



APPENDIX K-3

2012 SPECIES AT RISK BASELINE



**RAINY RIVER GOLD PROJECT
2012 SPECIES AT RISK REPORT**

Submitted by:

**AMEC Environment & Infrastructure
a division of AMEC Americas Limited
160 Traders Blvd., Suite 110
Mississauga, Ontario
L4Z 3K7**

On behalf of:

**Rainy River Resources
1111 Victoria Avenue East
Thunder Bay, Ontario
P7C 1B7**

**December 2012
TC111504**



December 14, 2012
TC111504

Mr. Kyle Stanfield, P.Eng
Vice President, Environment & Sustainability
Rainy River Resources Ltd.
1111 Victoria Avenue East
Thunder Bay, ON
P7C 1B7

Dear Mr. Stanfield,

AMEC Environment & Infrastructure is pleased to submit the attached 2012 Species-at-Risk baseline report for the Rainy River Gold Project.

The 2012 report adds to the 2010 and 2011 baseline studies conducted by Klohn Crippen Berger and AMEC Environment & Infrastructure respectively by filling in gaps in survey locations and providing a higher degree of confidence in the final list of Species-at-Risk within the local study area.

We greatly appreciate the opportunity to provide support for your Rainy River Gold Project. Should you have any questions regarding the study, please do not hesitate to contact us.

Yours Sincerely,

AMEC Environment & Infrastructure,
a division of AMEC Americas Limited

A handwritten signature in black ink that reads "Matt Evans".

Matt Evans, Ph.D.
Senior Biologist

A handwritten signature in black ink that reads "Sheila Daniel".

Sheila Daniel, M.Sc. P.Geo.
Senior Associate Geoscientist
Head, Environmental Management

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1.0 INTRODUCTION

AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC), was retained by Rainy River Resources Ltd. (RRR) to conduct baseline and Species at Risk (SAR) surveys at the Rainy River Gold Project (RRGP). The RRGP is located in the Township of Chapple, District of Rainy River, in northwestern Ontario, approximately 65 kilometres northwest of Fort Frances, and 420 kilometres west of Thunder Bay (Figures 1 and 2).

Plant and wildlife baseline surveys were carried out for the immediate RRGP site area by Klohn Crippen Berger (KCB) in 2009 and 2010 (KCB 2011a) to support advanced exploration activities. A 2011 gap analysis conducted by AMEC recommended that additional terrestrial baseline studies be carried out to provide greater area and temporal coverage of the RRGP site to support the Project environmental assessment and permitting phases, including additional information on Species at Risk (SAR). Accordingly, in 2011, AMEC conducted supplementary surveys on birds and amphibians and to a lesser extent on mammals, reptiles and insects (butterflies, dragonflies, damselflies) in the Local Study Area (LSA; AMEC 2011a). A major focus of all the previous baseline studies has been SAR surveys confirming the presence of SAR and their habitats (KCB 2011b, AMEC 2011b). The 2011 and 2012 SAR surveys conducted by AMEC are also tied to on-going discussions with the Ministry of Natural Resources (MNR) and an on-going Collaborative Research Agreement study on Whip-poor-will that involves RRR, AMEC, the MNR and Trent University.

With development of the Project layout in the spring of 2012, it was determined that further baseline studies and SAR surveys were required for certain Project components whose precise locations had yet to be determined during previous studies. Therefore, additional wildlife and vegetation surveys were conducted in 2012 to further augment the database. This SAR report provides the results of the surveys conducted in June and July of 2011. Survey results for wildlife species not at risk are presented in AMEC's 2012 Terrestrial Wildlife Baseline Report (AMEC 2012b).

2.0 STUDY OBJECTIVES

The primary objectives of the 2012 SAR surveys were to:

- Conduct surveys in Project component areas that were not yet mapped when previous baseline surveys were conducted;
- Conduct another year of SAR surveys and SAR habitat mapping throughout the LSA in order to provide a higher degree of confidence in the final SAR list of species present and their habitat distribution within the LSA;
- Compile species inventory lists and characterize existing site conditions for these new areas to support environmental approvals processes; and
- Collaborate with the MNR and Trent University on a 2011-2012 Whip-poor-will study.

3.0 METHODOLOGY

Previous baseline studies and SAR surveys, discussions with the Ministry of Natural Resources (MNR) in Fort Frances, a review of the Species at Risk in Ontario (SARO) List (MNR 2012a), and a review of the Natural Heritage Information Centre (NHIC; MNR 2012b) determined that the following avian SAR inhabit or could potentially inhabit the LSA: Whip-poor-will (*Caprimulgus vociferus*), Common Nighthawk (*Chordeiles minor*), Bobolink (*Dolichonyx oryzivorus*), Short-eared Owl (*Asio flammeus*), American White Pelican (*Pelecanus erythrorhynchos*), Bald Eagle (*Haliaeetus leucocephalus*), Short-eared Owl (*Asio flammeus*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Red-shouldered Hawk (*Buteo lineatus*), Olive-sided Flycatcher (*Contopus borealis*), Golden-winged Warbler (*Vermivora chrysoptera*), Canada Warbler (*Wilsonia canadensis*), Chimney Swift (*Chaetura pelagica*), and Rusty Blackbird (*Euphagus carolinus*).

Two plant SAR are also known to occur in the greater Rainy River area. Small-flowered Lipocarpa (*Lipocarpa micrantha*) is listed provincially as a Threatened Species and federally as an Endangered species (Environment Canada 2012a, MNR 2012a). Western Silver-leaf Aster (*Symphotrichum sericeum*) is listed provincially as Endangered and federally as Threatened (Environment Canada 2012a, MNR 2012a). The list habitat types required by both of these species do not exist within the Project's LSA.

Surveys for these species and others were conducted during June 18 to 22 and July 3 to 7 using established MNR approved survey protocols described in detail below. A raptor survey was conducted by helicopter in April 2012, the results of which are provided in a separate report (AMEC 2012c). Weather conditions during these two survey periods were generally sunny to overcast, with winds between 0 (Calm) and 3 (Gentle Breeze) on the Beaufort Scale. Wildlife surveys were not conducted during periods of rain. Temperatures during the morning and evening wildlife surveys ranged between 5 and 17 degrees Celsius.

3.1 Bird Surveys

AMEC conducted focused surveys on breeding birds, raptors (AMEC 2012c), marsh birds and waterfowl, owls and other crepuscular/nocturnal avian species (i.e. Whip-poor-will and Common Nighthawk). Surveys were conducted in accordance with the protocol described in the Atlas of the Breeding Birds of Ontario (Cadman et al., 2007), the Marsh Monitoring Program (Bird Studies Canada, 2009a), and the Northern Ontario Nocturnal Owl Protocol described in Takats et al. (2001).

3.1.1 Breeding Bird Surveys

The breeding bird surveys were conducted in accordance with the protocol described in the Atlas of the Breeding Birds of Ontario (Cadman et al. 2007). Surveys were conducted at 104 predetermined survey stations located at least 300 m apart from each other (Figure 3). At each station, all birds seen or heard within a ten minute continuous period and within a

recording radius of 100 m were recorded and mapped. Surveys began one-half hour prior to sunrise and ended at 10:00 a.m.

3.1.2 Marsh Bird and Waterfowl Surveys

Although marsh bird monitoring was not a formal part of the studies conducted within the RRGPS LSA, marsh birds were recorded opportunistically during other surveys, including the breeding bird surveys, owl surveys and amphibian surveys. Marsh bird surveys conducted during the night-time owl and amphibian surveys took place during the time frame considered to be standard for marsh bird monitoring and the amphibian survey points were located near habitats suitable for marsh birds. Contrary to methods used for the Marsh Monitoring Program (Bird Studies Canada 2009a), call playback tapes were not used.

3.1.3 Nocturnal Bird Surveys (Owls, Whip-poor-will and Common Nighthawk)

The nocturnal bird surveys were conducted using the Northern Ontario Nocturnal Owl Protocol described in Takats et al. (2001) as a guideline. Nineteen owl survey stations (Figure 4) were surveyed by playing recordings of six owl species previously recorded in the study area: Northern Saw-whet Owl (*Aegolius acadicus*), Boreal Owl (*Aegolius funereus*), Long-eared Owl (*Asio otus*), Barred Owl (*Strix varia*), Great Grey Owl (*Strix nebulosa*), and Great Horned Owl (*Bubo virginianus*). Calls of each species were played for 20 seconds, followed by a one minute listening period. The survey at each station began with a two-minute listening period. Species calls were played in order of the size of the owl species beginning with the lightest species and ending with the heaviest species. Surveys began one-half hour after sunset and concluded at midnight.

Whip-poor-wills and Common Nighthawks were surveyed at 54 survey stations (Figure 5) using standardized protocols outlined in Whip-poor-will Roadside Survey Participant's Guide (Bird Studies Canada 2012). These surveys were conducted within the recommended timing window starting 30 minutes after sunset and continued until midnight. Surveys at each station lasted six minutes. The June surveys were conducted under overcast conditions but the July surveys were conducted with clear skies and during a full moon phase.

3.2 Amphibian Surveys

Amphibian survey methods followed the Marsh Monitoring Program Amphibians Survey (Bird Studies Canada 2009b). Two rounds of point count call surveys were conducted (June 18 to 22 and July 3 to 7) in order to ensure that early and late-breeding frog species were detected. A total of 51 amphibian point count stations were surveyed once during each round of surveys (Figure 6). Calling amphibian species were recorded during a three minute period with a recording radius of unlimited distance. The calls of each amphibian species were assigned specific call level codes according to the Marsh Monitoring Program Amphibians Survey (Bird Studies Canada 2009b; see Table 1 below). Surveys began one-half hour after sunset and ended at midnight.

TABLE 1
CALL LEVEL CODES USED TO DESCRIBE CALLING AMPHIBIAN SPECIES DURING AMPHIBIAN SURVEYS (BIRD STUDIES CANADA 2009b)

Call Level Code	Description
0	No calls heard
1	Calls not overlapping, individuals can be counted
2	Some calls overlap but individuals can still be counted/estimated
3	Full chorus, calls are continuous and overlapping, individuals are not distinguishable

3.3 Other Taxa

Mammal, reptile and insect species observed within the LSA were recorded opportunistically during all surveys (as were birds and amphibians when observed outside of the formal bird and amphibian surveys). Observations included but were not limited to visual observations, hearing vocalizations, road kills, tracks, droppings, burrows, and nests.

3.4 Vegetation Surveys

The 2012 vegetation surveys were conducted on June 18 to 21 and July 3 to 7. Surveys were undertaken by two botanists and typically lasted ten hours each day. Site investigations were targeted at several irregularly-shaped polygons within the LSA (Figure 7). These vegetation survey polygons covered approximately 1,300 hectares and overlapped with new locations for certain Project components and supplemented vegetation studies conducted by Klohn Crippen Berger in 2009 and 2010 (KCB 2011a). Surveys were conducted for provincially (COSARO, ESA) and federally (COSEWIC, SARA) listed plant Species at Risk (SAR).

Existing Forest Resource Inventory (FRI) mapping was acquired from the MNR prior to site investigations and was used to guide field transects during surveying. Each of the FRI communities within each vegetation survey polygon was visited to confirm the community classification. A plant species list was compiled for the LSA during this FRI ground-truthing.

4.0 RESULTS

4.1 Avian Community

A total of 121 bird species were observed within the LSA during the June and July surveys and these are listed in order from most common to least common in Table 2. Of the 121 bird species, 114 are suspected to be nesting within the LSA.

TABLE 2
MOST COMMON BIRD SPECIES TALLIED DURING 2012 BREEDING BIRD POINT COUNTS

Common Name	Latin Name	Probability of Occurrence*	Average Maximum Occurrence**
White-throated Sparrow	<i>Zonotrichia albicollis</i>	0.798	1.769
Nashville Warbler	<i>Oreothlypis ruficapilla</i>	0.702	1.337
Ovenbird	<i>Seiurus aurocapilla</i>	0.702	1.337
Red-eyed Vireo	<i>Vireo olivaceus</i>	0.692	1.26
Hermit Thrush	<i>Catharus guttatus</i>	0.577	0.875
Black-and-white Warbler	<i>Mniotilta varia</i>	0.577	0.74
Veery	<i>Catharus fuscescens</i>	0.538	0.904
American Robin	<i>Turdus migratorius</i>	0.500	0.779
Blue Jay	<i>Cyanocitta cristata</i>	0.481	0.625
Common Yellowthroat	<i>Geothlypis trichas</i>	0.452	0.769
Chestnut-sided Warbler	<i>Setophaga pensylvanica</i>	0.452	0.635
Red-breasted Nuthatch	<i>Sitta canadensis</i>	0.394	0.548
Northern Flicker	<i>Colaptes auratus</i>	0.385	0.51
Mourning Warbler	<i>Oporornis Philadelphia</i>	0.279	0.394
Cedar Waxwing	<i>Bombycilla cedrorum</i>	0.269	0.413
Black-capped Chickadee	<i>Poecile atricapillus</i>	0.26	0.394
Magnolia Warbler	<i>Setophaga magnolia</i>	0.25	0.337
American Goldfinch	<i>Carduelis tristis</i>	0.24	0.327
Common Raven	<i>Corvus corax</i>	0.231	0.337
Winter Wren	<i>Troglodytes troglodytes</i>	0.231	0.327
Song Sparrow	<i>Melospiza melodia</i>	0.221	0.413
Black-throated Green Warbler	<i>Setophaga virens</i>	0.212	0.356
Least Flycatcher	<i>Empidonax minimus</i>	0.192	0.356
Alder Flycatcher	<i>Empidonax alnorum</i>	0.192	0.24
Swamp Sparrow	<i>Melospiza georgiana</i>	0.183	0.394
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	0.183	0.221
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	0.173	0.202
Wilson's Snipe	<i>Gallinago delicata</i>	0.173	0.183
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	0.163	0.356
American Crow	<i>Corvus brachyrhynchos</i>	0.163	0.25
Clay-colored Sparrow	<i>Spizella pallid</i>	0.135	0.337
Savannah Sparrow	<i>Passerculus sandwichensis</i>	0.125	0.356
Sandhill Crane	<i>Grus canadensis</i>	0.125	0.221
American Redstart	<i>Setophaga ruticilla</i>	0.106	0.115
Yellow-rumped Warbler	<i>Setophaga coronata</i>	0.106	0.115
Northern Parula	<i>Setophaga americana</i>	0.096	0.154
Brown-headed Cowbird	<i>Molothrus ater</i>	0.096	0.135
Eastern Kingbird	<i>Tyrannus tyrannus</i>	0.096	0.135
Blue-headed Vireo	<i>Vireo solitaries</i>	0.087	0.115
Golden-crowned Kinglet	<i>Regulus satrapa</i>	0.087	0.115
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	0.087	0.115
House Wren	<i>Troglodytes aedon</i>	0.087	0.106
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	0.087	0.087
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	0.087	0.087
Philadelphia Vireo	<i>Vireo philadelphicus</i>	0.087	0.087

Common Name	Latin Name	Probability of Occurrence*	Average Maximum Occurrence**
Black-billed Magpie	<i>Pica pica</i>	0.077	0.173
Eastern Wood-Pewee	<i>Contopus virens</i>	0.077	0.096
Common Loon	<i>Gavia immer</i>	0.077	0.087
Scarlet Tanager	<i>Piranga olivacea</i>	0.077	0.087
Chipping Sparrow	<i>Spizella passerina</i>	0.077	0.077
Swainson's Thrush	<i>Catharus ustulatus</i>	0.067	0.087
European Starling	<i>Sturnus vulgaris</i>	0.058	0.317
Pine Siskin	<i>Carduelis pinus</i>	0.058	0.231
Sedge Wren	<i>Cistothorus platensis</i>	0.058	0.077
Yellow Warbler	<i>Setophaga petechia</i>	0.058	0.077
Downy Woodpecker	<i>Picoides pubescens</i>	0.058	0.058
Common Grackle	<i>Quiscalus quiscula</i>	0.048	0.106
Bobolink	<i>Dolichonyx oryzivorus</i>	0.048	0.087
Leconte's Sparrow	<i>Ammodrammus</i>	0.048	0.067
Brown Thrasher	<i>Toxostoma rufum</i>	0.048	0.058
Blackburnian Warbler	<i>Setophaga fusca</i>	0.048	0.048
Gray Catbird	<i>Dumetella carolinensis</i>	0.048	0.048
Killdeer	<i>Charadrius vociferus</i>	0.048	0.048
Barn Swallow	<i>Hirundo rustica</i>	0.038	0.135
American White Pelican	<i>Pelecanus erythrorhynchos</i>	0.038	0.087
Palm Warbler	<i>Setophaga palmarum</i>	0.038	0.067
Northern Waterthrush	<i>Parkesia noveboracensis</i>	0.038	0.048
Tree Swallow	<i>Tachycineta bicolor</i>	0.038	0.048
Woodpecker sp		0.038	0.048
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	0.038	0.048
Belted Kingfisher	<i>Ceryle alcyon</i>	0.038	0.038
Wood Thrush	<i>Hylocichla mustelina</i>	0.038	0.038
Red Crossbill	<i>Loxia curvirostra</i>	0.029	0.067
Connecticut Warbler	<i>Opornis agilis</i>	0.029	0.038
American Bittern	<i>Botaurus lentiginosus</i>	0.029	0.029
Black-throated Blue Warbler	<i>Setophaga caerulescens</i>	0.029	0.029
Eastern Phoebe	<i>Sayornis phoebe</i>	0.029	0.029
Pileated Woodpecker	<i>Dryocopus pileatus</i>	0.029	0.029
Trumpeter Swan	<i>Cygnus buccinator</i>	0.019	0.135
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	0.019	0.077
Canada Warbler	<i>Cardellina canadensis</i>	0.019	0.029
Warbling Vireo	<i>Vireo gilvus</i>	0.019	0.029
Black-backed Woodpecker	<i>Picoides arcticus</i>	0.019	0.019
Broad-winged Hawk	<i>Buteo platypterus</i>	0.019	0.019
Brown Creeper	<i>Certhia americana</i>	0.019	0.019
Dark-eyed Junco	<i>Junco hyemalis</i>	0.019	0.019
Great Blue Heron	<i>Ardea herodias</i>	0.019	0.019
Purple Finch	<i>Carpodacus purpureus</i>	0.019	0.019
Ruby-crowned Kinglet	<i>Regulus calendula</i>	0.019	0.019
Ruffed Grouse	<i>Bonasa umbellus</i>	0.019	0.019
Turkey Vulture	<i>Cathartes aura</i>	0.019	0.019
White-winged Crossbill	<i>Loxia leucoptera</i>	0.019	0.019
Wilson's Warbler	<i>Cardellina pusilla</i>	0.019	0.019

Common Name	Latin Name	Probability of Occurrence*	Average Maximum Occurrence**
Yellow-throated Vireo	<i>Vireo flavifrons</i>	0.019	0.019
Canada Goose	<i>Branta canadensis</i>	0.01	0.048
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	0.01	0.029
Common Goldeneye	<i>Bucephala clangula</i>	0.01	0.019
Mallard	<i>Anas platyrhynchos</i>	0.01	0.019
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	0.01	0.019
Tennessee Warbler	<i>Oreothlypis peregrina</i>	0.01	0.019
American Kestrel	<i>Falco sparverius</i>	0.01	0.01
American Three-toed Woodpecker	<i>Picoides tridactylus</i>	0.01	0.01
Baltimore Oriole	<i>Icterus galbula</i>	0.01	0.01
Barred Owl	<i>Strix varia</i>	0.01	0.01
Boreal Chickadee	<i>Poecile hudsonica</i>	0.01	0.01
Cape May Warbler	<i>Setophaga tigrina</i>	0.01	0.01
Common Merganser	<i>Mergus merganser</i>	0.01	0.01
Gray Jay	<i>Perisoreus canadensis</i>	0.01	0.01
Hairy Woodpecker	<i>Picoides villosus</i>	0.01	0.01
Indigo Bunting	<i>Passerina cyanea</i>	0.01	0.01
Olive-sided Flycatcher	<i>Contopus borealis</i>	0.01	0.01
Pine Warbler	<i>Setophaga pinus</i>	0.01	0.01
Sharp-shinned Hawk	<i>Accipiter striatus</i>	0.01	0.01
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	0.01	0.01
Wood Duck	<i>Aix sponsa</i>	0.01	0.01

* Probability of Occurrence represents the total number of point count stations at which a species was observed divided by the total number of point count stations surveyed.

** Average Maximum Occurrence represents the total of the highest number of individuals observed at each point count divided by the total number of point counts surveyed.

The avian species diversity and population densities found within the LSA reflect the area’s mosaic of mixed, deciduous-dominated forest, shrubby wetlands, and open field habitats. The species diversity is also influenced by the LSA’s geographic location within Ontario, occurring within a transition zone from a temperate to a boreal forest ecozone, and near the edge of Canada’s vast prairie region. According to the Ontario Atlas of Breeding Birds (Cadman et al. 2007) the area is located in the Northern Shield Region of Ontario but is known for a unique species composition that is not seen in the eastern or northern parts of the Region.

4.2 Avian Species at Risk

Nine provincially and/or federally listed SAR species (including five provincially listed species of Special Concern, and four provincially listed Threatened species) were observed in the LSA during the 2012 surveys (Table 3 and Figures 8 to 10). These nine species were also recorded within the LSA during the 2008-2010 surveys (KCB 2011b) and all but the Canada Warbler and Golden-winged Warbler were recorded by AMEC in 2011 (AMEC 2011b). Only one species, Red-headed Woodpecker, previously recorded was not seen in 2012. The Red-shouldered Hawk is no longer listed as a SAR federally or provincially.

TABLE 3
SPECIES OF CONSERVATION CONCERN OBSERVED IN THE LOCAL STUDY AREA DURING 2012
SPRING AND SUMMER SURVEYS

Species Common Name	Conservation Status		
	SARO	SARA	PIF
American White Pelican	THR	NAR	Lakes/Wetlands
Barn Swallow	THR	THR	Open Country
Bald Eagle	SC	NAR	Wetland
Bobolink	THR	THR	Open Country
Common Nighthawk	SC	THR	Open Country
Canada Warbler	SC	THR	Wet Mixed Forest
Golden-winged Warbler	SC	SC	Shrub/Early Succession
Olive-sided Flycatcher	SC	THR	Forest
Whip-poor-will	THR	THR	Forest

SC = Species of Special Concern; THR = Threatened; NAR = Not at Risk; SARO = Species at Risk in Ontario and is the provincial status; SARA = Species at Risk Act and is the federal status; PIF = Partners in Flight Priority Species.

4.2.1 Whip-poor-will and Common Nighthawk

The Whip-poor-will is listed as a Threatened species in Ontario (MNR 2012a) and is protected under Ontario's *Endangered Species Act* (ESA 2007). It is also listed as Threatened federally under Canada's *Species at Risk Act* (Environment Canada 2012). The Common Nighthawk is listed as a species of Special Concern in Ontario (MNR 2012a), though it is federally listed as a Threatened species (Environment Canada 2012).

A total of 12 individual Whip-poor-wills and 7 Common Nighthawks were observed during the 2012 surveys (Figure 8). The northern and northeaster portions of the LSA, including the proposed transmission line corridor include large areas of suitable Whip-poor-will and Common Nighthawk habitat which consists of open forests with exposed bedrock adjacent to open lands such as thicket swamps, meadow marshes, regenerating cutovers, pastures, and hayfields. Whip-poor-wills prefer open woodlands with little understory as they nest on the ground and hunt flying insects from un-obstructed perches (Wilson 1985, COSEWIC 2009).

Similar numbers of Whip-poor-wills were recorded during the two 2011 surveys (spring survey: 14 individuals; summer survey: 12 individuals) and the 2010 surveys conducted by Klohn Crippen Berger (13 individuals). The majority of the 2011 Whip-poor-will observations were made at similar locations to observations reported by Klohn Crippen Berger in 2010.

4.2.2 Bobolink

The Bobolink is listed as a Threatened species both provincially and federally and is thus protected under both the ESA and SARA (Environment Canada 2012, MNR 2012a). It is a grassland species which, in Ontario, primarily utilizes agricultural lands such as hay fields.

The 2012 breeding bird surveys yielded only five observations of Bobolinks within the LSA (Figure 9) compared to 18 sightings in 2011 (AMEC 2011b). This contrast is likely due to the reduced number of point counts surveyed in agricultural lands in 2012 compared to 2011. The presence of agricultural lands is extensive within the LSA consisting primarily of hay fields and pasture lands (row cropping is rare in the area). Bobolinks prefer hay fields over grazed pasture lands as the hay fields' tall grasses and dense thatch provide cover.

4.2.3 Olive-sided Flycatcher

The Olive-sided Flycatcher is listed as a Species of Special Concern in Ontario (MNR 2012a) and is listed federally as a Threatened species (Environment Canada 2012). It is a widespread species in northern Ontario and prefers areas of regeneration where it uses snags or taller vegetation as perches to hunt from.

Similar to the 2011 surveys, only one individual Olive-sided Flycatcher was observed within the LSA in 2012 (Figure 9).

4.2.4 Bald Eagle

The Bald Eagle (*Haliaeetus leucocephalus*) is listed as a Species of Special Concern in northern Ontario (MNR 2012a) but carries no federal designation (Environment Canada 2012).

An active Bald Eagle nest was recorded in a large Trembling Aspen (*Populus tremuloides*) within the LSA. This nest was monitored periodically between June 18-22 and July 4-7 and the nest was occupied by a breeding pair and at least one nestling. It is not known if the nestling fledged successfully. This nest was also active in 2010 (KCB 2011a, b) but no activity was observed in 2011 (AMEC 2011a, b).

Bald Eagles are known to show strong fidelity to nesting sites and will reuse nest sites year after year. This species is also wide-ranging and on a daily basis will travel great distances from their nests to hunt. Bald Eagles feed primarily on fish and thus usually require large open waterbodies to hunt. A few open waterbodies occur within the LSA, though none are large. Muskrat Lake may represent the best fishing location for Bald Eagles. Eagles will also take advantage of carrion and are often attracted to dumps, one of which occurs within the study area.

4.2.5 American White Pelican

The status of the American White Pelican was reassessed by the Committee on the Status of Species at Risk in Ontario (COSSARO) in 2009 and its provincial designation was downgraded from Endangered to Threatened (MNR 2012a) and is protected under Ontario's *Endangered Species Act* (ESA 2007). This species does not carry a federal designation.

American White Pelicans were observed flying over the LSA numerous times in 2012 (typically in flocks of 5 to 20 birds). In 2009 to 2011 American White Pelicans were occasionally observed flying across the study area though few were observed using waterbodies within the study area.

The closest known pelican colony to the LSA exists on Lake of the Woods. In 2004, this colony totalled over 7,400 breeding pairs (Cadman et al. 2007). The birds observed flying over the LSA in 2011 were most likely flying to and from this colony (adult pelicans are known to travel up to 100 km from their nest site to forage; Cadman et al. 2007).

4.2.6 Golden-winged Warbler

The Golden-winged Warbler is federally designated as *Threatened* (Environment Canada 2012) and listed as Special Concern in Ontario (MNR 2012a). As such, this species is not protected under Ontario's ESA, 2007. The majority of Ontario's Golden-winged Warblers occur in southern Ontario along the Canadian Shield, yet a small geographically separated breeding population exists in the Rainy River District (Cadman et al. 2007). Though no Golden-winged Warblers were observed during the 2010 baseline studies (KCB 2011a), a total of 23 individuals were observed at 16 point count stations by AMEC in 2011 and 2012. This species was most often observed in disturbed areas such as regenerating thicketed areas and edge habitat along deciduous or mixed forests and rocky, open woodlands.

4.2.7 Canada Warbler

The Canada Warbler is federally designated as Threatened (Environment Canada 2012) and listed as Special Concern in Ontario (MNR 2012a). As such, this species is not protected under the ESA, 2007. A variety of forest types is used by this species including wet mixed deciduous-coniferous forest with a well-developed shrub layer, shrub marshes, ravines and steep brushy slopes and in upland forests with canopy gaps that promote a well-developed shrub layer (Conway 1999, Lambert and Faccio 2005). Moist mixed forests and slopes representing suitable Canada Warbler habitat are rare in the Project LSA and likely inhibit this species from occurring in greater numbers. A total of three Canada Warblers were observed at three separate locations across the LSA.

4.2.8 Barn Swallow

The Barn Swallow is listed both federally and provincially listed as Threatened (Environment Canada 2012, MNR 2012a). Before European colonization, Barn Swallows nested mostly in caves, holes, crevices and ledges in cliff faces. Following European settlement, they shifted largely to nesting in and on artificial structures including barns and other buildings, garages, houses, bridges and road culverts. Barn Swallows prefer various types of open habitat for foraging including grassy fields, pastures, various kinds of agricultural crops, lake and river shorelines, cleared right-of-ways, cottage areas, farmyards, islands, wetlands, and subarctic tundra (COSEWIC 2011). The limiting factor for the Barn Swallow is nesting habitat and not foraging habitat (Pers. Com. John Vandenbroeck, Fort Frances MNR SAR biologist, February 27, 2012).

4.3 Area-Sensitive Bird Species

Twenty-six avian species recorded during the 2012 surveys are listed by the MNR as *Area-Sensitive Species* (MNR 2012b; see Table 4). These species are not currently provided with special protection unless they are also listed as Species at Risk (i.e., Bobolinks and Whip-poor-wills).

TABLE 4
AREA-SENSITIVE SPECIES OBSERVED DURING 2012 FIELD SURVEYS

Common Name	Habitat Preference
American Bittern	Marsh
American Redstart	Forest
Barred Owl	Forest
Black-and-white Warbler	Forest
Blackburnian Warbler	Forest
Black-throated Blue Warbler	Forest
Black-throated Green Warbler	Forest
Bobolink	Grassland/Agricultural
Blue-headed Vireo	Forest
Double-crested Cormorant	Lakes
Golden-crowned Kinglet	Forest
Hermit Thrush	Forest
Hairy Woodpecker	Forest
Magnolia Warbler	Forest
Mourning Warbler	Forest
Northern Harrier	Marsh
Northern Parula	Forest
Ovenbird	Forest
Red-breasted Nuthatch	Forest
Red-shouldered Hawk	Forest
Ruffed Grouse	Forest
Veery	Forest
Whip-poor-will	Forest/Open Country
White-throated Sparrow	Forest
Winter Wren	Forest
Yellow-rumped Warbler	Forest

4.4 Plant Species at Risk

Surveys were conducted for provincially (COSARO, ESA) and federally (COSEWIC, SARA) listed plant SAR but none were recorded in the LSA in 2012. A review of the Natural Heritage Information Centre (MNR 2012b) revealed that two plant SAR were known to occur in the greater Rainy River area. The Small-flowered Lipocarpha (*Lipocarpha micrantha*) is listed provincially as a Threatened Species and federally as an Endangered Species. This species is confined to moist sandy beaches (MNR 2012a) which do not exist within the LSA. The Western Silver-leaf Aster (*Symphyotrichum sericeum*) is listed provincially as Endangered and federally as Threatened. This species grows in open bur oak savannahs on shallow soils over bedrock

(MNR 2012a) and this habitat does not exist within the LSA either. Neither of these plants were identified within the LSA during vegetation surveys conducted by KCB in 2009 – 2010 (KCB 2011a)

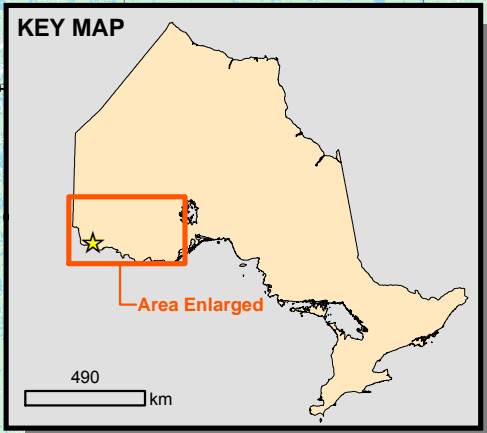
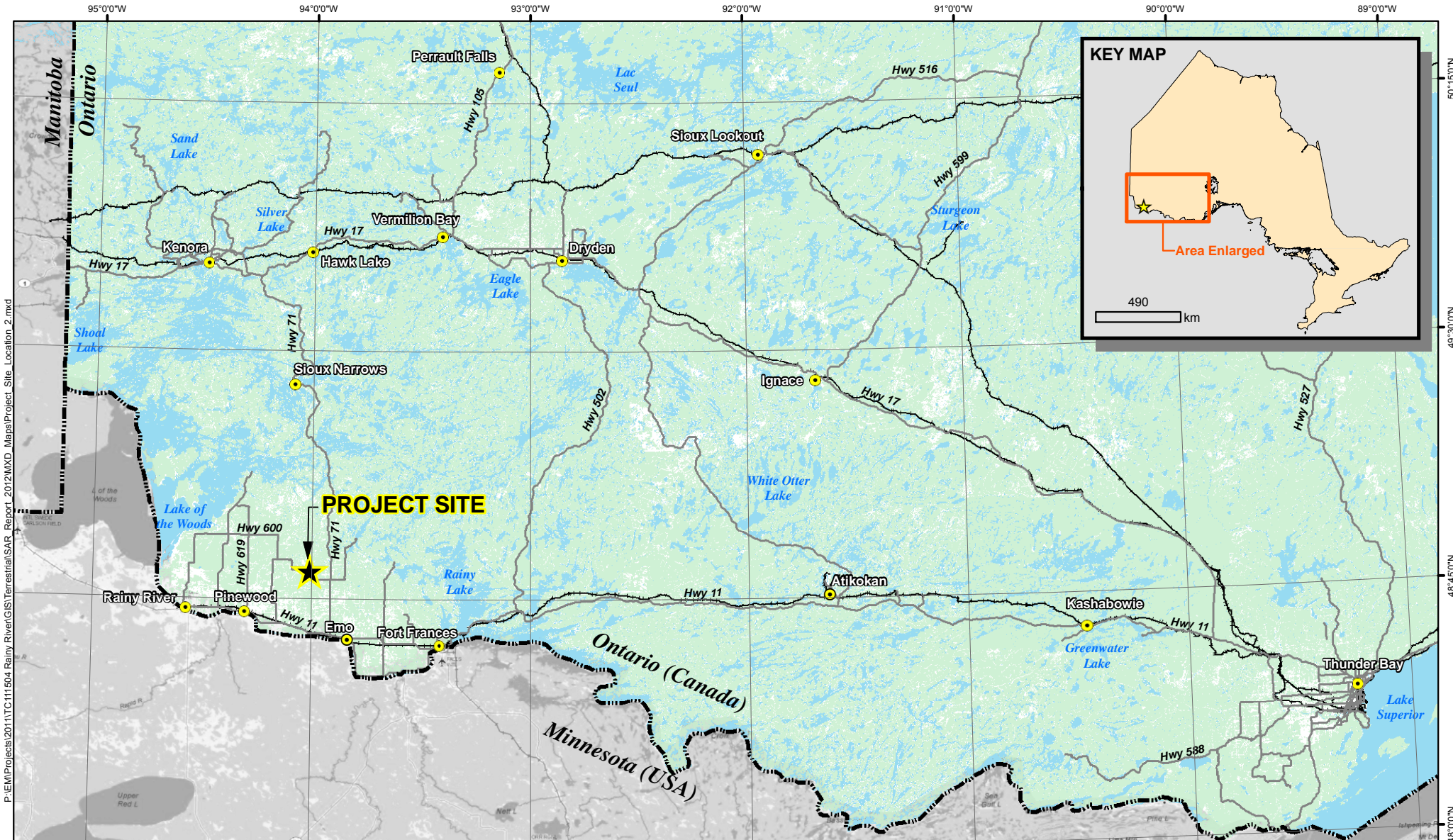
5.0 CONCLUSIONS

Surveys conducted by AMEC in 2012 confirmed the presence of nine provincially and/or federally listed SAR species, including five Species of Special Concern, and four Threatened species. Three of the avian Species at Risk (Bobolink, Whip-poor-will and Golden-winged Warbler) were relatively common and widespread and were considered to be breeding residents in the LSA. All species except Golden-winged Warbler were also recorded within the LSA during the 2008-2010 surveys (KCB 2011b) and all but the Canada Warbler were recorded by AMEC in 2011 (AMEC 2011b). Species previously recorded that were not seen in 2012 included Red-headed Woodpecker and Red-shouldered Hawk.

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- LEGEND**
-  Project Site
 -  Regional Communities
 -  Provincial / National Border
 -  Regional Road / Highway
 -  Railway

NOTES:

- Ontario base data extracted from Land Information Ontario (MNR) data warehouse.
- Base data outside of Ontario extracted from ESRI DeLorme World Basemap

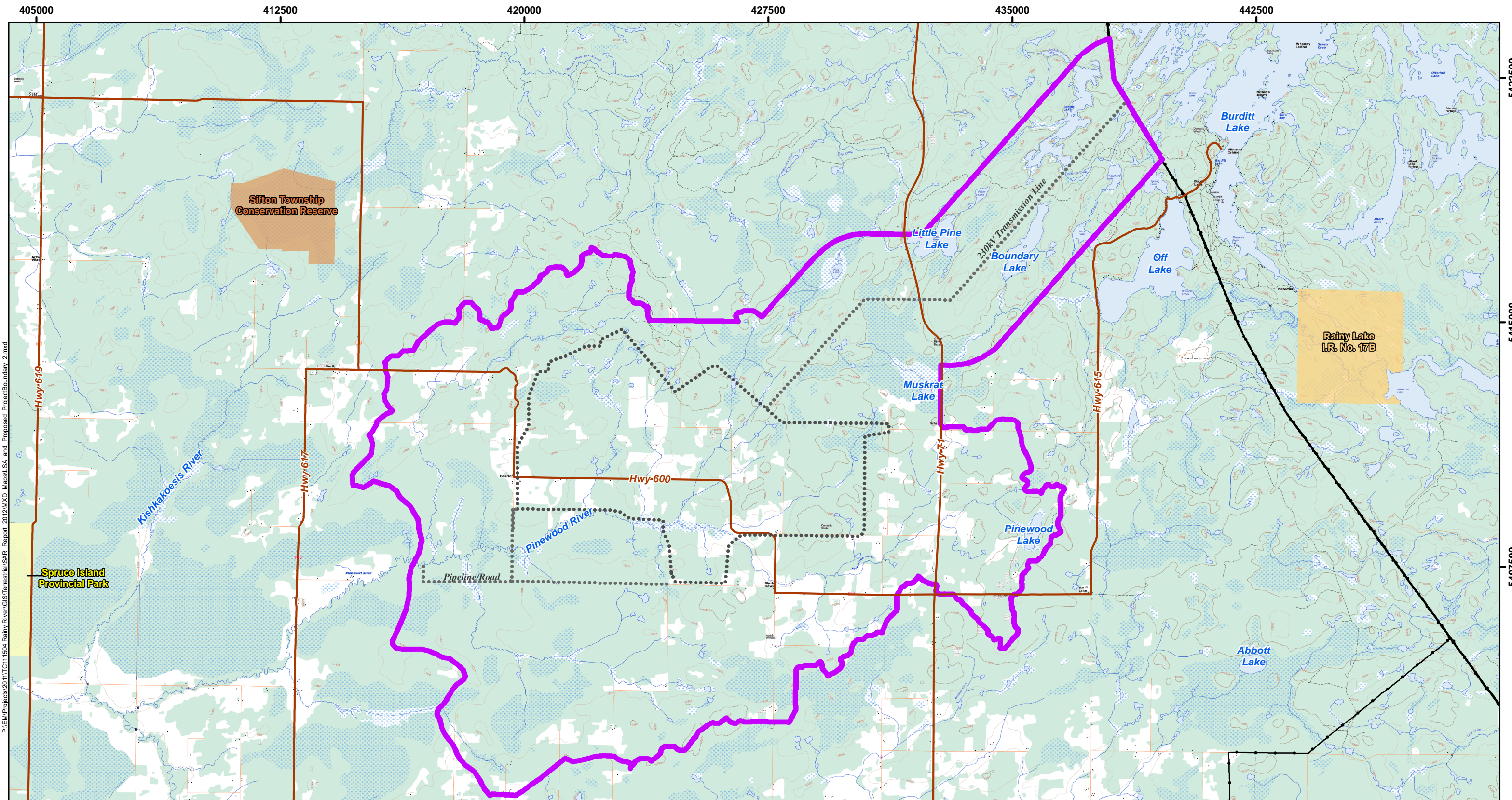


RAINY RIVER GOLD PROJECT









Project Location



Datum: NAD83 Projection: UTM Zone 15N	PROJECT N ^o : TC111504	FIGURE: 1
	SCALE: 1:1,800,000	DATE: November 2012



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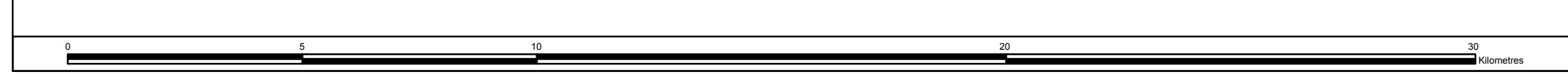
- LEGEND**
-  Approximate Project Boundary
 -  Local Study Area (LSA)
 -  Regional Road / Highway
 -  Secondary Road
 -  Existing Transmission Line
 -  First Nation Reserve Lands
 -  Conservation Reserve (Regulated)
 -  Provincial Park

NOTES:
 - Road data extracted from Land Information Ontario, Ontario Road Network, MNR
 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets

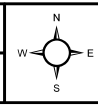


RAINY RIVER GOLD PROJECT

Local Study Area Boundary and Approximate Project Boundary

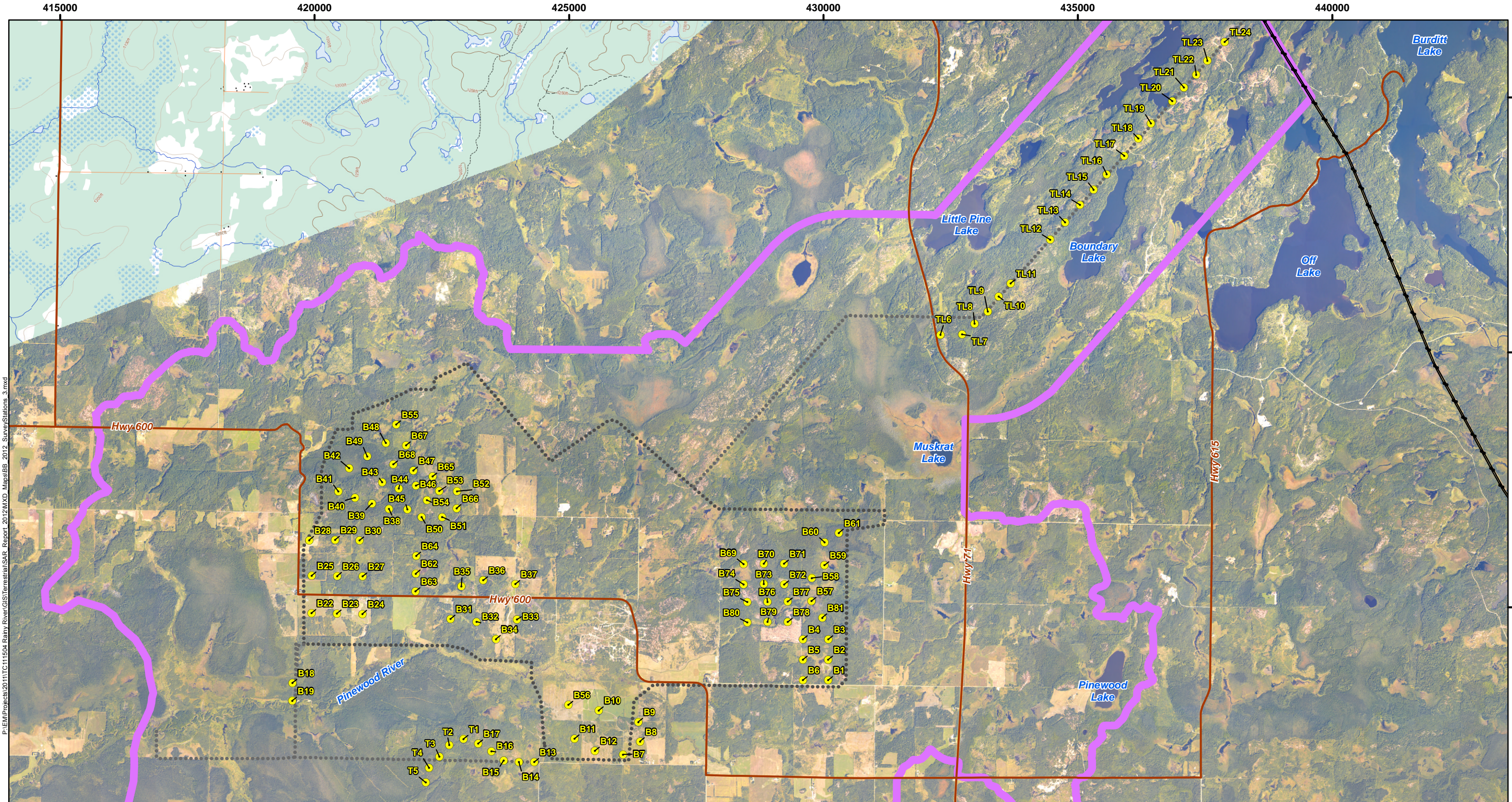


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PROJECT N^o: TC111504
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FIGURE: 2
 DATE: November 2012



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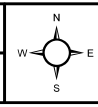
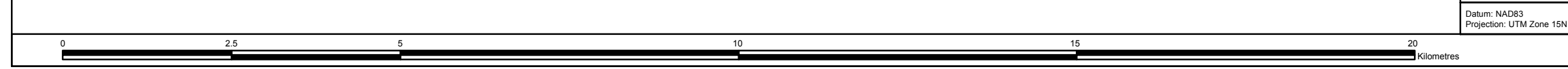
- LEGEND**
- Breeding Bird Survey Stations (Labelled with ID)
 - Approximate Project Boundary
 - Local Study Area (LSA)
 - Regional Road / Highway
 - Existing 230 kV Transmission Line

NOTES:
 - Road data extracted from Land Information Ontario, Ontario Road Network, MNR
 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets

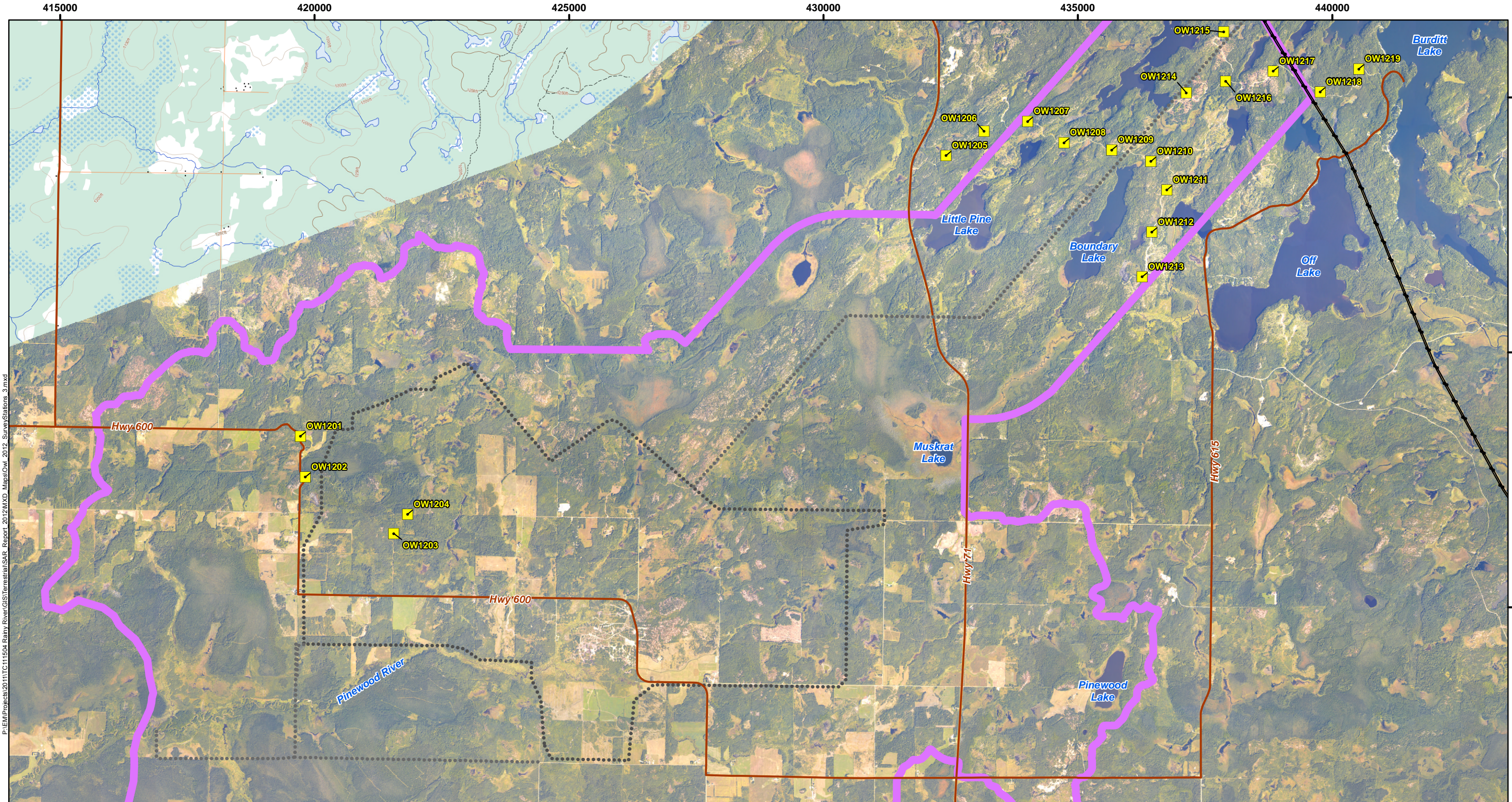


RAINY RIVER GOLD PROJECT

Locations of 2012 Breeding Bird Survey Stations



Datum: NAD83 Projection: UTM Zone 15N	PROJECT N^o: TC111504 FIGURE: 3
SCALE: 1:72,000	DATE: November 2012



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- LEGEND**
- Owl Survey Stations (Labelled with ID)
 - Approximate Project Boundary
 - Local Study Area (LSA)
 - Regional Road / Highway
 - Existing 230 kV Transmission Line

NOTES:
 - Road data extracted from Land Information Ontario, Ontario Road Network, MNR
 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets



RAINY RIVER GOLD PROJECT

Locations of 2012 Owl Survey Stations

Datum: NAD83
 Projection: UTM Zone 15N

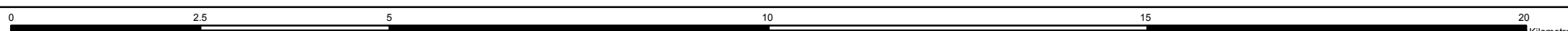


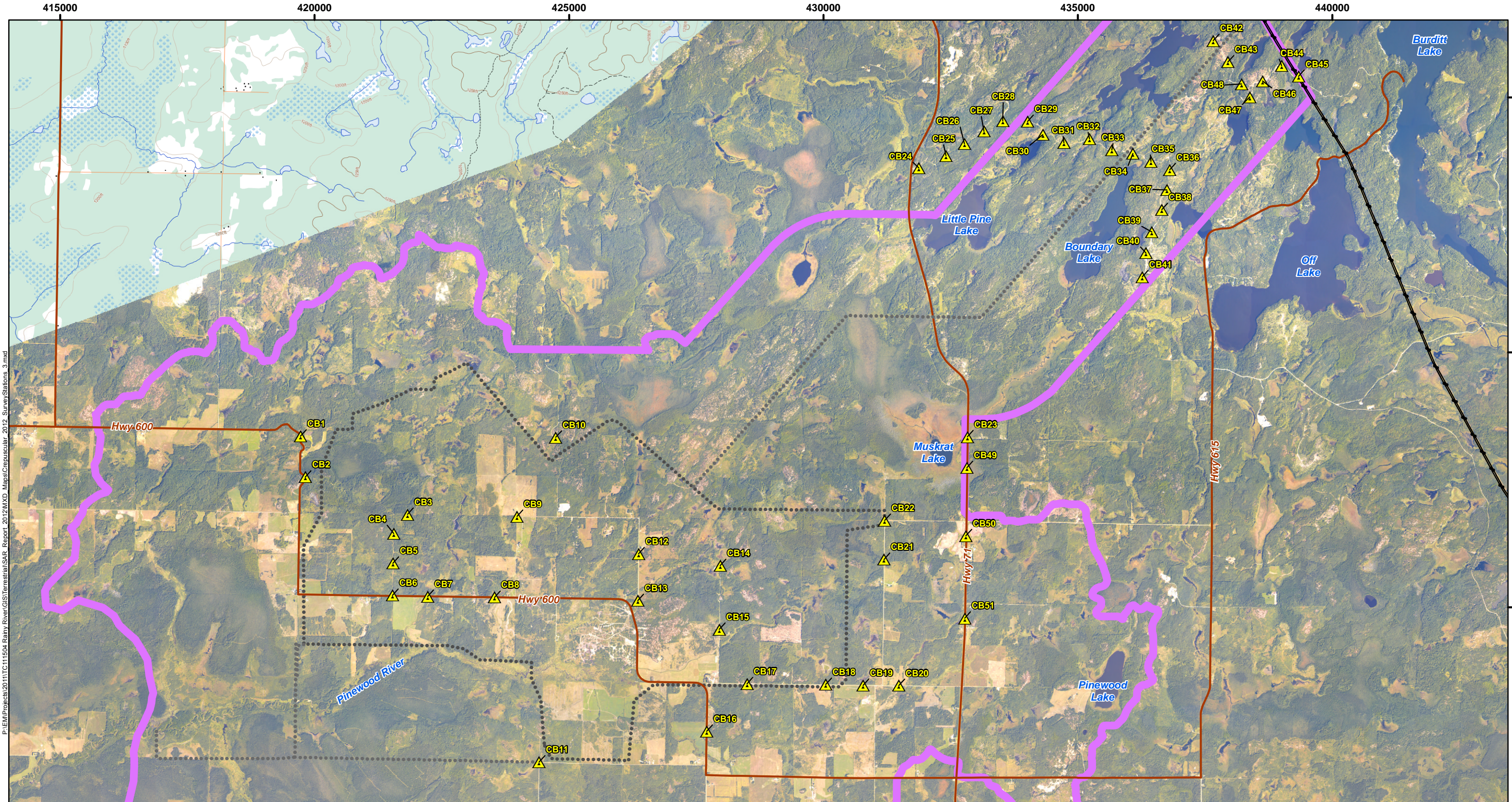
PROJECT N^o: TC111504

FIGURE: 4

SCALE: 1:72,000

DATE: November 2012




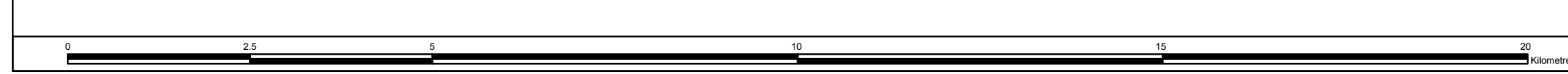



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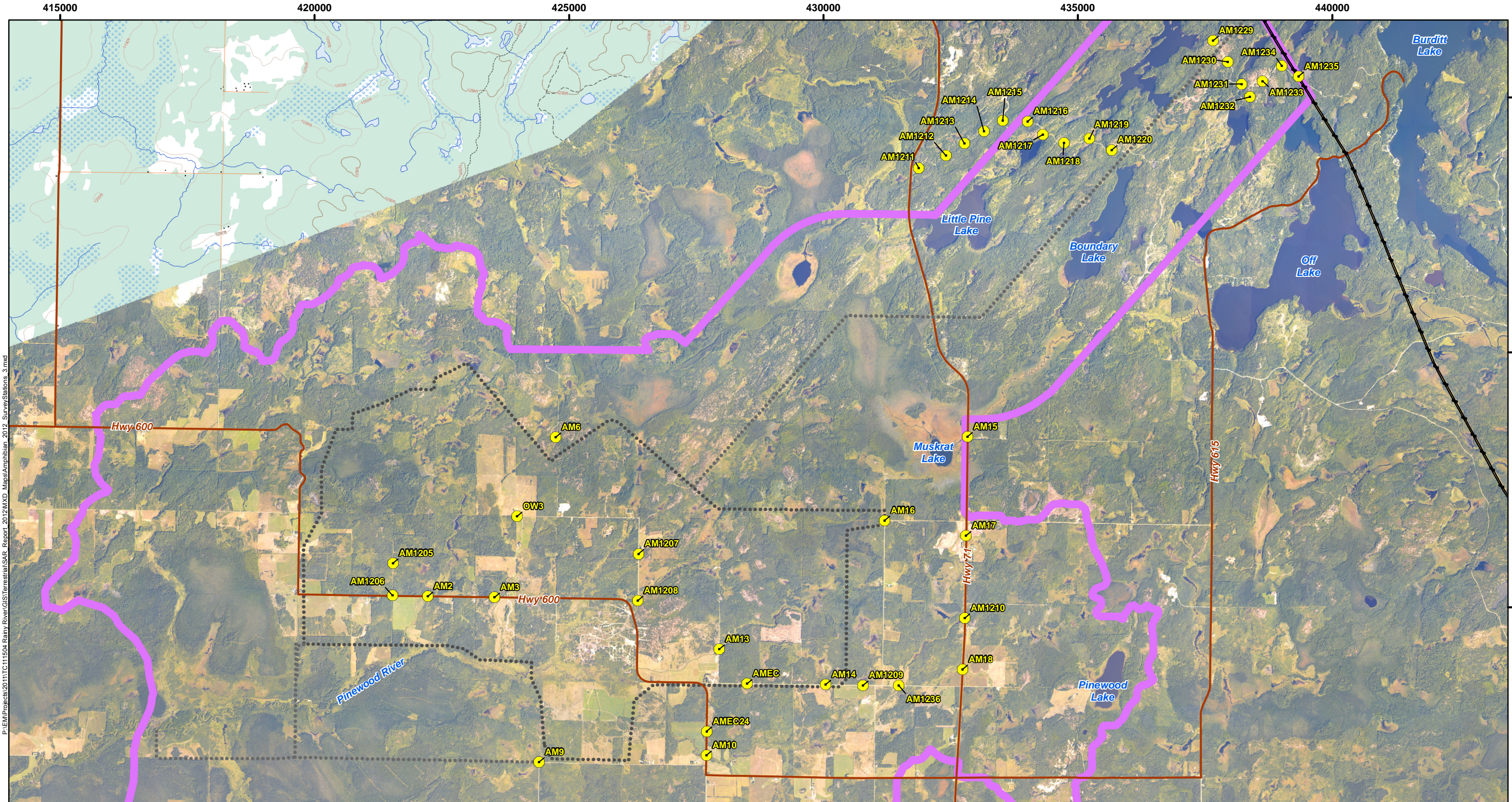
- LEGEND**
- ▲ Crepuscular Bird Survey Stations (Labelled with ID)
 - Approximate Project Boundary
 - Local Study Area (LSA)
 - Regional Road / Highway
 - Existing 230 kV Transmission Line

NOTES:
 - Road data extracted from Land Information Ontario, Ontario Road Network, MNR
 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets


RAINY RIVER GOLD PROJECT
Locations of 2012 Crepuscular Bird Survey Stations



Datum: NAD83 Projection: UTM Zone 15N	PROJECT N^o: TC111504 FIGURE: 5
	SCALE: 1:72,000 DATE: November 2012



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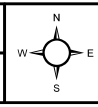
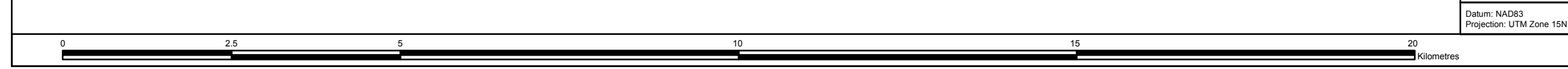
- LEGEND**
- Amphibian Survey Stations (Labelled with ID)
 - Approximate Project Boundary
 - Local Study Area (LSA)
 - Regional Road / Highway
 - Existing 230 kV Transmission Line

NOTES:
 - Road data extracted from Land Information Ontario, Ontario Road Network, MNR
 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets

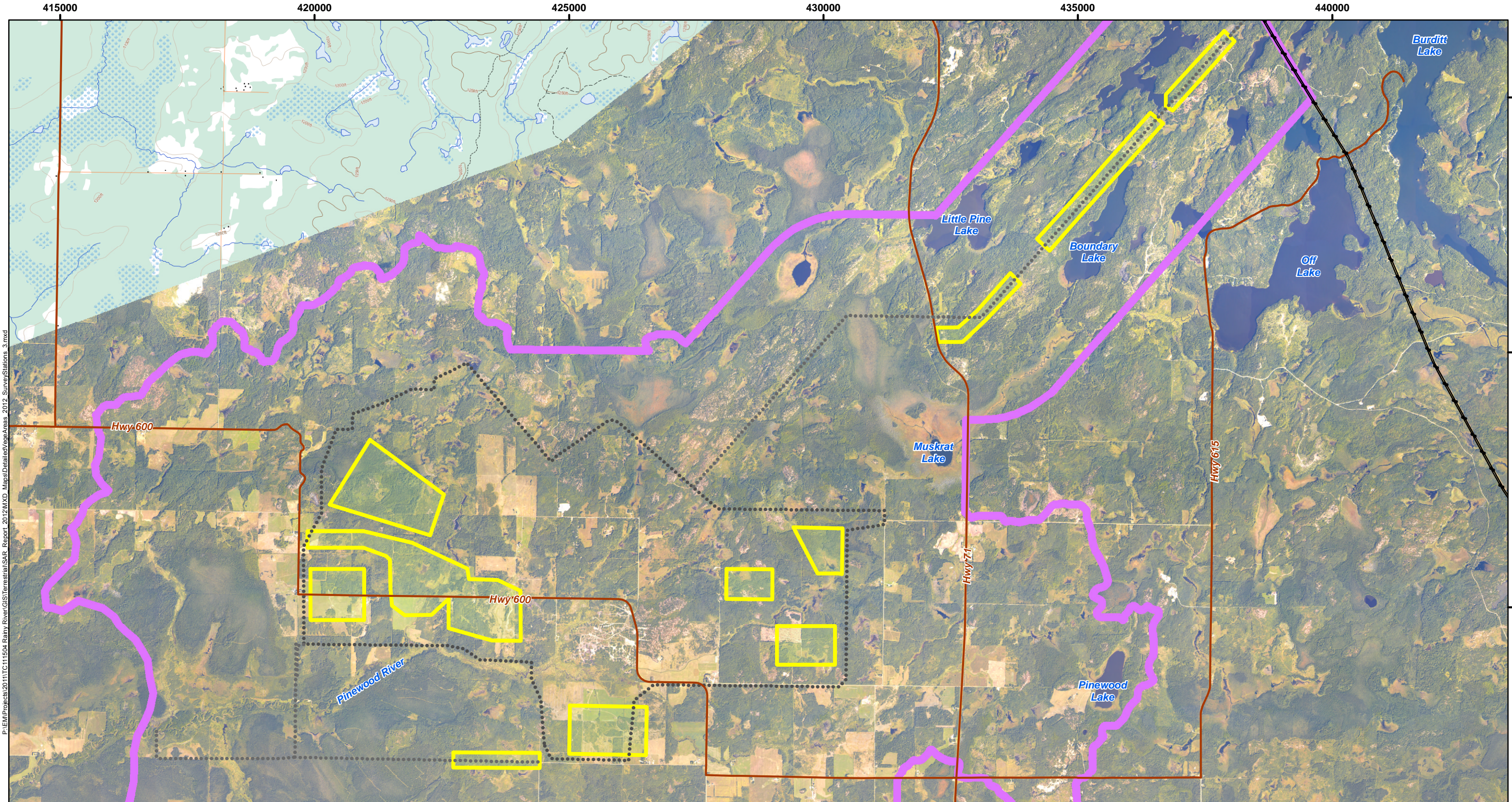


RAINY RIVER GOLD PROJECT

Locations of 2012 Amphibian Survey Stations



PROJECT N ^o : TC111504	FIGURE: 6
SCALE: 1:72,000	DATE: November 2012



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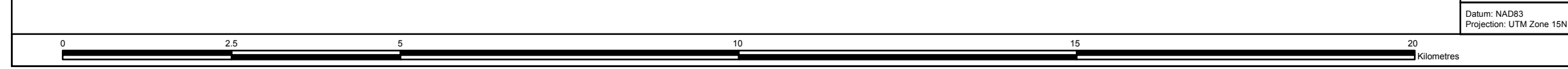
- LEGEND**
- General Area where Detailed Vegetation Surveys were Conducted
 - Approximate Project Boundary
 - Local Study Area (LSA)
 - Regional Road / Highway
 - Existing 230 kV Transmission Line

NOTES:
 - Road data extracted from Land Information Ontario, Ontario Road Network, MNR
 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets

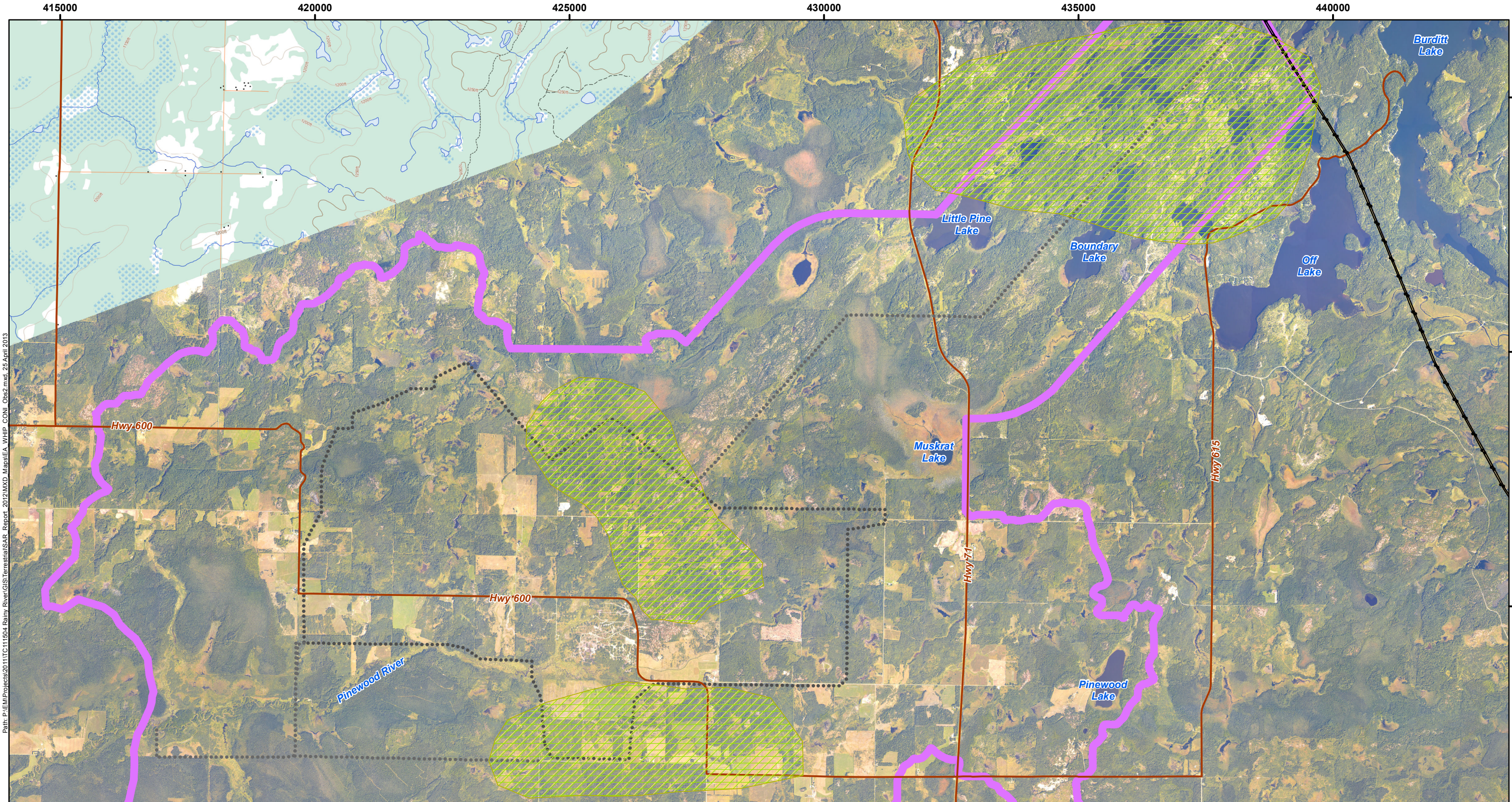


RAINY RIVER GOLD PROJECT

Locations of 2012 Vegetation Surveys



PROJECT N ^o : TC111504	FIGURE: 7
SCALE: 1:72,000	DATE: November 2012



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LEGEND

- Species at Risk General Locations
- Approximate Project Boundary
- Local Study Area (LSA)
- Regional Road / Highway
- Existing 230 kV Transmission Line

NOTES:
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 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets

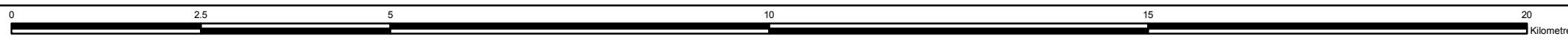
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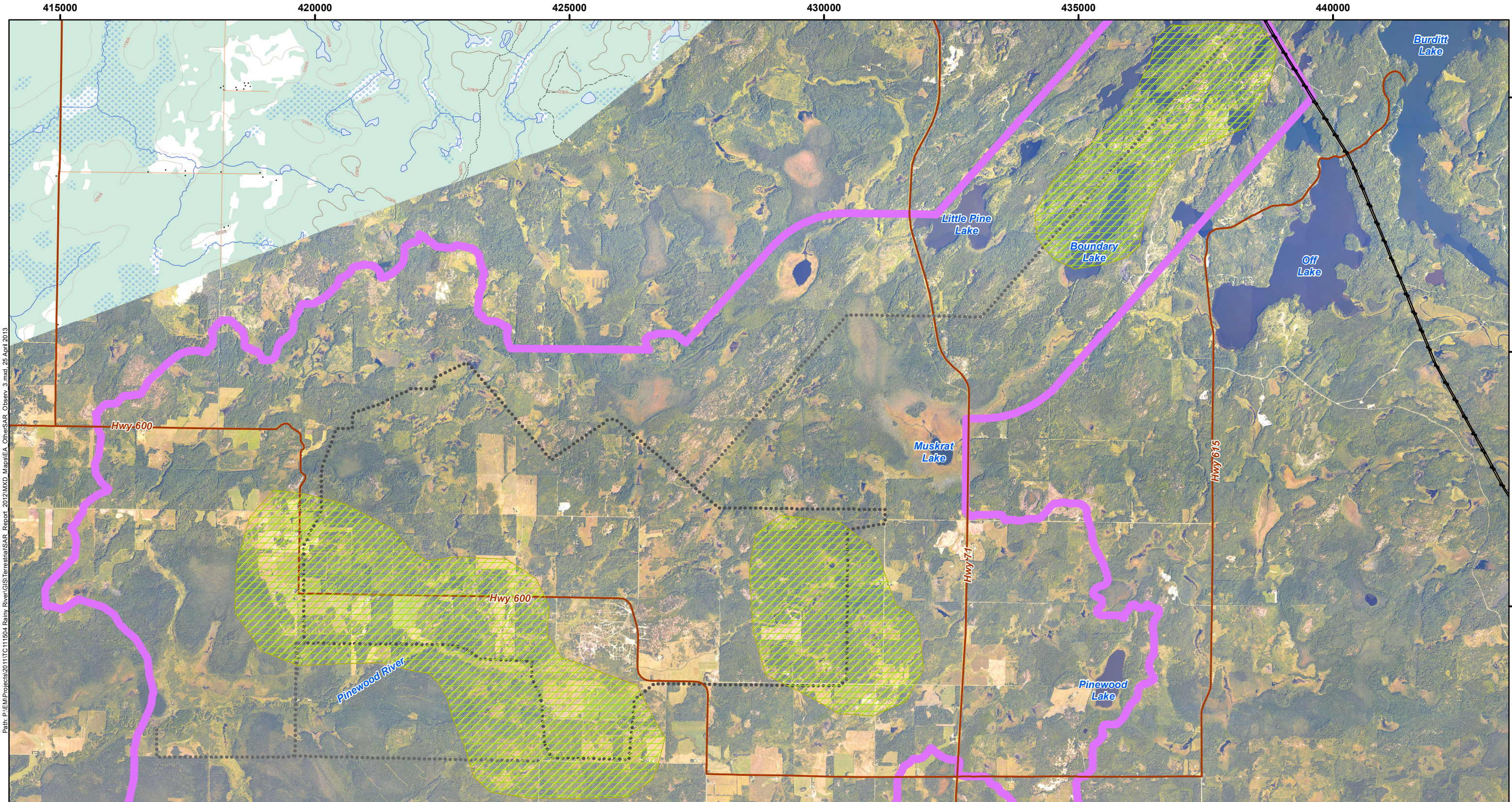
2012 Whip-poor-will and Common Nighthawk Observation Areas

Datum: NAD83
 Projection: UTM Zone 15N



PROJECT N ^o : TC111504	FIGURE: 8
SCALE: 1:72,000	DATE: November 2012





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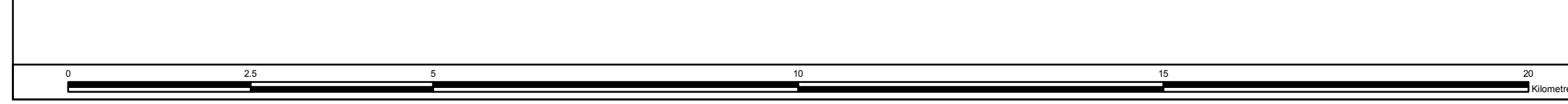
LEGEND

- Species at Risk General Locations
- Approximate Project Boundary
- Local Study Area (LSA)
- Regional Road / Highway
- Existing 230 kV Transmission Line

NOTES:
 - Road data extracted from Land Information Ontario, Ontario Road Network, MNR
 - Base map data from Geogratis NRCan Toporama DRG 1:50k sheets

RAINY RIVER GOLD PROJECT

Other 2012 Species at Risk Observation Areas



Datum: NAD83 Projection: UTM Zone 15N		PROJECT N°: TC111504	FIGURE: 9
SCALE: 1:72,000		DATE: November 2012	