







Project 4 WTR

- Atikaki - Berens Management Unit
- Project 1: PR304 to Berens River FN
- Proposed Road Alignments**
- Project 4: Berens River FN to Poplar River FN
- Project 7: To Pauingassi FN and Little Grand Rapids FN
- Project 7: To Pauingassi FN and Little Grand Rapids FN Alternate Route
- Project 7a: Between Pauingassi FN and Little Grand Rapids FN
- Base Data**
- Provincial Highway
- Local Road
- Winter Road
- Transmission Line
- First Nation
- Provincial Boundary

Moose Habitat Modelling

- | | | | | |
|--|---|--|---|---|
| Productive Forest | | Non-Productive Land | | Agriculture |
| Softwood Forest: $\geq 76\%$ Coniferous | Treed Muskeg | Meadow | Marsh/Muskeg | Water |
| Mixedwood Forest: 51 - 75% Coniferous | Treed Rock | Barren/Bare Rock | Unclassified | |
| Mixedwood Forest: 26 - 50% Coniferous | Willow/Alder | | | |
| Hardwood Forest: $\leq 25\%$ Coniferous | Protection Forest | | | |

Data Sources:
 Atikaki-Berens Management Unit:
 Manitoba Conservation,
 Wildlife Branch, 2013
 Forest Resource Inventory:
 Manitoba Conservation,
 Forest Resources Management, 2000



Coordinate System: UTM Zone 14N NAD83
 Data Source: MESRA, Joro, MCWS
 Date Created: March 08, 2016

0 5 10 Kilometres
 0 5 10 Miles

1:650,000

Project 4 Wildlife Technical Report

Moose Habitat Modelling Boundaries with FRI layer for the Regional Project Study Area

APPENDIX A: LIST OF KNOWN PLANTS FOR THE LAC SEUL ECOREGION

		Conservation Listing					
Common Name	Scientific Name	SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Arethusa	<i>Arethusa bulbosa</i>			S2			
Big-head rush	<i>Juncus vaseyi</i>			S4?			
Blister sedge	<i>Carex vesicaria</i>			SU			
Blue-eyed Mary	<i>Collinsia parviflora</i>			S1			
Bog club-moss	<i>Lycopodiella inundata</i>			S1			
Canada yew	<i>Taxus canadensis</i>			S3			
Chestnut sedge	<i>Carex castanea</i>			S3			
Cleavers	<i>Galium aparine</i>			SU			
Closed gentian	<i>Gentiana rubricaulis</i>			S2S3			
Dwarf bilberry	<i>Vaccinium caespitosum</i>			S3			
Emory's sedge	<i>Carex emoryi</i>			S2?			
False heather	<i>Hudsonia tomentosa</i>			S3			
Farwell's water-milfoil	<i>Myriophyllum farwellii</i>			S1			
Fragrant shield fern	<i>Dryopteris fragrans</i>			S3S4			
Fragrant water-lily	<i>Nymphaea odorata ssp. odorata</i>			S2			
Graceful manna grass	<i>Glyceria pulchella</i>			S2			
Ground-cedar	<i>Diphasiastrum tristachyum</i>			S3			
Hooker's orchid	<i>Platanthera hookeri</i>			S2			

		Conservation Listing					
Common Name	Scientific Name	SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Inland rush	<i>Juncus interior</i>			S1			
Interrupted fern	<i>Osmunda claytoniana</i>			S3			
Large enchanter's-nightshade	<i>Circaea lutetiana ssp. canadensis</i>			S2			
Large northern aster	<i>Canadanthus modestus</i>			S2			
Large white-flowered ground-cherry	<i>Leucophysalis grandiflora</i>			S3			
Large-leaved pondweed	<i>Potamogeton amplifolius</i>			S2?			
Livid sedge	<i>Carex livida</i>			S3			
Long-spurred Violet	<i>Viola selkirkii</i>			S2			
Merritt fernald's sedge	<i>Carex merritt-fernaldii</i>			S1			
Mountain club-moss	<i>Huperzia selago</i>			S2S3			
Narrow-leaved gerardia	<i>Agalinis tenuifolia</i>			S2S3			
Necklace sedge	<i>Carex projecta</i>			S2?			
Northern oak fern	<i>Gymnocarpium jessoense</i>			S3S4			
Pale manna grass	<i>Torreyochloa pallida var. fernaldii</i>			S2			
Plantain-leaved everlasting	<i>Antennaria plantaginifolia</i>			S1S2			

		Conservation Listing					
Common Name	Scientific Name	SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Ram's head lady's-slipper	<i>Cypripedium arietinum</i>			S2S3			
Rattlesnake grass	<i>Glyceria canadensis</i>			S1			
Rice cutgrass	<i>Leersia oryzoides</i>			S3?			
Round-leaved bog orchid	<i>Platanthera orbiculata</i>			S3			
Round-leaved pyrola	<i>Pyrola americana</i>			S2			
Running-pine	<i>Lycopodium clavatum</i> <i>var. clavatum</i>			S2			
Sensitive fern	<i>Onoclea sensibilis</i>			S3S4			
Sessile-fruited arrowhead	<i>Sagittaria rigida</i>			S2			
Shining club-moss	<i>Huperzia lucidula</i>			S1			
Slender sedge	<i>Carex gracillima</i>			S3			
Stalked sedge	<i>Carex pedunculata</i>			S3?			
Tesselated rattlesnake plantain	<i>Goodyera tesselata</i>			S2			
Three-way sedge	<i>Dulichium</i> <i>arundinaceum</i>			S2			
Water bulrush	<i>Schoenoplectus</i> <i>subterminalis</i>			SU			
Water lobelia	<i>Lobelia dortmanna</i>			S2			
Water star-grass	<i>Heteranthera dubia</i>			S2			

Common Name	Scientific Name	Conservation Listing					Recovery Strategy Plan	Critical Habitat in RAA?
		SARA	COSEWIC	MBCDC	MESEA			
Water-marigold	<i>Megalodonta beckii</i>			S3				
Water-milfoil	<i>Myriophyllum alterniflorum</i>			S2?				
White beakrush	<i>Rhynchospora alba</i>			S3?				
White-buttons	<i>Eriocaulon aquaticum</i>			S1				
White-haired panic-grass	<i>Dichantherium linearifolium</i>			S2				
White-scaled sedge	<i>Carex xerantica</i>			S3?				
Wild ginger	<i>Asarum canadense</i>			S3S4				

Source: MBCDC (2013)

MBCDC (2013) Definitions for Status Listing:

- 1** Very rare throughout its range or in the province (5 or fewer occurrences, or very few remaining individuals). May be especially vulnerable to extirpation.
- 2** Rare throughout its range or in the province (6 to 20 occurrences). May be vulnerable to extirpation.
- 3** Uncommon throughout its range or in the province (21 to 100 occurrences).
- 4** Widespread, abundant, and apparently secure throughout its range or in the province, with many occurrences, but the element is of long-term concern (> 100 occurrences).
- 5** Demonstrably widespread, abundant, and secure throughout its range or in the province, and essentially impossible to eradicate under present conditions.
- U** Possibly in peril, but status uncertain; more information needed.
- H** Historically known; may be rediscovered.
- X** Believed to be extinct; historical records only, continue search.
- SNR** A species not ranked. A rank has not yet assigned or the species has not been evaluated.
- SNA** A conservation status rank is not applicable to the element.
- S#S#** Numeric range rank: A range between two of the numeric ranks. Denotes range of uncertainty about the exact rarity of the species.
- ?*** Inexact or uncertain; for numeric ranks, denotes inexactness.

APPENDIX B: LIST OF POTENTIAL MAMMALS FOR THE LOCAL PROJECT STUDY AREA

Common Name	Scientific Name	Conservation Listing					Recovery Strategy Plan	Critical Habitat in RAA?
		SARA	COSEWIC	MBCDC	MESEA			
American beaver	<i>Castor canadensis</i>							
American black bear	<i>Ursus americanus</i>							
American deer mouse	<i>Peromyscus maniculatus</i>							
American marten	<i>Martes americana</i>							
American mink	<i>Neovison vison</i>							
American water shrew	<i>Sorex palustris</i>							
Arctic shrew	<i>Sorex arcticus</i>							
Big brown bat	<i>Eptesicus fuscus</i>							
Canada lynx	<i>Lynx canadensis</i>							
Coyote	<i>Canis latrans</i>							
Eastern heather vole	<i>Phenacomys ungava</i>							
Ermine (short-tailed weasel)	<i>Mustela erminea</i>							
Fisher	<i>Martes pennanti</i>							
Grey wolf	<i>Canis lupus</i>							
Hoary bat	<i>Lasiurus cinereus</i>							
House mouse	<i>Mus musculus</i>							
Least chipmunk	<i>Eutamias minimus</i>							
Least weasel	<i>Mustela nivalis</i>							

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Little brown myotis	<i>Myotis lucifugus</i>	Endangered, Schedule 1	Endangered	S2N,S5B	Endangered	Yes - combined for little brown, northern myotis and tricolored bat (2015)	No
Masked shrew	<i>Sorex cinereus</i>						
Meadow jumping mouse	<i>Zapus hudsonius</i>						
Meadow vole	<i>Microtus pennsylvanicus</i>						
Moose	<i>Alces alces</i>						
Muskrat	<i>Ondatra zibethicus</i>						
North American porcupine	<i>Erethizon dorsatum</i>						
Northern bog lemming	<i>Synaptomys borealis</i>						
Northern flying squirrel	<i>Glaucomys sabrinus</i>						
Pygmy shrew	<i>Sorex hoyi</i>						
Raccoon	<i>Procyon lotor</i>						
Red fox	<i>Vulpes vulpes</i>						
Red squirrel	<i>Tamisciurus hudsonicus</i>						
River otter	<i>Lontra canadensis</i>						

		Conservation Listing					
Common Name	Scientific Name	SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Short-tailed shrew	<i>Blarina brevicauda</i>						
Silver-haired bat	<i>Lasionycteris noctivagans</i>						
Snowshoe hare	<i>Lepus americanus</i>						
Southern red-backed vole	<i>Clethrionomys gapperi</i>						
Star-nosed mole	<i>Condylura cristata</i>			S3		N/A	N/A
Striped skunk	<i>Mephitis mephitis</i>						
White-tailed deer	<i>Odocoileus virginianus</i>						
Wolverine	<i>Gulo gulo</i>	Endangered, Schedule 1	Non-active			N/A	No
Woodchuck	<i>Marmota monax</i>						
Woodland caribou	<i>Rangifer tarandus caribou</i>	Threatened, Schedule 1	Threatened	S2S3	Threatened	Yes (2012)	Yes - Atikaki-Berens Range (MB12) and Manitoba East Range (MB11) in P4 RAA

Sources: Caras (1967); Reid (2006); MBCDC (2013); and SARA (2013)

MBCDC (2013) Definitions for Status Listing:

- 1 Very rare throughout its range or in the province (5 or fewer occurrences, or very few remaining individuals). May be especially vulnerable to extirpation.
- 2 Rare throughout its range or in the province (6 to 20 occurrences). May be vulnerable to extirpation.
- 3 Uncommon throughout its range or in the province (21 to 100 occurrences).
- 4 Widespread, abundant, and apparently secure throughout its range or in the province, with many occurrences, but the element is of long-term concern (> 100 occurrences).

- 5** Demonstrably widespread, abundant, and secure throughout its range or in the province, and essentially impossible to eradicate under present conditions.
- U** Possibly in peril, but status uncertain; more information needed.
- H** Historically known; may be rediscovered.
- X** Believed to be extinct; historical records only, continue search.
- SNR** A species not ranked. A rank has not yet assigned or the species has not been evaluated.
- SNA** A conservation status rank is not applicable to the element.
- S#S#** Numeric range rank: A range between two of the numeric ranks. Denotes range of uncertainty about the exact rarity of the species.
- ?** Inexact or uncertain; for numeric ranks, denotes inexactness.

SARA (2013) Definitions for Status Listing:

Schedule 1 is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.

Threatened: a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

Special Concern: a wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

Endangered: A wildlife species facing imminent extirpation or extinction

APPENDIX C: LIST OF POTENTIAL AMPHIBIANS AND REPTILES FOR THE LOCAL PROJECT STUDY AREA

Common Name	Scientific Name	Conservation Listing					Recovery Strategy Plan	Critical Habitat in RAA?
		SARA	COSEWIC	MBCDC	MESEA			
American toad	<i>Bufo americanus</i>							
Blue-spotted salamander	<i>Ambystoma laterale</i>	Not listed	Not listed	S3S4	Not listed	N/A	N/A	
Boreal chorus frog	<i>Pseudacris triseriata</i>							
Cope's gray tree frog	<i>Hyla chrysoscelis</i>							
Gray tree frog	<i>Hyla versicolor</i>							
Green frog	<i>Rana clamitans</i>	Not listed	Not listed	S1S2	Not listed	N/A	N/A	
Mink frog	<i>Rana septentrionalis</i>	Not listed	Not listed	S3	Not listed	N/A	N/A	
Mudpuppy	<i>Necturus maculosus</i>							
Northern leopard frog	<i>Rana pipiens</i>	Not listed	Not listed	S4	Not listed	N/A	N/A	
Northern spring peeper	<i>Hyla crucifer</i>							
Red-sided garter snake	<i>Thamnophis sirtalis parietalis</i>							
Snapping turtle	<i>Chelydra serpentina serpentina</i>	Special Concern, Schedule 1	Special Concern	S3	Not listed	Proposed management plan - northern limit of range near LAA.	No	
Western painted turtle	<i>Chrysemys picta</i>							
Wood frog	<i>Rana sylvatica</i>							

Sources: Conant and Collins (1991); Science Team Report (2002); MBCDC (2013); and SARA (2013)

MBCDC (2013) Definitions for Status Listing:

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- 2** Rare throughout its range or in the province (6 to 20 occurrences). May be vulnerable to extirpation.
- 3** Uncommon throughout its range or in the province (21 to 100 occurrences).
- 4** Widespread, abundant, and apparently secure throughout its range or in the province, with many occurrences, but the element is of long-term concern (> 100 occurrences).
- 5** Demonstrably widespread, abundant, and secure throughout its range or in the province, and essentially impossible to eradicate under present conditions.
- U** Possibly in peril, but status uncertain; more information needed.
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SARA (2013) Definitions for Status Listing:

Schedule 1 is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.

Threatened: a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

Special Concern: a wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

APPENDIX D: LIST OF POTENTIAL BIRDS FOR THE LOCAL PROJECT STUDY AREA

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Alder flycatcher	<i>Empidonax alnorum</i>						
American bittern	<i>Botaurus lentiginosus</i>						
American black duck	<i>Anas rubripes</i>						
American coot	<i>Fulica americana</i>						
American crow	<i>Corvus brachyrhynchos</i>						
American golden-plover	<i>Pluvialis dominica</i>						
American goldfinch	<i>Spinus tristis</i>						
American kestrel	<i>Falco sparverius</i>						
American pipit	<i>Anthus rubescens</i>						
American redstart	<i>Setophaga ruticilla</i>						
American robin	<i>Turdus migratorius</i>						
American three-toed woodpecker	<i>Picoides dorsalis</i>						
American tree sparrow	<i>Spizella arborea</i>						
American white pelican	<i>Pelicanus erythrorhynchos</i>						
American wigeon	<i>Anas americana</i>						
American woodcock	<i>Scolopax minor</i>						
Baird's sandpiper	<i>Calidris bairdii</i>						
Bald eagle	<i>Haliaeetus leucocephalus</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Baltimore Oriole	<i>Icterus galbula</i>						
Bank swallow	<i>Riparia riparia</i>	No schedule, no status	Threatened	Not listed	Not listed	COSEWIC Status report only	No
Barn swallow	<i>Hirundo rustica</i>	No schedule, no status	Threatened	Not listed	Not listed	COSEWIC Status report only	No
Barred owl	<i>Strix varia</i>						
Bay-breasted warbler	<i>Setophaga castanea</i>						
Belted kingfisher	<i>Megaceryle alcyon</i>						
Black scoter	<i>Melanitta americana</i>						
Black tern	<i>Chlidonias niger</i>						
Black-and-white warbler	<i>Mniotilta varia</i>						
Black-backed woodpecker	<i>Picoides arcticus</i>						
Black-bellied plover	<i>Pluvialis squatarola</i>						
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>						
Black-billed magpie	<i>Pica hudsonia</i>						
Blackburnian warbler	<i>Setophaga fusca</i>						
Black-capped chickadee	<i>Poecile atricapillus</i>						
Blackpoll warbler	<i>Setophaga striata</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Black-throated green warbler	<i>Setophaga virens</i>						
Blue jay	<i>Cyanocitta cristata</i>						
Blue-headed vireo	<i>Vireo solitarius</i>						
Blue-winged teal	<i>Anas discors</i>						
Bohemian waxwing	<i>Bombycilla garrulus</i>						
Bonaparte's gull	<i>Chroicocephalus philadelphia</i>						
Boreal chickadee	<i>Poecile hudsonicus</i>						
Boreal owl	<i>Aegolius funereus</i>						
Brewer`s blackbird	<i>Euphagus cyanocephalus</i>						
Broad-winged hawk	<i>Buteo platypterus</i>						
Brown creeper	<i>Certhia americana</i>						
Brown-headed cowbird	<i>Molothrus ater</i>						
Buff-breasted sandpiper	<i>Tryngites subruficollis</i>						
Bufflehead	<i>Bucephala albeola</i>						
Canada goose	<i>Branta canadensis</i>						
Canada Warbler	<i>Cardellina canadensis</i>	Threatened, Schedule 1	Threatened	S4B	Threatened	Yes (2016)	No
Canvasback	<i>Aythya valisineria</i>						

		Conservation Listing					
Common Name	Scientific Name	SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Cape May warbler	<i>Setophaga tigrina</i>						
Caspian tern	<i>Hydroprogne caspia</i>						
Cedar waxwing	<i>Bombycilla cedrorum</i>						
Chestnut-collared longspur	<i>Calcarius ornatus</i>						
Chestnut-sided warbler	<i>Setophaga pensylvanica</i>						
Chimney swift	<i>Chaetura pelagica</i>	Threatened, Schedule 1	Threatened	S2B	Threatened	No - status report only	No
Chipping sparrow	<i>Spizella passerina</i>						
Clay-colored sparrow	<i>Spizella pallida</i>						
Cliff swallow	<i>Petrochelidon pyrrhonota</i>						
Common goldeneye	<i>Bucephala clangula</i>						
Common grackle	<i>Quiscalus quiscula</i>						
Common loon	<i>Gavia immer</i>						
Common merganser	<i>Mergus merganser</i>						
Common Nighthawk	<i>Chordeiles minor</i>	Threatened, Schedule 1	Threatened	S3B	Threatened	Yes (2016)	No
Common raven	<i>Corvus corax</i>						
Common redpoll	<i>Acanthis flammea</i>						
Common snipe	<i>Gallinago gallinago</i>						
Common tern	<i>Sterna hirundo</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Common yellowthroat	<i>Geothlypis trichas</i>						
Connecticut warbler	<i>Oporornis agilis</i>						
Dark-eyed junco	<i>Junco hyemalis</i>						
Double-crested cormorant	<i>Phalacrocorax auritus</i>						
Downy woodpecker	<i>Picoides pubescens</i>						
Dunlin	<i>Calidris alpina</i>						
Eastern bluebird	<i>Sialia sialis</i>						
Eastern kingbird	<i>Tyrannus tyrannus</i>						
Eastern phoebe	<i>Sayornis phoebe</i>						
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	Threatened, Schedule 1	Threatened	S3B	Threatened	Yes (2015)	No
Eastern Wood-pewee	<i>Contopus virens</i>	No schedule, no status	Special Concern	S4B	Not listed	COSEWIC Status report only	No
European starling	<i>Sturnus vulgaris</i>						
Evening grosbeak	<i>Coccothraustes verspetinus</i>						
Forster's tern	<i>Sterna forsteri</i>						
Fox sparrow	<i>Passerella iliaca</i>						
Franklin's gull	<i>Leucophaeus pipixcan</i>						
Gadwall	<i>Anus strepera</i>						
Glaucous gull	<i>Larus hyperboreus</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Golden eagle	<i>Aquila chrysaetos</i>						
Golden-crowned kinglet	<i>Regulus satrapa</i>						
Gray catbird	<i>Dumetella carolinensis</i>						
Gray jay	<i>Perisoreus canadensis</i>						
Gray-cheeked thrush	<i>Catharus minimus</i>						
Great blue heron	<i>Ardea herodias</i>						
Great gray owl	<i>Strix nebulosa</i>						
Great horned owl	<i>Bubo virginianus</i>						
Greater scaup	<i>Aythya marila</i>						
Greater white-fronted goose	<i>Anser albifrons</i>						
Greater yellowlegs	<i>Tringa melanoleuca</i>						
Green-winged teal	<i>Anas crecca</i>						
Gyr Falcon	<i>Falco rusticolus</i>						
Hairy woodpecker	<i>Picoides villosus</i>						
Harris's sparrow	<i>Zonotrichia querula</i>						
Hermit thrush	<i>Catharus guttatus</i>						
Herring gull	<i>Larus argentatus</i>						
Hoary redpoll	<i>Acanthis hornemanni</i>						
Hooded merganser	<i>Lophodytes cucullatus</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Horned Grebe	<i>Podiceps auritus</i>	No schedule, no status	Special Concern	Not listed	Not listed	COSEWIC Status Report only	No
Horned lark	<i>Eremophila alpestris</i>						
House sparrow	<i>Passer domesticus</i>						
House wren	<i>Troglodytes aedon</i>						
Killdeer	<i>Charadrius vociferus</i>						
Lapland longspur	<i>Calcarius lapponicus</i>						
Le Conte's sparrow	<i>Ammodramus leconteii</i>						
Least flycatcher	<i>Empidonax minimus</i>						
Least sandpiper	<i>Calidris minutilla</i>						
Lesser scaup	<i>Aythya affinis</i>						
Lesser yellowlegs	<i>Tringa flavipes</i>						
Lincoln's sparrow	<i>Melospiza lincolnii</i>						
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>						
Long-eared owl	<i>Asio otus</i>						
Long-tailed duck	<i>Clangula hyemalis</i>						
Magnolia warbler	<i>Setophaga magnolia</i>						
Mallard	<i>Anus platyrhynchos</i>						
Merlin	<i>Falco columbarius</i>						
Mountain bluebird	<i>Sialia currocoides</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Mourning warbler	<i>Geothlypis philadelphia</i>						
Nashville warbler	<i>Oreothlypis ruficapilla</i>						
Northern flicker	<i>Colaptes auratus</i>						
Northern goshawk	<i>Accipiter gentilis</i>						
Northern harrier	<i>Circus cyaneus</i>						
Northern hawk owl	<i>Surnia ulula</i>						
Northern mockingbird	<i>Mimus polyglottos</i>						
Northern parula	<i>Setophaga americana</i>						
Northern pintail	<i>Anus acuta</i>						
Northern saw-whet owl	<i>Aegolius acadicus</i>						
Northern shoveler	<i>Anus clypeata</i>						
Northern shrike	<i>Lanius excubitor</i>						
Northern waterthrush	<i>Parkesia noveboracensis</i>						
Olive-Sided Flycatcher	<i>Contopus cooperi</i>	Threatened, Schedule 1	Threatened	S3S4B	Threatened	Yes (2016)	No
Orange-crowned warbler	<i>Oreothlypis celata</i>						
Osprey	<i>Pandion haliaetus</i>						
Ovenbird	<i>Seirus aurocapillus</i>						
Palm warbler	<i>Setophaga palmarum</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Pectoral sandpiper	<i>Calidris melanotos</i>						
Peregrine Falcon*	<i>Falco peregrinus</i>	Special Concern-Schedule 1	Special Concern	S1B	Endangered	Management plan (2015)	Management Plan illustrates breeding range. One known occurrence near Poplar River
Philadelphia vireo	<i>Vireo philadelphicus</i>						
Pied-billed grebe	<i>Podylimbus podiceps</i>						
Pileated woodpecker	<i>Dryocopos pileatus</i>						
Pine grosbeak	<i>Pinicola enucleator</i>						
Pine siskin	<i>Spinus pinus</i>						
Purple finch	<i>Haemorhous purpureus</i>						
Red crossbill	<i>Loxia curvirostra</i>						
Red-breasted merganser	<i>Mergus serrator</i>						
Red-breasted nuthatch	<i>Sitta canadensis</i>						
Red-eyed vireo	<i>Vireo olivaceus</i>						
Redhead	<i>Aythya americana</i>						
Red-necked grebe	<i>Podiceps grisegena</i>						
Red-necked phalarope	<i>Phalaropus lobatus</i>						

		Conservation Listing					
Common Name	Scientific Name	SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Red-tailed hawk	<i>Buteo jamaicensis</i>						
Red-winged blackbird	<i>Agelaius phoeniceus</i>						
Ring-billed gull	<i>Larus delawarensis</i>						
Ring-necked duck	<i>Aythya collaris</i>						
Rock dove	<i>Columba livia</i>						
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>						
Ross's goose	<i>Chen rossii</i>						
Rough-legged hawk	<i>Buteo lagopus</i>						
Ruby-crowned kinglet	<i>Regulus calendula</i>						
Ruby-throated hummingbird	<i>Archilochus colubris</i>						
Ruddy duck	<i>Oxyura jamaicensis</i>						
Ruddy turnstone	<i>Arenaria interpres</i>						
Ruffed grouse	<i>Bonasa umbellus</i>						
Rusty Blackbird	<i>Euphagus carolinus</i>	Special Concern-Schedule 1	Special Concern	Not listed	Not listed	Management plan (2015)	No
Sanderling	<i>Calidris alba</i>						
Sandhill crane	<i>Grus canadensis</i>						
Savannah sparrow	<i>Passerculus sandwichensis</i>						
Sedge wren	<i>Cistothorus platensis</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Semipalmated plover	<i>Charadrius semipalmatus</i>						
Semipalmated sandpiper	<i>Calidris pusilla</i>						
Sharp-shinned hawk	<i>Accipiter striatus</i>						
Sharp-tailed grouse	<i>Tympanuchus phasianellus</i>						
Short-billed dowitcher	<i>Limnodromus griseus</i>						
Short-Eared Owl	<i>Asio flammeus</i>	Special Concern-Schedule 1	Special Concern	S2S3B	Threatened	No - management plan (2016)	No
Smith's longspur	<i>Calcarius pictus</i>						
Snow bunting	<i>Plectrophenax nivalis</i>						
Snow goose	<i>Chen caerulescens</i>						
Snowy owl	<i>Bubo scandiaca</i>						
Solitary sandpiper	<i>Tringa solitaria</i>						
Song sparrow	<i>Melospiza melodia</i>						
Sora	<i>Porzana carolina</i>						
Spotted sandpiper	<i>Actitis macularia</i>						
Sprague's pipit	<i>Anthus spragueii</i>						
Spruce grouse	<i>Falcapennis canadensis</i>						
Stilt sandpiper	<i>Calidris himantopus</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Surf scoter	<i>Melanitta perspicillata</i>						
Swainson's thrush	<i>Catharus ustulatus</i>						
Swamp sparrow	<i>Melospiza georgiana</i>						
Tennessee warbler	<i>Oreothlypis peregrina</i>						
Tree swallow	<i>Tachycineta bicolor</i>						
Trumpeter Swan	<i>Cygnus buccinator</i>	No schedule, no status	Not at risk	S1B	Endangered	Not applicable	N/A
Tundra swan	<i>Cyngus columbianus</i>						
Turkey vulture	<i>Cathartes aura</i>						
Vesper sparrow	<i>Pooecetes gramineus</i>						
Warbling vireo	<i>Vireo gilvus</i>						
Western grebe	<i>Aechmophorus occidentalis</i>						
White-breasted nuthatch	<i>Sitta carolinensis</i>						
White-crowned sparrow	<i>Zonotrichia leucophrys</i>						
White-rumped sandpiper	<i>Calidris fuscicollis</i>						
White-throated sparrow	<i>Zonotrichia albicollis</i>						
White-winged crossbill	<i>Loxia leucoptera</i>						
White-winged scoter	<i>Melanitta fusca</i>						

Common Name	Scientific Name	Conservation Listing					
		SARA	COSEWIC	MBCDC	MESEA	Recovery Strategy Plan	Critical Habitat in RAA?
Willow ptarmigan	<i>Lagopus lagopus</i>						
Wilson's phalarope	<i>Phalaropus tricolour</i>						
Wilson's warbler	<i>Cardellina pusilla</i>						
Winter wren	<i>Troglodytes hiemalis</i>						
Wood duck	<i>Aix sponsa</i>						
Yellow Rail	<i>Coturnicops noveboracensis</i>	Special Concern-Schedule 1	Special Concern	S3B	Not listed	No - Management plan	No
Yellow warbler	<i>Setophaga petechia</i>						
Yellow-bellied flycatcher	<i>Empidonax flaviventris</i>						
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>						
Yellow-rumped warbler	<i>Setophaga coronata</i>						

*Peregrine falcon is considered a potential visitor in the Project Study Area

Sources: Bezener and De Smet (2000); Peterson and Peterson (2002); Manitoba Avian Research Committee (2003); MBCDC (2013); and SARA (2013)

MBCDC (2013) Definitions for Status Listing:

- 1** Very rare throughout its range or in the province (5 or fewer occurrences, or very few remaining individuals). May be especially vulnerable to extirpation.
- 2** Rare throughout its range or in the province (6 to 20 occurrences). May be vulnerable to extirpation.
- 3** Uncommon throughout its range or in the province (21 to 100 occurrences).
- 4** Widespread, abundant, and apparently secure throughout its range or in the province, with many occurrences, but the element is of long-term concern (> 100 occurrences).
- 5** Demonstrably widespread, abundant, and secure throughout its range or in the province, and essentially impossible to eradicate under present conditions.
- U** Possibly in peril, but status uncertain; more information needed.
- H** Historically known; may be rediscovered.

- X** Believed to be extinct; historical records only, continue search.
- SNR** A species not ranked. A rank has not yet assigned or the species has not been evaluated.
- SNA** A conservation status rank is not applicable to the element.
- S#S#** Numeric range rank: A range between two of the numeric ranks. Denotes range of uncertainty about the exact rarity of the species.
- ?** Inexact or uncertain; for numeric ranks, denotes inexactness.
- B** Breeding status of a migratory species. Example: S1B,SZN - breeding occurrences for the species are ranked S1 (critically imperilled) in the province, nonbreeding occurrences are not ranked in the province.

SARA (2013) Definitions for Status Listing:

Schedule 1 is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.

Schedule 2: species listed in Schedule 2 are 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.

Schedule 3: species listed in Schedule 3 are species that had been designated as special concern, 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.

Special Concern: a wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

Threatened: a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

APPENDIX E: LAND AND RESOURCE USE MAPS

LAND AND RESOURCE USE

Specific resource use studies have not been undertaken by Joro; however, land and resource use have been broadly described to provide context to the findings presented, land and resource use have been described at a landscape scale, focusing on the Regional Project Study Area (Map 1E).

PROTECTED AREAS

There are two major protected areas within the Regional Project Study Area where industrial activities are restricted: Atikaki Wilderness Provincial Park and Poplar/Nanowin Rivers Park Reserve (East Side Planning Initiative, 2004).

HYDRO TRANSMISSION DEVELOPMENT

Within the LPSA, there is one 66 kV sub transmission lines (L60), which is fed from southern hydro generating stations along the Winnipeg River (Map 2E).

QUARRIES

The only existing quarry site in the vicinity of P4 is approximately 1 km south of the Poplar River Reserve boundary adjacent to the P4 proposed alignment. This quarry is under the name of ACI (Poplar River First Nation Construction Company). Currently, the quarry is being used for community infrastructure and not for ASR development (Map 3E). There are no mines in the LPSA. Map 3E shows locations of quarries as well as the quarry withdrawal area designated for the road.

LODGES, OUTFITTERS AND RECREATION

There are 5 lodges and outfitters that are current members of the Manitoba Lodges and Outfitters Association (MLOA) with locations within the Regional Project Study Area (Note that not all lodges belong to MLOA). All of these outposts and operations are fly-in access only (MLOA, 2013) (Map 4E). Within these 5 outfitters, services offered for ecotourism to resource harvesting (MLOA, 2013). In addition to the lodges and outfitters under the MLOA, the Broad Area Plan for the East Side of Lake Winnipeg (2004) indicates a total of 13 lodges, 30 outcamps, 7 tent camps, and two full service outfitters within the Regional Project Study Area (East Side Planning Initiative, 2004).

The East Side Planning Initiative (2004) indicates 34 lakes that are considered high quality fish management lakes within the larger Regional Project Study Area

Within the Regional Project Study Area, there are 4 heavily frequented canoe routes: Little Grand Rapids (connects Poplar River, Berens River, and Little Grand Rapids and continues into Ontario), Kautunigan (connects Berens River and Bloodvein and continues into Ontario), Sasaginnigak (connects Little Grand Rapids and Bloodvein and continues into Ontario), and Oiseau-Manigotagan (connects Aghaming, Manigotagan, Bissett, and Pine Fall and continues into Ontario) (Paddle Manitoba, 2010).

There are no official snowmobile trails in the Regional Project Study Area; however, community operated trails do exist within the landscape surrounding the ASR. Most are not documented.

LICENSED HUNTING

The LPSA is located within GHA 17 B on the east side of Lake Winnipeg and is adjacent to GHA 17 to the east, 17A and 26 to the south and 3A to the north (Map 2). Caribou hunting is not permitted in GHA 17B, 17, 17A, or 26 (MCWS, 2015).

Moose are important big game animals for hunting within the Regional Project Study Area. Moose are valued for licensed hunting and rights-based subsistence hunting. Moose hunting is available for recreational hunting in GHA 17, 17A, and 17B between mid-September and mid-October and again in early December for one bull for general rifle non-draw, resident only and between mid-September and mid-October for one bull for general rifle, in 17 and 17B for non-resident and foreign resident hunters (MCWS, 2015). Currently, moose hunting is closed in all of GHA 26.

White-tailed deer in Zone A (including 17 and 17B) is open to deer harvest. An archery season for resident, non-resident, and foreign resident hunters is open for parts of September and again in late October to early November (MCWS, 2015). A general rifle season for white-tailed deer in Zone A for resident, non-resident, and foreign resident hunters is open from late September to mid-October and again in the middle of November (MCWS, 2015).

GHA 17B and 17 are part of black bear hunting Zone A where licensed hunting is allowed between late April to end of June and late August to early October for one adult black bear (not female with cubs). GHA 17A is part of black bear hunting Zone B which permits recreational hunting between late April to mid-June and late August to early October for one adult black bear (not female with cubs). GHA 17B and 17 are part of grey wolf and coyote Zone A for licensed-based hunting between late August and late March for one wolf. The same time period and limits apply to GHA 17A. The LPSA is also located within GBHZ2 and GBHZ3 (MCWS, 2015) (Map 2). GBHZ2 and GBHZ3 has a grouse (ruffed, spruce, and sharp-tailed) hunting season between the beginning of September and mid-December with a possession limit of 12 and ptarmigan hunting in GBHZ 2 only between the beginning of September and late February with a possession limit of 20 birds. Other birds that can be hunted within GBHZ2 and GBHZ3 include ducks, coots, and snipe, geese, and sandhill crane (*Grus canadensis*).

Vehicle regulations within GHA 17B, 17, and portions of GHA 17A allow the use of off-road vehicles (ORVs) as transportation from one hunting site to another. However, in certain areas within GHA 17A, ORVs may only be used on designated roads and trails, and specifically apply to bear hunters during the fall moose season.

TRAPPING

The communities of Berens River and Poplar River as well as other surrounding communities use RTLs for both commercial and personal use. There are 10 RTLs that are intersected by the LPSA. These 10 RTLs are all part of the Eastern RTL District (specifically parts of the Poplar River and Berens River RTL districts) (MCWS, 2014) (Map 5E).

Manitoba Conservation and Water Stewardship (MCWS) provided ESRA with annual trapper data since 2000 for all RTLs intersected by the Project Study Area (unpublished data, MCWS, 2012). A summary of this data can be found in Table 1E below. There were some wolf and one black bear trapped along the

RTLs. Overall, the most common species that was trapped along the P4 ASR was marten. Beaver, mink, ermine or weasel, muskrat, and otter were also abundant along traplines. There were few wolverine, raccoon, black bear, silver or white fox trapped along the RTLs.

FORESTRY

Administrative boundaries that best delineate the harvestable timber in the Regional Project Study Area are the MCWS, Forestry Branch, FMUs 31, 35, 36, 38, 39, and 40 (MCWS, 2013). Included in this area are Forest Management Licence (FML) #1 and Integrated Wood Supply Area (IWSA) #1 (Map 6E).

There are currently no timber sale agreements with any First Nations as of September 2015 within the Local Study Area (Mathewson, *pers. comm.*, 2015).

Historic non-permanent winter and logging roads exist within the larger Regional Project Study Area. There are 5 Class 3A road segments within the LPSA that total 7.51 km and remain from previous forest harvesting activities. These roads are summer access, high ground roads with grade and gravelled where required, with a short life expectancy (1-10 yrs), and are single use roads formerly to access cut blocks or smaller operating areas, that had no scheduled maintenance. There are also 40 Class 4 road segments within the LPSA that total 55.64 km. These roads are winter access low ground roads without grade or gravel, are only open during frozen periods, exist to allow access to cut blocks, and also no scheduled maintenance. There are also Class 4M logging roads with 18 road segments totalling 41.4 km (Map 7E). Only one current WR falls within the LPSA- WR 710, section 50, and was completed in 2005.

A majority of forest harvest within the Local and Regional Study Areas was conducted during the 1990s and into the 200s concentrated in the Berens River First Nation and in the southern portion of the Etomomi river area. A few small operating areas extended from the exiting WR between Berens River First Nation and Poplar River First Nation resulting in some small harvest areas accessed only by winter. As a result, there exists some fragmented winter ancillary access off the existing WR. The past logging operations were part of the Channel Area Loggers, a local First Nation based forestry company providing mill furnish to the mill in Pine Falls, within the Integrated Wood Supply Area.

Table 1E Annual trapper data from Manitoba Conservation and Water Stewardship

Year	Beaver	Fisher	Mink	Lynx	Ermine/ Weasel	Wolverine	Marten	Muskrat	Otter	Squirrel	Wolf	Raccoon	Black Bear	Coyote	Fox- Cross	Silver Fox	Red Fox	White Fox
2000/2001	141	8	22	4	3	0	1,730	7	13	3	1	0	1	4	4	1	19	0
2001/2002	144	5	6	5	6	0	232	38	15	2	2	0	0	0	0	0	4	0
2002/2003	167	2	17	8	7	0	175	50	24	1	1	0	0	1	2	0	2	0
2003/2004	78	8	21	13	4	0	158	20	17	17	1	0	0	0	0	0	1	0
2004/2005	67	6	22	11	21	0	1,466	17	16	0	4	0	0	2	8	0	14	0
2005/2006	2	2	0	5	0	0	36	1	1	0	0	0	0	0	0	0	0	0
2006/2007	143	2	15	3	61	0	133	262	11	24	1	0	0	2	0	0	3	0
2007/2008	65	5	51	2	72	0	279	2	3	0	0	1	0	0	1	1	11	1
2008/2009	55	1	13	3	12	1	227	3	11	0	1	0	0	0	0	0	2	0
2009/2010	62	6	10	25	7	0	335	21	3	33	1	0	0	0	2	0	7	0
2010/2011	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Total	924	45	177	79	193	1	4,771	421	114	80	13	1	1	9	17	2	63	1

*Data was not available for each year or for each RTL. Either the RTL owner did not sell fur that year, the person did not buy a permit and sold on someone else's license, or that person did not sell to a licensed dealer and the fur was not reported.

**Unpublished trapping data provided to ESRA by Dean Berezanski, Provincial Furbearer Biologist, Manitoba Conservation and Water Stewardship (MCWS, 2012).