i>	Dreamy Duskywing	S5				X		X	X						
<i>Erynnis juvenalis</i>	Juvenal's Duskywing	S5					X								
<i>Euphyes vestris</i>	Dun Skipper	S5					X								
<i>Hesperia comma</i>	Common Branded Skipper (Laurentian Skipper)	S4S5												X	
<i>Hesperia leonardus</i>	Leonard's Skipper	S4						X	X						
<i>Poanes hobomok</i>	Hobomok Skipper	S5					X	X	X		X		X		
<i>Polites mystic</i>	Long Dash Skipper	S5							X						
<i>Polites peckius</i>	Peck's Skipper	S5					X		X						
<i>Thorybes pylades</i>	Northern Cloudywing	S5							X						
<i>Thymelicus lineola</i>	European Skipper	SNA				X		X			X				
Papilionidae	Swallowtails														
<i>Papilio canadensis</i>	Canadian Tiger Swallowtail	S5						X			X		X		
Pieridae	Whites and Sulphurs														
<i>Colias interior</i>	Pink-edged Sulphur	S5						X			X				
<i>Colias philodice</i>	Clouded Sulphur	S5						X	X		X				
<i>Pieris oleracea</i>	Mustard White	S4							X						
<i>Pieris rapae</i>	Cabbage White	SNA				X		X			X				
Lycaenidae	Harvesters, Coppers, Hairstreaks, Blues														
<i>Celastrina lucia</i>	Northern Spring Azure	S5				X	X	X	X						
<i>Cupido amyntula</i>	Western Tailed Blue	S3S4							X						
<i>Finiseca tarquinius</i>	Harvester	S4							X		X		X		
<i>Glaucopsyche lygdamus</i>	Silvery Blue	S5							X		X	X	X		
<i>Lycaena dorcas</i>	Dorcas Copper	S5						X							
<i>Lycaena helliodes</i>	Purplish Copper	S3													X
<i>Satyrus acadica</i>	Acadian Hairstreak	S4							X						
<i>Satyrus calanus</i>	Banded Hairstreak	S4									X				
<i>Satyrus liparops</i>	Striped Hairstreak	S5						X		X					
Nymphalidae	Brush-footed Butterflies														
<i>Aglais milberti</i>	Milbert's Tortoiseshell	S5						X							
<i>Boloria bellona</i>	Meadow Fritillary	S5							X						
<i>Boloria selene</i>	Silver-bordered Fritillary	S5							X				X		
<i>Cercyonis pegala</i>	Common Wood-Nymph	S5				X		X	X				X		
<i>Chlosyne harrisii</i>	Harris's Checkerspot	S4						X	X	X					
<i>Chlosyne nycteis</i>	Silvery Checkerspot	S5							X						
<i>Coenonympha tullia</i>	Common Ringlet	S5						X							
<i>Danaus plexippus</i>	Monarch	S2N, S4B	SC	SC	Schedule 1				X		X				
<i>Erebia discaudalis</i>	Red-disked Alpine	S3							X						
<i>Lethe anthedon</i>	Northern Pearly-Eye	S5						X	X		X				
<i>Lethe eurydice</i>	Eyed Brown / Northern Eyed Brown	S5									X				
<i>Limnitis archippus</i>	Viceroy	S5							X						
<i>Limnitis arthemis arthemis</i>	White Admiral/Banded Purple	S5					X	X	X		X				
<i>Megisto cymela</i>	Little Wood-Satyr	S5				X		X	X		X				

Table B3: Butterfly Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	TEA Atlas ⁵ (17MM73)	TEA Atlas ⁵ (17MM93)	TEA Atlas ⁵ (17MM84)	TEA Atlas ⁵ (17MM94)	TEA Atlas ⁵ (17MM95)	TEA Atlas ⁵ (17NM04)	TEA Atlas ⁵ (17NM05)	TEA Atlas ⁵ (17NM06)	TEA Atlas ⁵ (17NM15)	NHIC Data ⁶
<i>Nymphalis antiopa</i>	Mourning Cloak	S5							X		X				
<i>Phyciodes batesii</i>	Tawny Crescent	S4				X									
<i>Phyciodes cocyta</i>	Northern Crescent	S5				X			X						
<i>Polygonia faunus</i>	Green Comma	S4							X						
<i>Polygonia interrogationis</i>	Question Mark	S5									X				
<i>Polygonia progne</i>	Grey Comma	S5							X						
<i>Speyeria aphrodite</i>	Aphrodite Fritillary	S5					X								
<i>Speyeria atlantis</i>	Atlantis Fritillary	S5					X								
<i>Speyeria cybele</i>	Great Spangled Fritillary	S5					X				X				
<i>Vanessa atalanta</i>	Red Admiral	S5						X			X				
<i>Vanessa virginiensis</i>	American Lady	S5							X		X				
Total						9	9	19	30	2	20	1	7	1	1

¹MNRF 2014; ²MNRF 2016; ³COSEWIC 2016; ⁴Government of Canada 2016; ⁵Jones et al 2016; ⁶OMNR 2013c

LEGEND		
SRANK	COSSARO	COSEWIC
S1 Critically Imperiled	NAR Not at Risk	NAR Not at Risk
S2 Imperiled	SC Special Concern	SC Special Concern
S3 Vulnerable	THR Threatened	T Threatened
S4 Apparently Secure	END Endangered	E Endangered
S5 Secure	EXP Extirpated	XT Extirpated
SU Unrankable	DD Data Deficient	DD Data Deficient
SNA Unranked	SARA Schedule	
SX Presumed Extirpated	Schedule 1 Officially Protected under SARA	
SH Possibly Extirpated (Historical)		
S#? Rank Uncertain		

Table B4: Mammal Species Reported From the Study Area

[illegible]

Table B4: Mammal Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	Ontario Mammal Atlas ⁵	NHIC Data ⁶	NDCA ⁷	Laurentian University ⁸	
Carnivora	Carnivores									
<i>Canis latrans</i>	Coyote	S5				X				
<i>Canis lupus occidentalis</i>	Northern Gray Wolf	S4		NAR		X		X		
<i>Lontra canadensis</i>	North American River Otter	S5				X		X		
<i>Lynx canadensis</i>	Canada Lynx	S5	NAR	NAR		X				
<i>Lynx rufus</i>	Bobcat	S4				X				
<i>Martes americana</i>	American Marten	S5				X		X		
<i>Martes pennanti</i>	Fisher	S5				X		X		
<i>Mephitis mephitis</i>	Striped Skunk	S5				X				
<i>Mustela erminea</i>	Ermine	S5				X		X		
<i>Mustela frenata</i>	Long-tailed Weasel	S4				X		X		
<i>Mustela vison</i>	American Mink	S4				X		X		
<i>Procyon lotor</i>	Northern Raccoon	S5				X				
<i>Ursus americanus</i>	American Black Bear	S5	NAR	NAR		X				
<i>Vulpes vulpes</i>	Red Fox	S5				X		X		
Artiodactyla	Deer and Bison									
<i>Alces americanus</i>	Moose	S5				X		X		
<i>Odocoileus virginianus</i>	White-tailed Deer	S5				X		X		
						Total	46	0	36	9

¹MNRF 2014; ²MNRF 2016; ³COSEWIC 2016; ⁴Government of Canada 2016; ⁵Dobbyn 1994; ⁶OMNR 2013c; ⁷Nickel District Conservation Authority 1980; ⁸Robitaille and Linlay 2005

Legend
SRANK
S1 Critically Imperiled
S2 Imperiled
S3 Vulnerable
S4 Apparently Secure
S5 Secure
SU Unrankable
SNA Unranked
SX Presumed Extirpated
SH Possibly Extirpated (Historical)
S#? Rank Uncertain
COSSARO
NAR Not at Risk
SC Special Concern
THR Threatened
END Endangered
EXP Extirpated
DD Data Deficient
COSEWIC
NAR Not at Risk
SC Special Concern
T Threatened
E Endangered
XT Extirpated
DD Data Deficient

Table B5: Dragonfly and Damselfly Species Reported From the Study Area

Scientific Name	Common Name	SRANK ¹	SARO ²	COSEWIC ³	SARA Schedule ⁴	Odonate Atlas ⁵	NRSI Observed
Coenagrionidae	Narrow-winged Damselflies						
<i>Enallagma ebrium</i>	Marsh Bluet	S5				X	
Gomphidae	Clubtails						
<i>Dromogomphus spinosus</i>	Black-shouldered Spinyleg	S5				X	
<i>Gomphus exilis</i>	Lancet Clubtail	S5				X	
Cordulegasteridae	Spiketails						
<i>Cordulegaster maculata</i>	Twin-spotted Spiketail	S4				X	
Corduliidae	Emeralds						
<i>Cordulia shurtleffii</i>	American Emerald	S5				X	
<i>Epithea canis</i>	Beaverpond Baskettail	S5				X	
<i>Epithea pinceps</i>	Prince Baskettail	S5				X	
<i>Epithea spinigera</i>	Spiny Baskettail	S5				X	
Libellulidae	Skimmers						
<i>Erythemis simplicicollis</i>	Eastern Pondhawk	S5				X	
<i>Leucorrhinia frigida</i>	Frosted Whiteface	S5				X	
<i>Leucorrhinia glacialis</i>	Crimson-ringed Whiteface	S4				X	
<i>Leucorrhinia hudsonica</i>	Hudsonian Whiteface	S5				X	
<i>Leucorrhinia proxima</i>	Red-waisted (Belted) Whiteface	S5				X	
<i>Libellula quadrimaculata</i>	Four-spotted Skimmer	S5				X	
<i>Sympetrum obtrusum</i>	White-faced Meadowhawk	S5				X	
<i>Sympetrum vicinum</i>	Yellow-legged (Banded) Meadowhawk	S5				X	
						Total	0

¹MNRF 2014; ²MNRF 2016; ³COSEWIC 2016; ⁴Government of Canada 2016; ⁵OMNR 2005

LEGEND		
SRANK	COSSARO	COSEWIC
S1 Critically Imperiled	NAR Not at Risk	NAR Not at Risk
S2 Imperiled	SC Special Concern	SC Special Concern
S3 Vulnerable	THR Threatened	T Threatened
S4 Apparently Secure	END Endangered	E Endangered
S5 Secure	EXP Extirpated	XT Extirpated
SU Unrankable	DD Data Deficient	DD Data Deficient
SNA Unranked		
SX Presumed Extirpated		
SH Possibly Extirpated (Historical)		
S#? Rank Uncertain		

Table B6: Fish Species Known Within the Junction Creek Subwatershed Study Area

Fish Species		Thermal Regime ⁷	Waterbody
Black Crappie	<i>Pomoxis nigromaculatus</i> ⁵	Coolwater	Ramsey Lake
Blacknose Shiner	<i>Notropis heterolepis</i> ^{2,3,4}	Coolwater	Junction Creek, Maley Branch (above dam), Nepahwin Lake
Bluegill	<i>Lepomis macrochirus</i> ²	Warmwater	St. Charles Lake
Bluntnose Minnow	<i>Pimephales notatus</i> ²	Warmwater	Kelly Lake
Brassy Minnow	<i>Hybognathus hankinsoni</i> ^{1,3,6}	Coolwater	Junction Creek, Maley Branch (above dam), Nolin Creek
Brook Stickleback	<i>Culaea inconstans</i> ^{1,2,3,4,5,6}	Coolwater	Junction Creek, Maley Branch (above and below dam), Frood Branch (above and below dam), Kelly Lake, Bennett Lake
Brook Trout	<i>Salvelinus fontinalis</i> ^{1,3}	Coldwater	Junction Creek
Brown Bullhead	<i>Ameiurus nebulosus</i> ^{1,2,3,4,5,6}	Warmwater	Junction Creek, Maley Branch (above and below dam), Frood Branch (below dam), Kelly Lake, Ramsey Lake, Bethel Lake, Minnow Lake, Bennett Lake, Nepahwin Lake, Still Lake, St. Charles Lake, Robinson Lake, Silver Lake, Middle Lake, Hannah Lake
Central Mudminnow	<i>Umbra limi</i> ^{1,2,3,4,6}	Coolwater	Junction Creek, Maley Branch (above and below dam), Frood Branch (below dam), Kelly Lake
Common Shiner	<i>Luxilus cornutus</i> ^{1,3,4,6}	Coolwater	Junction Creek, Maley Branch (above and below dam)
Creek Chub	<i>Semotilus atromaculatus</i> ^{1,3,4, 5,6}	Coolwater	Junction Creek, Maley Branch (below dam), Frood Branch (below dam), Nolin Creek, Kelly Lake, Silver Lake, Hannah Lake
Emerald Shiner	<i>Notropis atherinoides</i> ⁵	Coolwater	Kelly Lake
Fathead Minnow	<i>Pimephales promelas</i> ^{1,2,3,4,5}	Warmwater	Junction Creek, Maley Branch (above and below dam), Frood Branch (below dam), Kelly Lake, Minnow Lake, Silver Lake, Bethel Lake
Finescale Dace	<i>Chrosomus neogaeus</i> ¹	Coolwater	Junction Creek, Maley Branch (above dam), Silver Lake
Golden Shiner	<i>Notemigonus crysoleucas</i> ^{1,2,3,5,6}	Coolwater	Junction Creek, Maley Branch, Nolin Creek, Kelly Lake, Ramsey Lake, Minnow Lake, Bethel Lake, Middle Lake, Nepahwin Lake, Still Lake, Hannah Lake
Iowa Darter	<i>Etheostoma exile</i> ^{1,2,3,4,5,6}	Coolwater	Junction Creek, Maley Branch (above and below dam), Frood Branch (below dam), Kelly Lake, Minnow Lake, Bethel Lake, Middle Lake, Hannah Lake, Crooked Lake, Robinson Lake, St. Charles Lake

Table B6: Fish Species Known Within the Junction Creek Subwatershed Study Area

Fish Species		Thermal Regime ⁷	Waterbody
Johnny Darter	<i>Etheostoma nigrum</i> ^{1, 2}	Coolwater	Kelly Lake, Middle Lake
Lake Chub	<i>Couesius plumbeus</i> ²	Coldwater	Silver Lake
Lake Trout	<i>Salvelinus namaycush</i> ⁵	Coldwater	Ramsey Lake, Nepahwin Lake
Northern Pike	<i>Esox lucius</i> ^{2,5}	Coolwater	Kelly Lake, Ramsey Lake, Minnow Lake, Bethel Lake, Laurentian Lake, Nepahwin Lake, Still Lake, St. Charles Lake, Robinson Lake, Silver Lake, Middle Lake, Hannah Lake
Northern Redbelly Dace	<i>Chrosomus eos</i> ^{1,3,4,5,6}	Coolwater	Junction Creek, Maley Branch (above and below dam), Frood Branch (below dam) , Middle Lake, Still Lake, Silver Lake
Pearl Dace	<i>Margariscus margarita</i> ^{1, 2,3,4,6}	Coolwater	Junction Creek, Maley Branch (above and below dam) , Kelly Lake, Silver Lake
Pumpkinseed	<i>Lepomis gibbosus</i> ^{2,5}	Warmwater	Kelly Lake, Ramsey Lake, Minnow Lake, Nepahwin Lake, St. Charles Lake, Robinson Lake, Middle Lake, Hannah Lake, Still Lake
Rainbow Smelt	<i>Osmerus mordax</i> ^{2,5}	Coldwater	Kelly Lake, Nepahwin Lake
Rock Bass	<i>Ambloplites rupestris</i> ^{2,5}	Coolwater	Kelly Lake, Ramsey Lake, Minnow Lake, Nepahwin Lake, Robinson Lake
Smallmouth Bass	<i>Micropterus dolomieu</i> ^{2,5}	Coolwater	Ramsey Lake, Nepahwin Lake, Robinson Lake, Middle Lake, Hannah Lake
Splake	<i>Salvelinus namaycush</i> X <i>Salvelinus fontinalis</i> ^{2,5}	Coldwater	Nepahwin Lake
Spottail Shiner	<i>Notropis hudsonius</i> ²	Coolwater	Kelly Lake
Walleye	<i>Sander vitreus</i> ^{2,5}	Coolwater	Kelly Lake, Ramsey Lake, St. Charles Lake, Robinson Lake, Middle Lake
White Sucker	<i>Catostomus commersonii</i> ^{1,2,3,4,5,6}	Coolwater	Junction Creek, Maley Branch (above and below dam), Nolin Creek , Kelly Lake, Ramsey Lake, Minnow Lake, Bethel Lake, Nepahwin Lake, Still Lake, Robinson Lake
Yellow Perch	<i>Perca flavescens</i> ^{1,2,3,5,6}	Coolwater	Junction Creek, Maley Branch (above dam) , Kelly Lake, Ramsey Lake, Bethel Lake, Minnow Lake, Laurentian Lake, Nepahwin Lake, Still Lake, St. Charles Lake, Robinson Lake, Middle Lake, Hannah Lake

¹ Junction Creek Stewardship Committee (JCSC), 2009

² Greater Sudbury (GS), 2017

³ Lemieux et al., 2004

⁴ Sein, R., 1993

⁵ Poulin et al. undated

⁶ Cooperative Freshwater Ecology Unit (CFEU), 2015 & 2016

⁷ Eakins, R.J., 2017

Table B7: Species at Risk and Species of Conservation Concern Screening - Junction Creek Subwatershed Study

Common Name	Scientific Name	S-Rank ¹	COSSARO ²	COSEWIC ³	SARA ⁴	Background Source	Habitat Preference ^{5,6}
Herpetofauna							
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	S2	END	END	Schedule 1	Ontario Nature 2017	Damp shady deciduous forest, swamps, moist pasture, lakeshores; temporary woodland pools for breeding; hides under leaf litter, stones or in decomposing logs.
Snapping Turtle	<i>Chelydra serpentina serpentina</i>	S3	SC	SC	Schedule 1	Ontario Nature 2017, MNRF 2016	Permanent, semi-permanent fresh water; marshes, swamps or bogs; rivers and streams with soft muddy banks or bottoms; often uses soft soil or clean dry sand on south-facing slopes for nest sites; may nest at some distance from water; often hibernate together in groups in mud under water; home range size ~28 ha.
Blanding's Turtle	<i>Emydoidea blandingii</i>	S3	THR	THR	Schedule 1	Ontario Nature 2017, MNRF 2016	Shallow water marshes, bogs, ponds or swamps, or coves in larger lakes with soft muddy bottoms and aquatic vegetation; basks on logs, stumps, or banks; surrounding natural habitat is important in summer as they frequently move from aquatic habitat to terrestrial habitats; hibernates in bogs; not readily observed.
Northern Map Turtle	<i>Graptemys geographica</i>	S3	SC	SC	Schedule 1	Ontario Nature 2017	Large bodies of water with soft bottoms, and aquatic vegetation; basks on logs or rocks or on beaches and grassy edges, will bask in groups; uses soft soil or clean dry sand for nest sites; may nest at some distance from water; home range size is larger for females (about 70 ha) than males (about 30 ha) and includes hibernation, basking, nesting and feeding areas; aquatic corridors (e.g. stream) are required for movement; not readily observed.
Massasauga (Great Lakes / St. Lawrence population)	<i>Sistrurus catenatus pop. 1</i>	S3	THR	THR	No Schedule	Ontario Nature 2017	Use upland, old field in summer; marsh, shrub swamp or bog; rivers and streams that provide sedge or low vegetative growth; in fall and winter; hibernate underground in mammal burrows, under rotting stumps, in rock crevices.
Birds							
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	S4B	THR	THR	Schedule 1	BSC et al. 2006	Dry, open, deciduous woodlands of small to medium trees; oak or beech with lots of clearings and shaded leaf litter; wooded edges, forest clearings with little herbaceous growth; pine plantations; associated with >100 ha forests; may require 500 to 1000 ha to maintain population.
Short-eared Owl	<i>Asio flammeus</i>	S2N, S4B	SC	SC	Schedule 3	BSC et al. 2006	Grasslands, open areas or meadows that are grassy or bushy; marshes, bogs or tundra; both diurnal and nocturnal habits; ground nester; destruction of wetlands by drainage for agriculture is an important factor in the decline of this species; home range 25 -125 ha; requires 75-100 ha of contiguous open habitat.
Rough-legged Hawk	<i>Buteo lagopus</i>	S1B, S4N	NAR	NAR		Audubon 2017	Breed in tundra or taiga in arctic and subarctic Alaska and Canada. In winter, these hawks concentrate in open areas reminiscent of their tundra summer haunts, including pastures, marshy areas, and wet meadows and is found commonly throughout southern Ontario.
Canada Warbler	<i>Cardellina canadensis</i>	S4B	SC	T	Schedule 1	BSC et al. 2006	An interior forest species; dense, mixed coniferous, deciduous forests with closed canopy, wet bottomlands of cedar or alder; shrubby undergrowth in cool moist mature woodlands; riparian habitat; usually requires at least 30 ha.
Lapland Longspur	<i>Calcarius lapponicus</i>	S3B				Audubon 2017	Breeding distribution is widely distributed on well-vegetated arctic tundra across n. North America. in winter widespread in open habitats in temperate North America, including southern Ontario.
Chimney Swift	<i>Chaetura pelagica</i>	S4B, S4N	THR	THR	Schedule 1	BSC et al. 2006	Commonly found in urban areas near buildings; nests in hollow trees, crevices of rock cliffs, chimneys; highly gregarious; feeds over open water.

Table B7: Species at Risk and Species of Conservation Concern Screening - Junction Creek Subwatershed Study

Common Name	Scientific Name	S-Rank ¹	COSSARO ²	COSEWIC ³	SARA ⁴	Background Source	Habitat Preference ^{5,6}
Common Nighthawk	<i>Chordeiles minor</i>	S4B	SC	T	Schedule 1	BSC et al. 2006	Open ground; clearings in dense forests; ploughed fields; gravel beaches or barren areas with rocky soils; open woodlands; flat gravel roofs.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	S4B	SC	T	Schedule 1	BSC et al. 2006	Semi-open, conifer forest, prefers spruce; near pond, lake or river; treed wetlands for nesting; burns with dead trees for perching.
Eastern Wood-Pewee	<i>Contopus virens</i>	S4B	SC	SC		BSC et al. 2006	Open, deciduous, mixed or coniferous forest; predominated by oak with little understory; forest clearings, edges; farm woodlots, parks.
Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	THR	No Schedule	BSC et al. 2006	Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >50 ha.
Peregrine Falcon	<i>Falco peregrinus anatum/tundrius</i>	S3B	SC	SC	Schedule 1	BSC et al. 2006	Rock cliffs, crags, especially situated near water; tall buildings in urban centres; threatened by chemical contamination; reintroduction efforts have been attempted in numerous locations throughout Ontario.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	S2N, S4B	SC	NAR		BSC et al. 2006, Audubon 2017	Require large continuous area of deciduous or mixed woods around large lakes, rivers; require area of 255 ha for nesting, shelter, feeding, roosting; prefer open woods with 30 to 50% canopy cover; nest in tall trees 50 to 200 m from shore; require tall, dead, partially dead trees within 400 m of nest for perching; sensitive to toxic chemicals.
Great Black-backed Gull	<i>Larus marinus</i>	S2B				Audubon 2017	Breeds along the eastern coast of northern North America. Winters from Newfoundland, Great Lakes, and Gulf of St. Lawrence south throughout breeding range and south along Atlantic Coast to at least central Florida. Winters in interior eastern North America at large lakes, landfills, and along major rivers.
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	S4B	SC	T	Schedule 1	BSC et al. 2006	Open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; feeds on insects and stores nuts or acorns for winter; loss of habitat is limiting factor; requires cavity trees with at least 40 cm dbh; require about 4 ha for a territory.
Barn Swallow	<i>Regina septemvittata</i>	S4B	THR	THR	No Schedule	BSC et al. 2006	Farmlands or rural areas; cliffs, caves, rock niches; buildings or other man-made structures for nesting; open country near body of water.
Red-necked Grebe	<i>Podiceps grisegena</i>	S3B, S4N	NAR	NAR		BSC et al. 2006	Permanent freshwater lakes with a fringe of aquatic emergent vegetation; marshes, impoundments or sewage lagoons with > 4 ha of open water; protected marshy areas or bays in larger lakes; nest greatly affected by wave action of boats and other human disturbances.
Bank Swallow	<i>Riparia riparia</i>	S4B	THR	THR	No Schedule	BSC et al. 2006	Sand, clay or gravel river banks or steep riverbank cliffs; lakeshore bluffs of easily crumbled sand or gravel; gravel pits, road-cuts, grassland or cultivated fields that are close to water; nesting sites are limiting factor for species presence.
Eastern Meadowlark	<i>Sturnella magna</i>	S4B	THR	THR	No Schedule	MNRF 2016, BSC et al. 2006	Open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees; old orchards with adjacent, open grassy areas >10 ha in size.
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	S4B	SC	T	Schedule 1	BSC et al. 2006	Early successional habitat; shrubby, grassy abandoned fields with small deciduous trees bordered by low woodland and wooded swamps; alder bogs; deciduous, damp woods; shrubby clearings in deciduous woods with saplings and grasses; brier-woodland edges; requires >10 ha of habitat.

Table B7: Species at Risk and Species of Conservation Concern Screening - Junction Creek Subwatershed Study

Common Name	Scientific Name	S-Rank ¹	COSSARO ²	COSEWIC ³	SARA ⁴	Background Source	Habitat Preference ^{5 6}
Mammals							
Little Brown Myotis	<i>Myotis lucifugus</i>	S4	END	END	Schedule 1	Dobbyn 1994	Uses caves, quarries, tunnels, hollow trees or buildings for roosting; winters in humid caves; maternity sites in dark warm areas such as attics and barns; feeds primarily in wetlands, forest edges.
Northern Myotis	<i>Myotis septentrionalis</i>	S3	END	END	Schedule 1	Dobbyn 1994	Hibernates during winter in mines or caves; during summer males roost alone and females form maternity colonies of up to 60 adults; roosts in houses, manmade structures but prefers hollow trees or under loose bark; hunts within forests, below canopy.
Insects							
Western Tailed Blue	<i>Cupido amyntula</i>	S3S4				Jones et al. 2016	Favours forest clearings and shrub thickets.
Monarch	<i>Danaus plexippus</i>	S2N, S4B	SC	SC	Schedule 1	Jones et al. 2016	Open areas, such as meadows, roadsides, gardens and woodland clearings, where Common Milkweed is abundant.
Red-disked Alpine	<i>Erebia discoidalis</i>	S3				Jones et al. 2016	Open, grassy areas in Jack Pine forests, peatlands, clear cuts, and along hydro corridors and railways.
Fish							
Lake Sturgeon (Northwestern Ontario population)	<i>Acipenser fulvescens pop. 1</i>	S2	THR	END, SC	No Schedule		Bottom-dwelling fish found in large rivers and lakes, at depths generally between 5 and 10 m, sometimes greater. fast-flowing water at depths between 0.6 and 5 m over hard-pan clay, sand, gravel and boulders.
Lake Sturgeon (Great Lakes - Upper St. Lawrence River population)	<i>Acipenser fulvescens pop. 3</i>	S2	THR	THR	No Schedule		Bottom-dwelling fish found in large rivers and lakes, at depths generally between 5 and 10 m, sometimes greater. fast-flowing water at depths between 0.6 and 5 m over hard-pan clay, sand, gravel and boulders.
Eastern Sand Darter	<i>Ammocrypta pellucida</i>	S2	END	THR	Schedule 1		Sand-bottomed areas in streams and rivers, and sandy shoals in lakes; sandy portions of medium to large size streams with moderate current that maintain a silt-free condition without washing away sand; waters that are clear, tea-coloured and highly turbid.
American Eel	<i>Anguilla rostrata</i>	S1?	END	THR	No Schedule		In fresh water, can be found in lakes and rivers including all waters between the high-water mark down to at least a 10 m depth; uses substrate (rock, sand, mud), woody debris and submerged vegetation for protection and cover; in mud bottoms in bay and estuary habitats which contain eelgrass, rock outcrops and other benthic features.
Redside Dace	<i>Clinostomus elongatus</i>	S2	END	END	Schedule 3		Coolwater species found in pools and slow-mowing areas of small headwater streams with a moderate to high gradient; overhanging grasses and shrubs, as well as undercut banks, are an important part of their habitat, as are instream boulders and large woody debris. Substrate preference includes silt, gravel and boulders; shallow riffle areas.
Lake Ontario Kiyi	<i>Coregonus kiyi orientalis</i>	SX	EXT	EXT	No Schedule		Clear, cold-water environment at depths ranging from 35 to 200 m; arely found in waters less than 108 m deep; over lake bottoms of clay and mud substrates.
Shortnose Cisco	<i>Coregonus reighardi</i>	SH	END	END	Schedule 1		Deep waters.

Table B7: Species at Risk and Species of Conservation Concern Screening - Junction Creek Subwatershed Study

Common Name	Scientific Name	S-Rank ¹	COSSARO ²	COSEWIC ³	SARA ⁴	Background Source	Habitat Preference ^{5 6}
Shortjaw Cisco	<i>Coregonus zenithicus</i>	S2	THR	THR	Schedule 2		Found in the deeper waters of large lakes. It has been found at depths of between 55 to 114 m and moves between depths according to season; little is known about habitat preferences in smaller lakes.
Gravel Chub	<i>Erimystax x-punctatus</i>	SX	EXP	EXP	Schedule 1		Rivers that have a permanent flow, that are clear to slightly turbid, and that have bottoms free of unconsolidated silts and clays.
Lake Chubsucker	<i>Erimyzon sucetta</i>	S2	THR	END	Schedule 1		Clear, still waters with abundant aquatic plants such as marshes, stagnant bays, floodplain lakes and drainage ditches; substrates include gravel, sand and silt mixed with organic debris.
Cutlip Minnow	<i>Exoglossum maxillingua</i>	S1S2	THR	SC	No Schedule		Clear rivers and streams with little current, channel substrate composed of cobbles, gravel, sand, mud and aquatic vegetation.
Spotted Gar	<i>Lepisosteus oculatus</i>	S1	THR	END	Schedule 1		Quiet bays and backwater areas along Lake Erie's north shore; usually areas that have dense aquatic vegetation. Lake-bottom is composed of clays, organic debris and soft muck and tolerant to warm waters and low dissolved oxygen levels.
Warmouth	<i>Lepomis gulosus</i>	S1	END	END	Schedule 1		Conditions similar to those preferred by other sunfish species; deeper, open water of swamps, lakes lined with mud, silt or decayed organic matter, and sluggish streams and ponds; depths of 20 to 95 cm; found with warm-water species including Yellow Perch, Bowfin and Brown Bullhead.
Silver Chub	<i>Macrhybopsis storeriana</i>	S2	THR	END	No Schedule		Large lakes and connecting rivers at depths of 7.6–12 meters, although up to 20 meters; substrate is typically silt or sand, but also associated with hard substrates, such as gravel, rubble, boulder or bedrock; not typically associated with aquatic vegetation.
Black Redhorse	<i>Moxostoma duquesnei</i>	S2	THR	THR	No Schedule		Moderately sized rivers and streams, 25 to 130 m wide, up to 1.8 m in depth, and with generally moderate to fast currents; rarely found associated with aquatic vegetation; substrates include rubble, gravel, sand, boulders and silt; pools both deep and shallow.
Pugnose Shiner	<i>Notropis anogenus</i>	S2	END	THR	Schedule 1		Found over sand and mud in slow-moving, clear, vegetated streams and lakes; found in sheltered ponds, wetlands, stagnant channels and protected bays adjacent to larger waterbodies.
Silver Shiner	<i>Notropis photogenis</i>	S2S3	THR	THR	Schedule 3		Moderate to large, deep, relatively clear streams with swift currents, and moderate to high gradients; stream widths from 30 to 100 m; deep swift riffles and faster currents of pools below the riffles; substrate is gravel, pebble, cobble, boulder, sand, mud and clay; substrate is likely not important; may avoid areas with submersed vegetation; fish spawns on riffles.
Northern Madtom	<i>Noturus stigmosus</i>	S1	END	END	Schedule 1		Ranging from large creeks to big rivers, with clear to turbid water, and moderate to swift current; bottoms of sand, gravel, and stones, occasionally with silt, detritus, and accumulated debris; sometimes associated with large aquatic plants, and is typically collected at depths of less than 7 m.
Pugnose Minnow	<i>Opsopoeodus emiliae</i>	S2	THR	THR	Schedule 1		Clear, slow-moving rivers, lakes and stream with abundant aquatic vegetation, but not excluded from turbid waters; moderately clear to very silty water with substrates of clay, silt or mud, moderate to abundant vegetation, and little or no current.

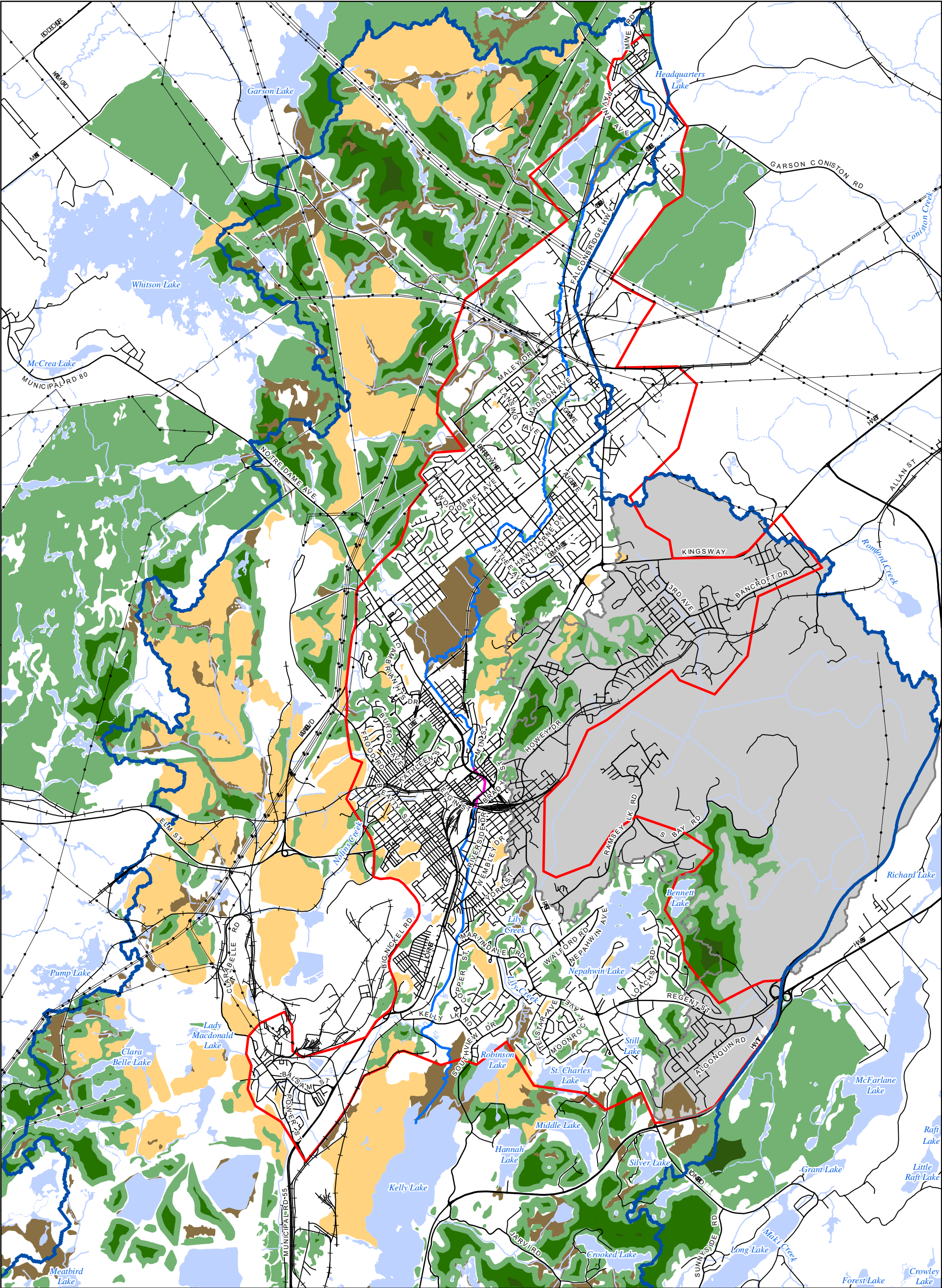
Table B7: Species at Risk and Species of Conservation Concern Screening - Junction Creek Subwatershed Study

Common Name	Scientific Name	S-Rank ¹	COSSARO ²	COSEWIC ³	SARA ⁴	Background Source	Habitat Preference ^{5,6}
Channel Darter	<i>Percina copelandi</i>	S2	THR	THR	No Schedule		Smaller channels and tributaries, but found most frequently in larger river systems; in water over 1 meter deep over sand and gravel shoals of larger rivers or beaches, where the current is slow; in rivers deeper pools or sluggish riffles with sufficient current to keep the gravel bottom free of silt; moderate or fast-flowing riffles for spawning; streams with rock, sand, and rubble bottoms in water over 1 meter deep, with slow to sluggish flow.
Paddlefish	<i>Polyodon spathula</i>	SX	EXP	EXP	Schedule 1		Inshore areas of the Great Lakes and large tributary rivers; the habitat preferences of this fish vary according to seasons, and they depend on food supply and the rates of water flow; Paddlefish require access to large rivers to spawn.
Atlantic Salmon - Lake Ontario Population	<i>Salmo salar pop. 2</i>	SX	EXT	EXT	No Schedule		Rivers with generally clear, cool and well oxygenated, with low to moderate gradient, and possessing bottom substrates of gravel, cobble and boulder.
Mussels							
Broad-banded Forestsnail	<i>Allogona profunda</i>	S1	END	END	No Schedule		Found primarily in rich deciduous forest and woodland on sandy soil and areas with well-rotted logs.
Northern Riffleshell	<i>Epioblasma torulosa rangiana</i>	S1	END	END	Schedule 1		Highly oxygenated riffle areas of rivers and streams on rocky and sandy bottoms (substrates) or firmly packed sand and fine-to-coarse gravel; known host fishes for this mussel are the Blackside Darter, Logperch, Iowa Darter, Johnny Darter, Rainbow Darter, Brook Stickleback and Mottled Sculpin.
Snuffbox	<i>Epioblasma triquetra</i>	S1	END	END	Schedule 1		Typically found in small to medium-sized rivers in shallow riffle areas with clean, clear, swift-flowing water and firm rubble/gravel/sand substrates that are free of silt.
Wavy-rayed Lampmussel	<i>Lampsilis fasciola</i>	S1	THR	END	Schedule 1		Clear rivers and streams of a variety of sizes, where the water flow is steady and the substrate is stable. It is typically found in gravel or sand substrates, often stabilized with cobble or boulders, in and around riffle areas up to 1 m in depth. It is most abundant in small to medium-sized streams.
Eastern Pondmussel	<i>Ligumia nasuta</i>	S1	END	END	Schedule 1		Sheltered areas of lakes or slow streams in substrates of fine sand and mud at depths up to 4.5 m.
Hickorynut	<i>Obovaria olivaria</i>	S1?	END	END	No Schedule		Typically found in the sandy bottoms (substrates) of large, wide and deep rivers (2–3 metres or deeper) with moderate to strong currents.
Round Hickorynut	<i>Obovaria subrotunda</i>	S1	END	END	Schedule 1		Habitat of the Round Hickorynut is generally described as freshwater with steady, moderate flows and sand and gravel bottoms, at depths of up to 2 m. In southeastern Michigan and southwestern Ontario, however, it has mainly been found in murky, low-gradient rivers with clay/sand or clay/gravel substrates. In Lake St. Clair, it currently occupies shallow (<1 m) nearshore areas with firm, sandy substrates.
Proud Globelet	<i>Patera pennsylvanica</i>	S1	END	END	No Schedule		Habitat of the Canadian population is sandy oak forest and a disturbed former light industrial site with building rubble; only a single population of Proud Globelet is known and it is/was confined to a small area in a landscape where natural habitat is highly fragmented.
Round Pigtoe	<i>Pleurobema sintoxia</i>	S1	END	END	Schedule 1		Can be found in areas of moderate flow on substrates of gravel, cobble and boulder. In larger rivers, it is found in mud, sand and gravel at varying depths.

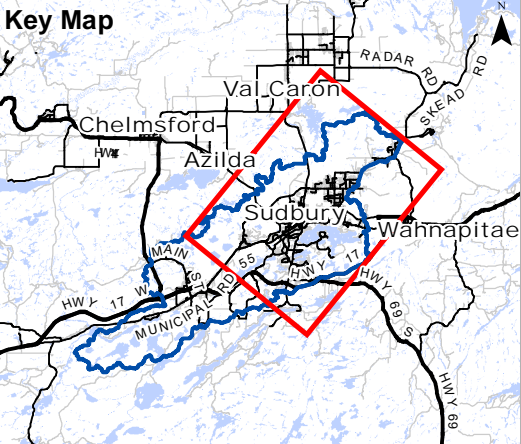
Table B7: Species at Risk and Species of Conservation Concern Screening - Junction Creek Subwatershed Study

Common Name	Scientific Name	S-Rank ¹	COSSARO ²	COSEWIC ³	SARA ⁴	Background Source	Habitat Preference ^{5 6}
Kidneyshell	<i>Ptychobranhus fasciolaris</i>	S1	END	END	Schedule 1		Most often found in small to medium-sized rivers and streams, where it prefers shallow areas with clear, swift-flowing water and substrates of firmly packed coarse gravel and sand. It is rarely found in either large rivers or headwater creeks, but has been found on gravel shoals in Lake Erie and Lake St. Clair. It is often found near beds of Water Willow, an aquatic plant. It is usually found deeply buried in the substrate.
Salamander Mussel	<i>Simpsonaias ambigua</i>	S1	END	END	Schedule 1		Most often found in sand or silt under large, flat rocks in shallow areas with a swift current, but it may sometimes be found in mud and on gravel bars. Essentially, it is found in areas with enough cover to meet the nesting and sheltering requirements of its larval host, the Mudpuppy salamander.
Lilliput	<i>Toxolasma parvum</i>	S1		END			
Fawnsfoot	<i>Truncilla donaciformis</i>	S2	END	END	No Schedule		Found in the lower portions of medium to large rivers, at depths ranging from less than one to over five metres. This mussel is usually associated with substrates of mud, soft sand or even gravel.
Rayed Bean	<i>Villosa fabalis</i>	S1	END	END	Schedule 1		Headwaters and smaller tributaries of river systems, where it is found deeply buried in sand or gravel, in or near riffle areas. It is occasionally reported from shallow water areas of lakes and large rivers.
Rainbow Mussel	<i>Villosa iris</i>	S2S3	THR	SC	Schedule 1		Most often found in shallow, well-oxygenated reaches of small- to medium-sized rivers, and sometimes lakes, on substrates (bottoms) of cobble, gravel, sand and occasionally mud.

¹NHIC 2016; ²NHIC 2016; ³NHIC 2016; ⁴SARA 2016; ⁵OMNR 2000; ⁶SARA 2016



- Legend**
- Junction Creek Watershed Boundary
 - Study Area (Junction Creek)
 - Piped Watercourse
 - Vegetated Bedrock Outcrop (NRSI 2018)
 - Woodlands and Forested Areas (NRSI 2018)
 - Interior Forest Habitat (NRSI 2018)
 - Deep Forest Habitat (NRSI 2018)
 - Wetland
 - Urbanized Area Landscape Unit
 - Ramsey Lake Subwatershed (Outside Study)
 - Utility Line
 - Railway
 - Highway
 - Primary Road
 - Secondary Road
 - Permanent Watercourse
 - Intermittent Watercourse
 - Waterbody



Junction Creek Subwatershed Study

Natural Heritage Study Area

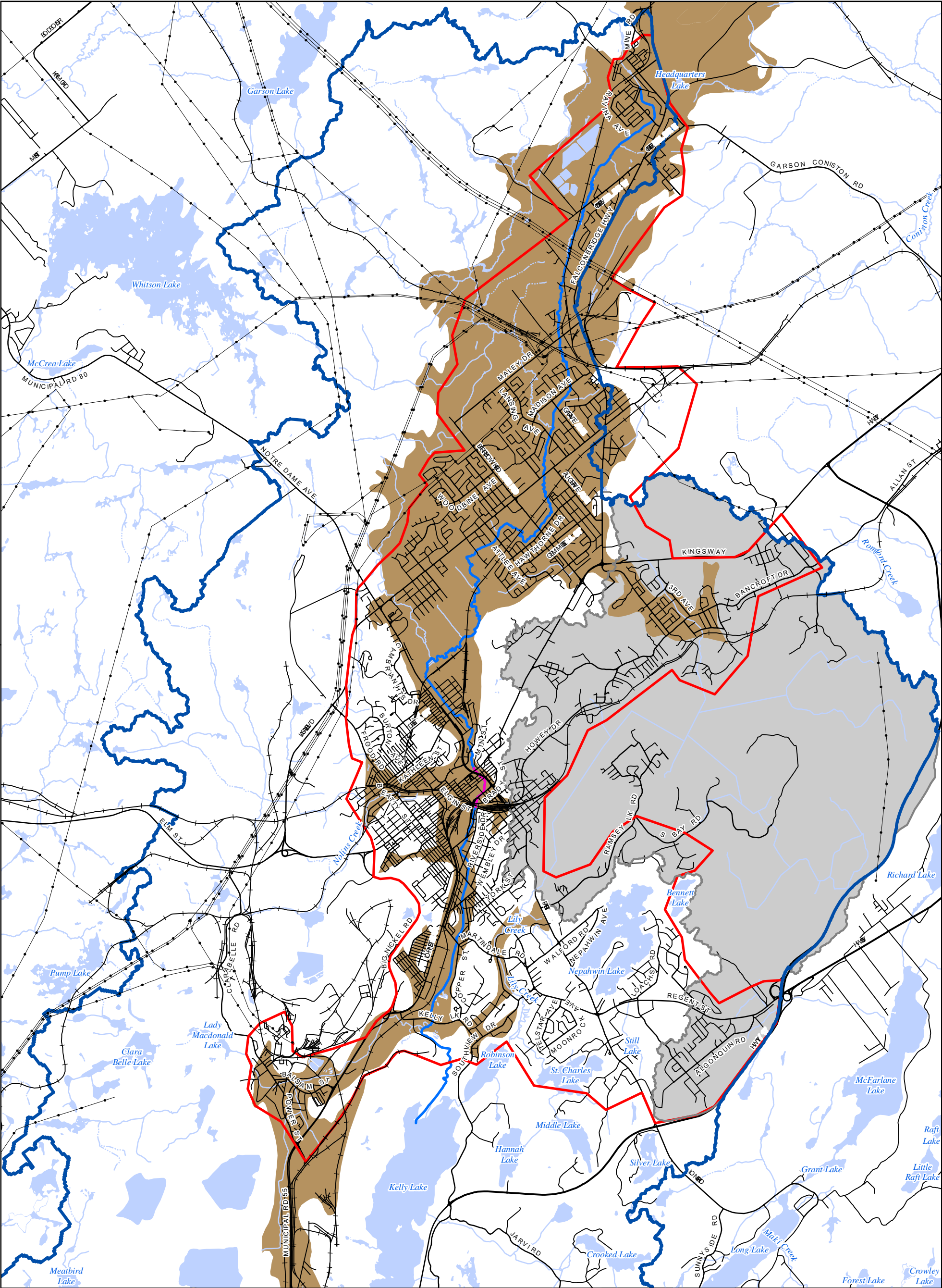
Figure B2

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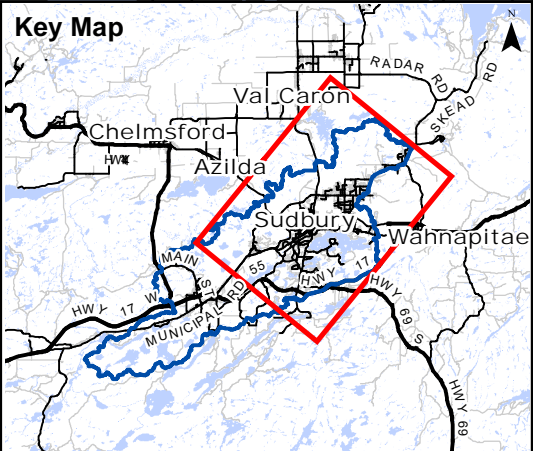
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Date: March 27, 2018
NAD83 - UTM Zone 17
Scale 1:63,000 (11x17")



- Legend**
- Junction Creek Watershed Boundary
 - Study Area (Junction)
 - Piped Watercourse
 - Urbanized Area Landscape
 - Wanapitei Esker
 - Ramsey Lake Subwatershed (Outside Study)

- Utility Line
- Railway
- Highway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Intermittent Watercourse
- Waterbody

Key Map



Junction Creek Subwatershed Study Urbanized Area and the Wanapitei Esker

Figure B3

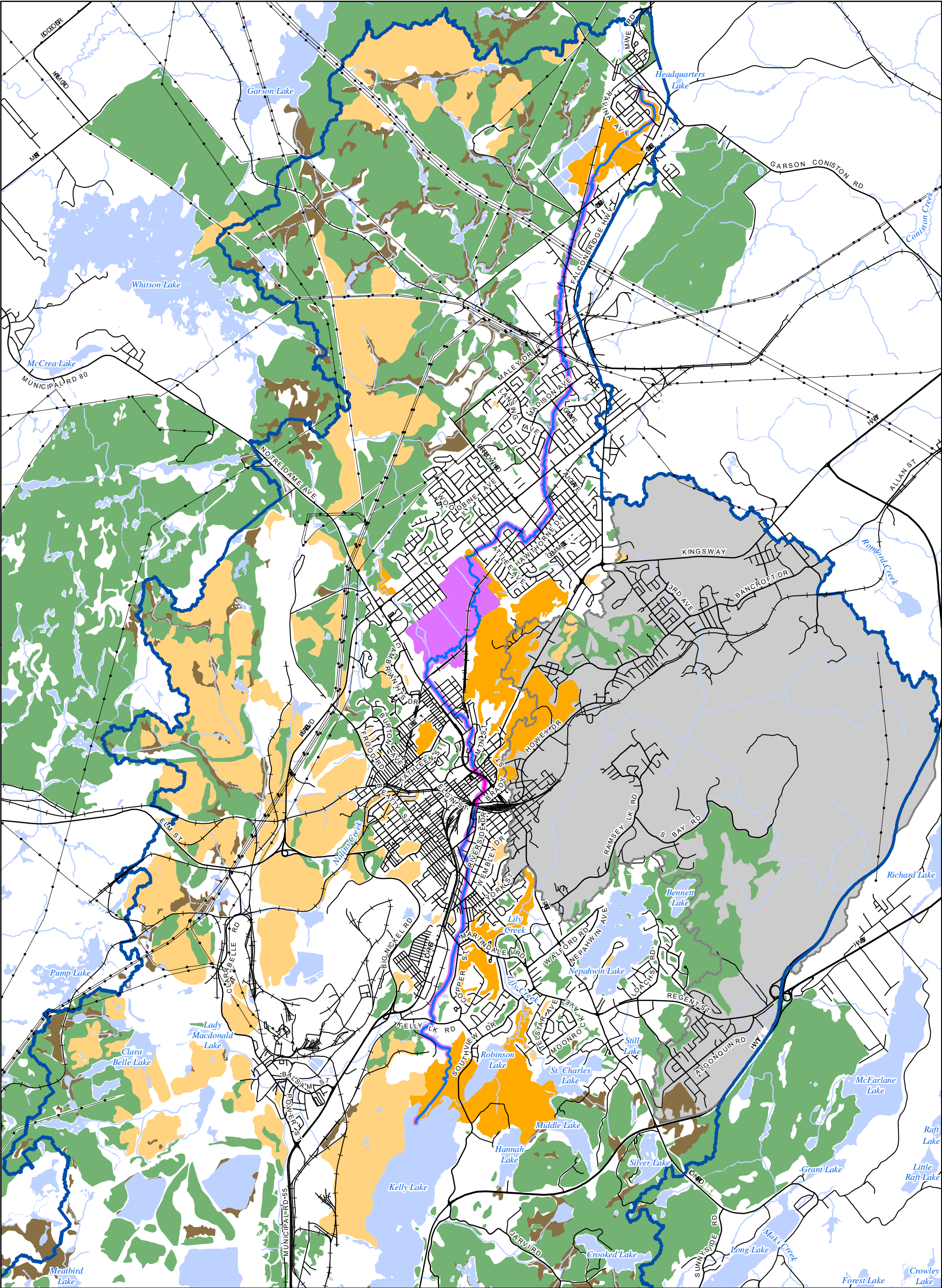
NATURAL RESOURCE SOLUTIONS INC.
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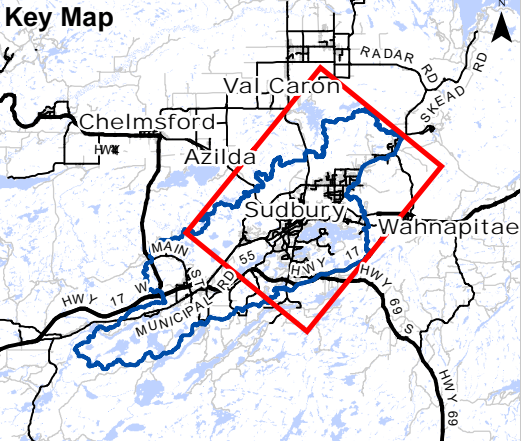
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Project: 1844
Date: March 29, 2018
NAD83 - UTM Zone 17
Scale 1:63,000 (11x17")





- Legend**
- | | |
|--|--|
| Junction Creek Watershed Boundary | Ramsey Lake Subwatershed (Outside Study) |
| Study Area (Junction Creek) | Utility Line |
| Piped Watercourse | Railway |
| Highly Sensitive Natural Features | Highway |
| Sensitive Natural Features | Primary Road |
| Vegetated Bedrock Outcrop (NRSI 2018) | Secondary Road |
| Woodlands and Forested Areas (NRSI 2018) | Permanent Watercourse |
| Wetland | Intermittent Watercourse |
| | Waterbody |



Junction Creek Subwatershed Study

Natural Feature Sensitivity

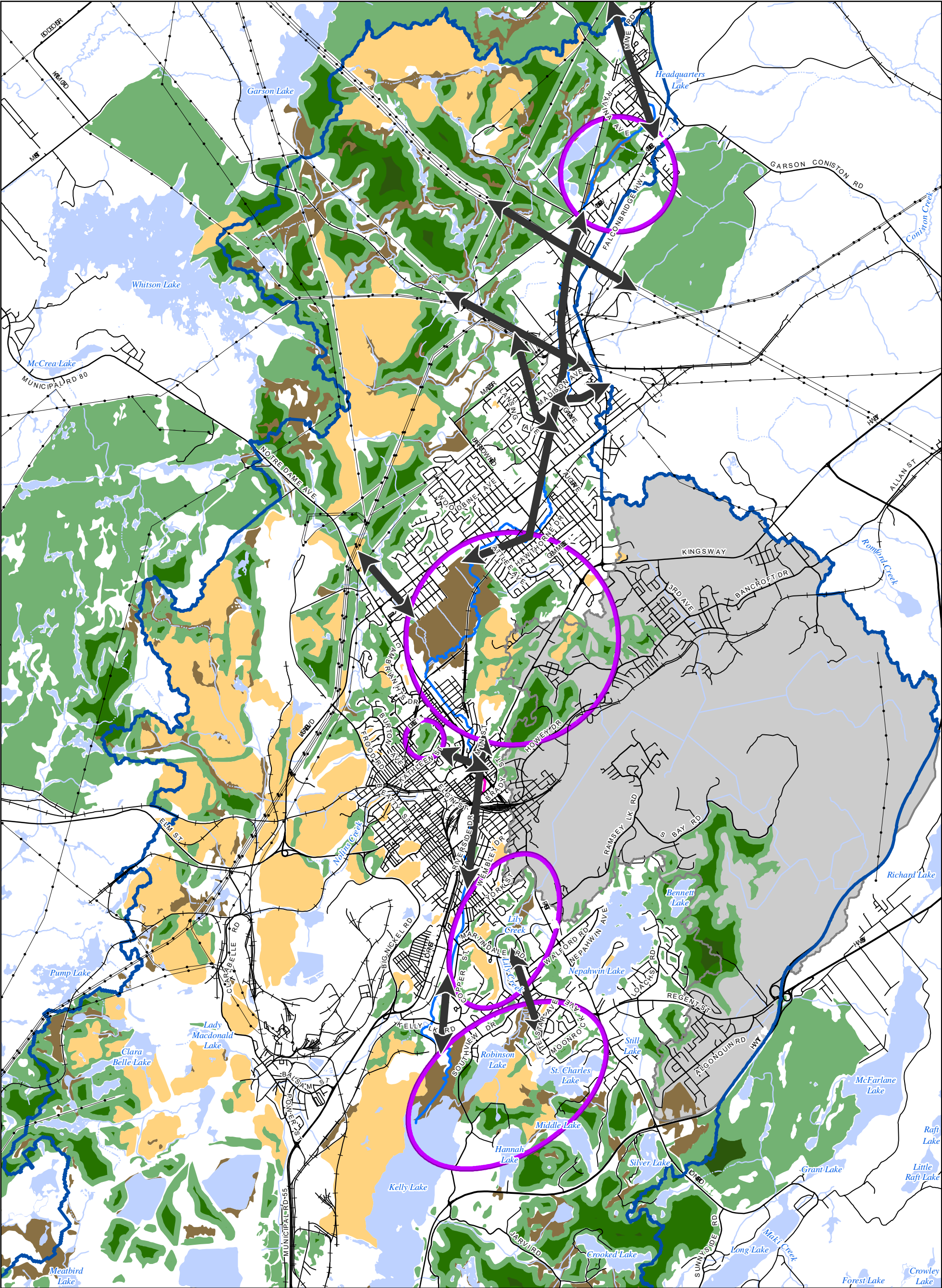
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Project: 1844
Date: March 29, 2018
NAD83 - UTM Zone 17
Scale 1:63,000 (11x17")





Legend

Junction Creek Watershed Boundary

Study Area (Junction Creek)

Piped Watercourse

Linkage

Core Area

Vegetated Bedrock Outcrop (NRSI 2018)

Woodlands and Forested Areas (NRSI 2018)

Interior Forest Habitat (NRSI 2018)

Deep Forest Habitat (NRSI 2018)

Wetland

Ramsey Lake Subwatershed (Outside Study)

Utility Line

Railway

Highway

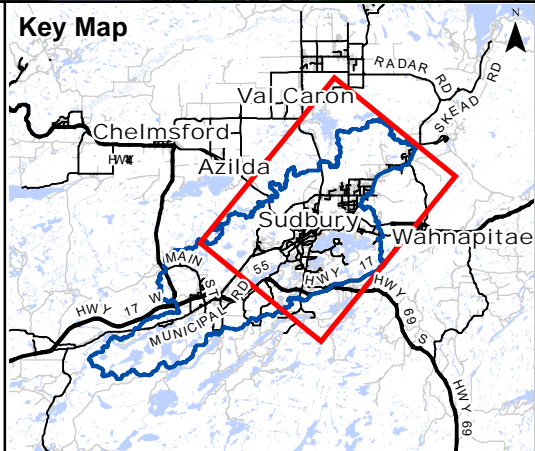
Primary Road

Secondary Road

Permanent Watercourse

Intermittent Watercourse

Waterbody



Junction Creek

Subwatershed Study

Natural Heritage System

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

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Project: 1844
Date: March 29, 2018
NAD83 - UTM Zone 17
Scale 1:63,000 (11x17")