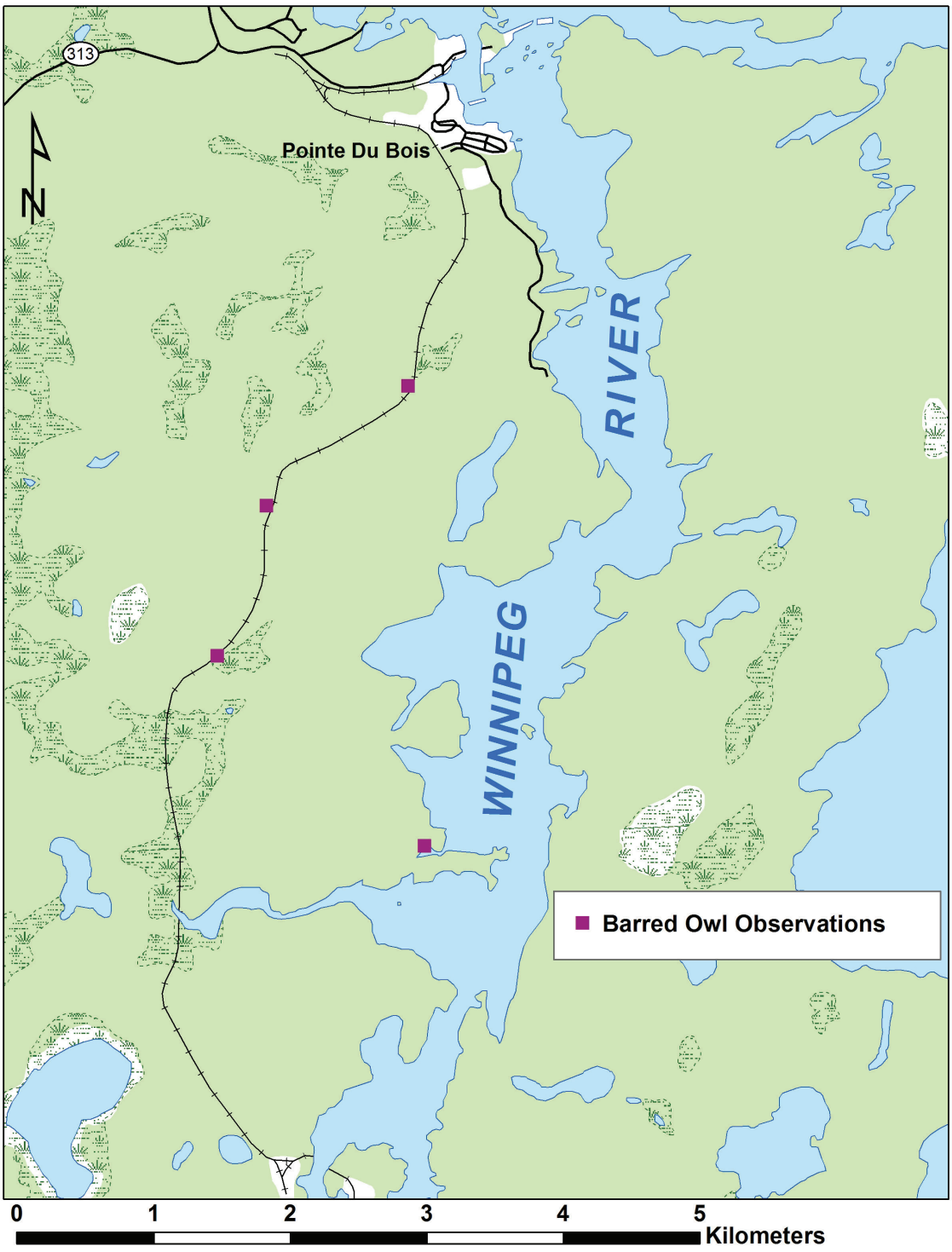


Figure 4.12: Locations of Recorded Barred Owl Calls

4.2.7 Reptiles and Amphibians

Reptiles

There are two turtle species, two salamander species, and two snake species found in south-eastern Manitoba, and therefore potentially occurring within the project study area. The snapping and western painted turtles are both aquatic species, exiting water to lay eggs (June) and to bask. Hatching occurs in September.

As with the turtles, the mudpuppy (salamander) is also a primarily water-dwelling species, found in permanent lakes, rivers and streams. The blue-spotted salamander is primarily a forest dwelling species, found beneath logs and rocks in woodlands, with breeding occurring in roadside ditches and ponds as early as April, and continuing through until early May.

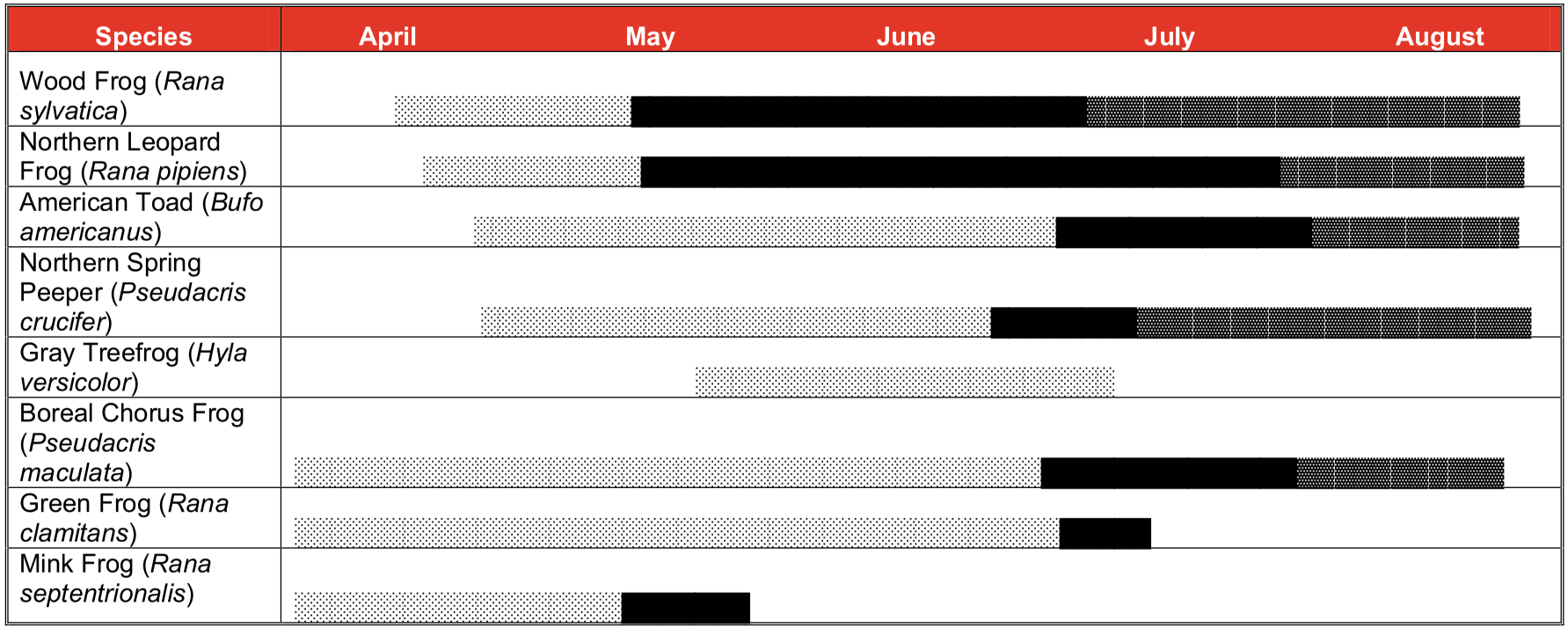
Snakes are only active during summer and are dormant in suitable hibernacula during winter. The northern redbelly snake is primarily a terrestrial species found under logs, boards or stones in open areas and meadows, while the red-sided garter snake inhabits more woodland habitat. Both species also utilize marsh habitat. Garter snake emergence from hibernacula generally occurs in late April in the project study area depending on weather, with males remaining at the emergence site for approximately a month and a half (Preston, 1982).

Amphibians

Eight anuran (frogs and toads) species occur in south-eastern Manitoba, and may potentially occur within the project study area. A summary of life histories is presented in Table 4.13. Of these eight species, the mink and green frog are both at their northwestern limit in the project study area. Both are predominately water-dwelling species, with breeding occurring from June through August. Tadpoles of these two species may overwinter in some cases and transform to the adult form the year following breeding. Both species overwinter on the bottoms of ponds, streams, rivers and lakes.

The American toad is a primarily forest-dwelling species, but has been found along lake margins in August (Preston, 1982). Breeding usually begins late April and may continue into early July, when transformation begins. Individuals of the species begin hibernating in late autumn, digging a hole in soft ground deep enough so as not to freeze. The spring peeper and gray treefrog are also both predominately forest-dwelling anurans, breeding from early May through June. Both the spring peeper and the gray treefrog hibernate under forest litter and are two of

Table 4.13. Life History Patterns for Anuran Species Found in Southeast Manitoba (Life history data from Preston 1982).



LEGEND:

BREEDING STAGE

TADPOLE STAGE

ADULT STAGE

the four anurans in Manitoba that are able to tolerate freezing. The boreal chorus, wood, and northern leopard frogs are all widely distributed within Manitoba. The boreal chorus frog inhabits grassy ponds and marshy meadows, taking refuge under rocks and logs. It is the earliest of anuran species to breed in Manitoba, with males calling shortly after spring thaw in shallow, vegetated waters. The boreal chorus frog can tolerate freezing, and will hibernate in leaf litter, under logs or in thick grassy areas.

The wood frog inhabits wooded areas, breeding after the boreal chorus frog in April. It is an explosive breeder (Seale, 1982), generally completing breeding in small pools within a week, and transforming from tadpoles to young-of-year by early July. As with the boreal chorus frog, the wood frog can tolerate freezing and hibernates under leaf litter or logs. The northern leopard frog inhabits grasslands and marshes, emerging from the bottom of lakes and other permanent water bodies shortly after spring thaw, breeding in April through May and transforming two to three months later.

During the 2007 field season, seven anuran species, one turtle species, and one snake species were detected within the project study area using three sampling methods:

- Anuran Call Surveys
- Visual Encounter Surveys
- Recording of Incidental Observations

Anuran Call Surveys

Call surveys were used to monitor anuran breeding males calling within the project study area. Surveys began after ambient temperatures exceeded the freezing point and anurans were heard calling. Early spring, late spring and summer periods were sampled in order to monitor various breeding anuran species during their respective peak breeding periods. Surveys were conducted at ten fixed points along the tramway line (Figure 4.13), determined using habitat classification data (ECOSTEM, 2007), and site reconnaissance.

Surveys were conducted according to standard protocol (Kendell, 2002) initiated a half hour after dusk, and terminated at approximately 1:00 a.m. Each survey consisted of a 5 minute survey conducted under optimal weather conditions (*i.e.,* no rain, with temperatures not below 10°C, with winds not exceeding 10 km). As a result surveys were completed at the ten survey

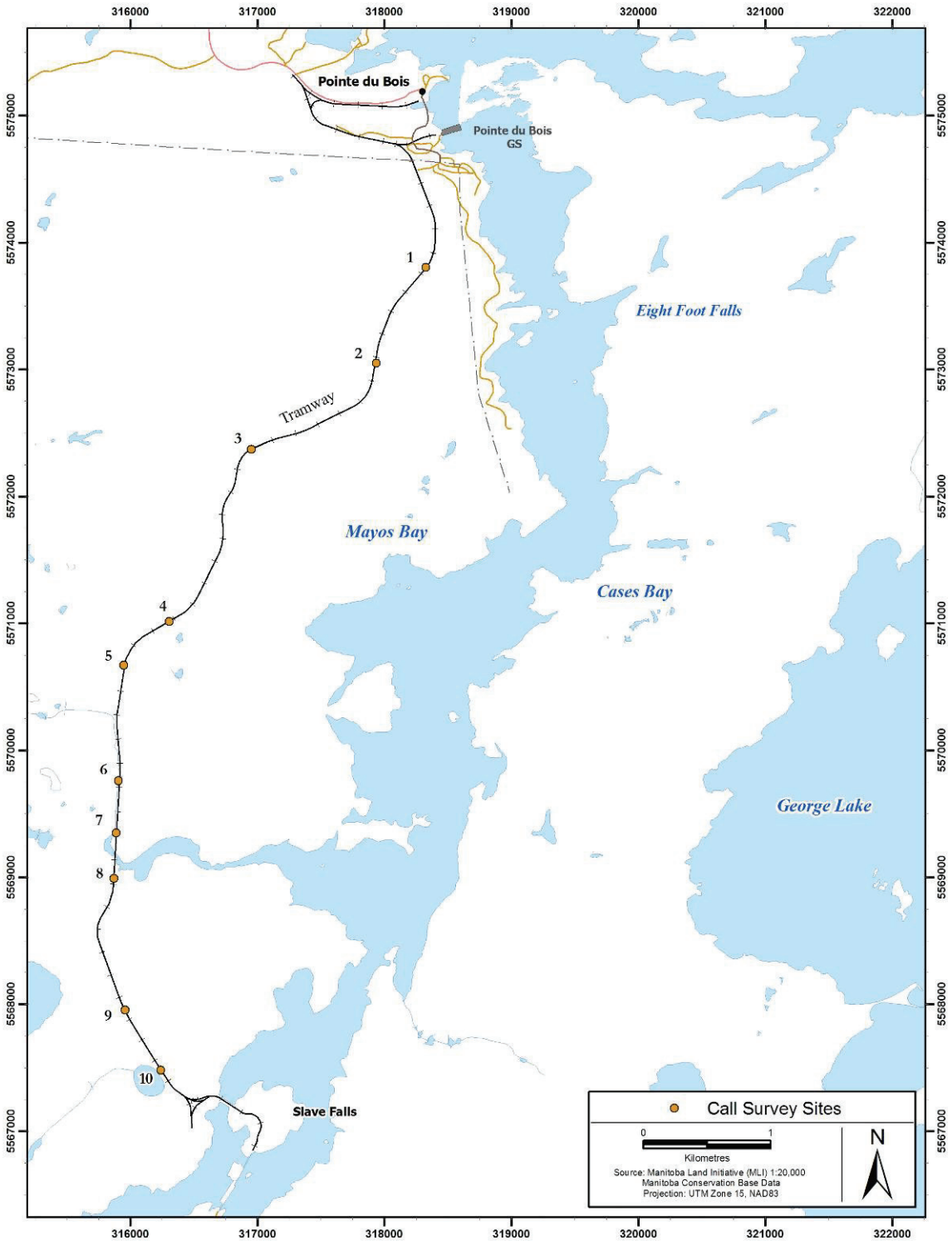


Figure 4.13: Anuran Call Survey Sites Along the Tramway Line - 2007

sites on dates (May 10, June 2 and July 19, 2007) that best represented these optimal conditions during the three peak breeding periods. A total of 30 call surveys were completed. For each species heard calling, call intensity was rated based on a 4-rank system, modified from (Kendell, 2002) (Table 4.14). The number of individuals was counted when ranks of 1, 2, or 3 were recorded, and not counted at rank 4, at which point calls were indistinguishable from one another. Estimated location of calling individuals was also recorded. At the time of each survey, site location, date, time, and weather conditions were recorded.

Table 4.14: Description of Call Ranks Used for Breeding Amphibian Call Surveys. (Modified from Kendell 2002)

Rank	Description of Call	Estimated Number of Individuals
0	No calls heard	Zero
1	Individual calls not overlapping	One individual
2	Individual calls not overlapping	Two + individuals
3	Calls overlapping but distinguishable	Several + individuals
4	Calls indistinguishable	Full chorus

During call surveys, American toads, boreal chorus frogs, gray treefrogs, mink frogs, northern leopard frogs, spring peepers and wood frogs were heard. The northern spring peeper was heard most frequently (53% of surveys), followed by the gray treefrog (33% of surveys) and the boreal chorus frog (30% of surveys). Both the northern leopard frog and mink frog were heard in 17% of surveys, and the American toad was heard in 13% of surveys. The green frog was not heard during breeding call surveys. Of all species heard, only the northern spring peeper and

the gray treefrog were heard at full choruses (4 of 30, and 8 of 30 surveys, respectively). The boreal chorus frog was also heard in high abundances, with a call rank of 3 in 10% of surveys. The remaining anurans (American toad, mink frog, northern leopard frog and wood frog) were heard at maximum call ranks of 2 (distinguishable and not overlapping).

Visual Encounter Surveys & Incidental Observations

A visual encounter survey was conducted by walking the length of the tramway line on July 30, 2007. Surveys covered all visible surrounding area on either side of the tramway (Figure 4.14). When amphibians and reptiles were seen, descriptions of the immediate location, surrounding habitat, and animal activity at the time of sighting were recorded. Throughout the 2007 field season, incidental observations (both visual and auditory) were also documented on an opportunistic basis. Anecdotal information from personnel working in the area and/or living within the area was collected as well. Where possible, date, time of observation, location, descriptions of the immediate location, surrounding habitat, and animal activity at the time of sighting were recorded.

During the visual encounter survey, four unknown frogs were observed hopping along the ditches immediately west of the tramway. Additionally, two Painted turtle shells were found, one empty, the other with turtle remains still intact - indicative of a recent death. A potential snapping turtle run was also observed, leading from the railway ties into waterways immediately east of the tramway and connected to Moose Creek. Incidental observations found three garter snakes along the tramway and one wood frog, one gray treefrog, and two painted turtles concentrated near the waterbodies continuous with Moose Creek (Figure 4.15). Three locations of historical garter snake sightings were also noted. At the extreme south end of the current tramway line, near Slave Falls, both a garter snake and an American toad were observed. Anurans were also observed at the northern reaches of the current tramway line, at the Pointe du Bois townsite, including two northern leopard frogs, one American toad and a garter snake.

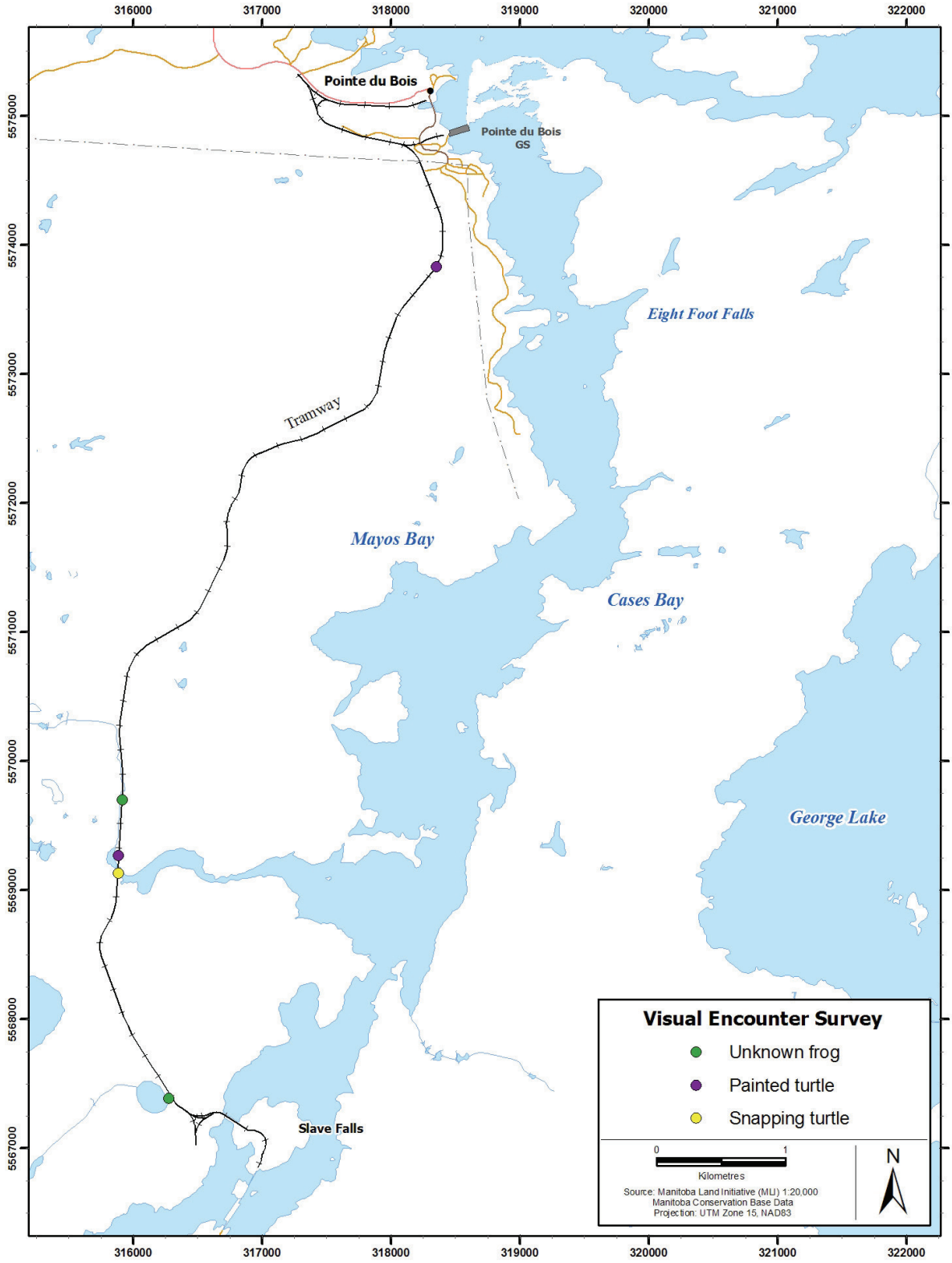


Figure 4.14: Locations of Reptiles and Amphibians Sightings During Visual Encounter Surveys Along the Tramway Line - 2007

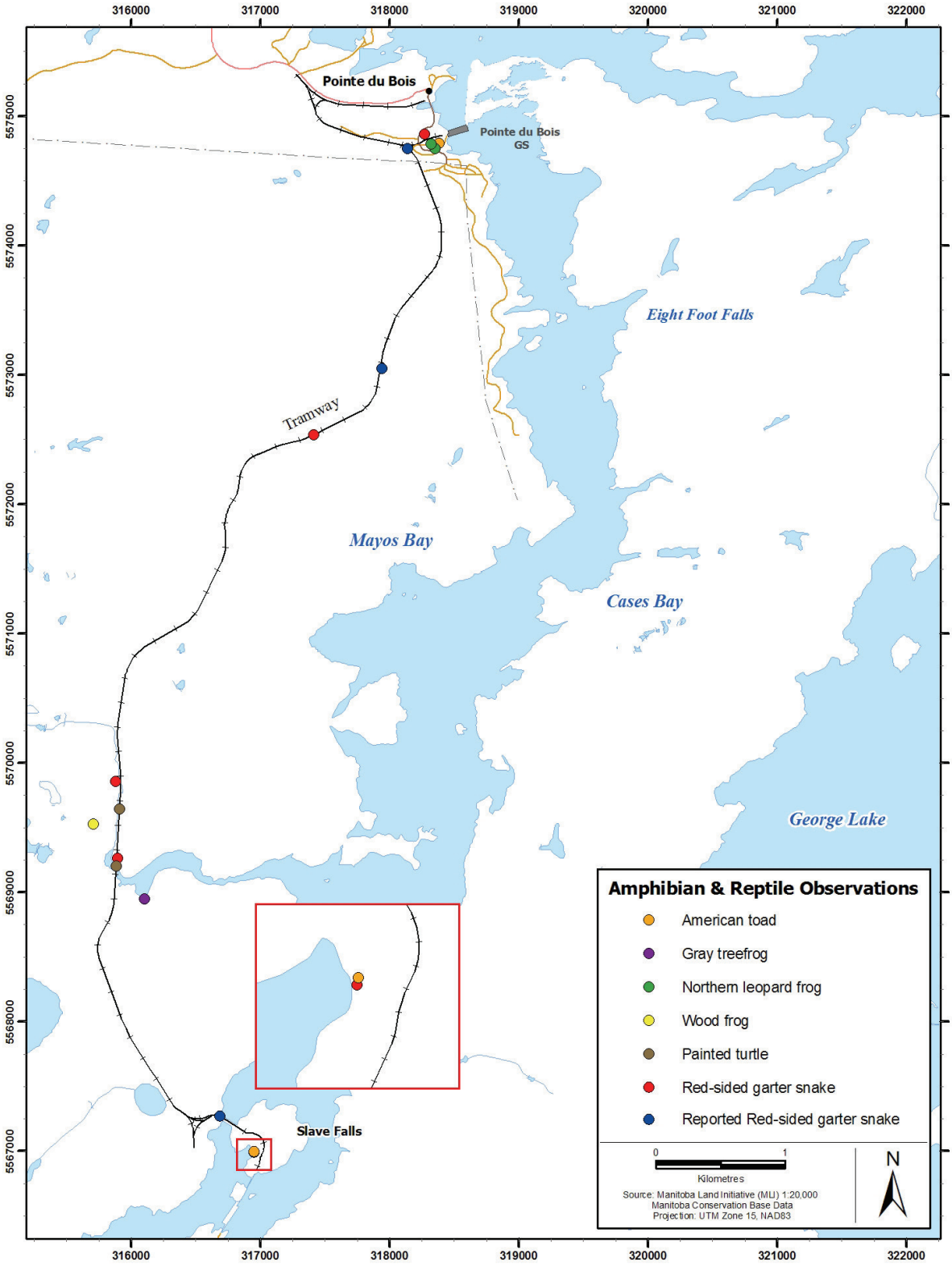


Figure 4.15: Locations of Incidental Observations of Reptiles and Amphibians Along the Tramway Line – 2007

Additional Observations

It is believed the crushed rock surficial material on the tramway may impede turtle movement. Manitoba Hydro tramway operators have witnessed turtles walking along the tramway between the rail ties. It is their view that turtles find their way under the rail ties through openings but have difficulty finding exit routes, and suffer rock cut abrasions in the process. Turtle shells found along the tramway may be indicative of mortalities resulting from such injury and tramway operators report seeing up to six turtles trapped between the rails annually resulting in two to three deaths (usually the smaller turtles). Operators also noted that fewer numbers of turtles are generally observed along the tramway alignment in recent years than was the case in the past (when loose gravel/sand is reported to have been used as the surficial material rather than crushed rock). Operators also reported sightings of turtles laying eggs in the loose gravel/sand material formerly used.

Threatened and Endangered Species

The northern leopard frog, found throughout the study area, is listed as a species of *'special concern'* by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the *Species at Risk Act* (SARA).

4.2.8 Insects

The project study area is situated within the largest of Canada's 15 terrestrial ecozones, the Boreal Shield. The terrestrial insect community within the Study Area is correspondingly typical of this ecozone. With a habitat characterized by conifers, some deciduous tree species, closed canopy cover, cold winters, extensive snow cover and extreme differences between seasons, the predominant insects of the area are advanced holometabolous taxa that undergo complete metamorphosis, such as Lepidoptera, Hymenoptera, Diptera, and Coleoptera (Biological Survey of Canada, 2007).

At the family level, about one-third of Canadian families of Coleoptera and Lepidopotera are found within the boreal zone, while at the species levels, about half to two-thirds of Canadian species occur in and around the boreal zones (Danks and Foottit, 1989).

Some economically important phytophagous species, including moths, sawflies, scolytid beetles and cerambycid beetles, show intermittent outbreaks within the boreal region (Biological Survey

of Canada 2007). Some groups, such as soil dwelling oribatid and prostigmatid mites, and even dipteran larvae, have a greater number of representative individuals in the boreal than in other zones and contribute a significant share to total soil biomass (Petersen and Luxton, 1982).

A high prevalence of standing and running water, due to melting of winter snow accumulation, low evaporation, and often poor drainage, results in an abundance of wetlands in the region. This is particularly true in the case of the road alignment, as it traverses an area with a significant wetland component to the landscape. Consequently, insect taxa with aquatic juvenile life stages from adjacent waters may also occur in the area as emergent adults (Kovats et al, 1996).

4.3 SOCIO-ECONOMIC ENVIRONMENT

4.3.1 Economy

The project study area is entirely within Whiteshell Provincial Park (Figure 4.16). It includes the town site of Pointe du Bois, which comprises 54 dwellings, 21 of which are presently occupied, plus the adjacent cottage area comprising 113 cottages and three licensed commercial operators (two lodges/outfitters and one store). Three other licensed outfitters operate in the surrounding region. Of the cottages, 17 have declared permanent residency with Manitoba Conservation.

Pointe du Bois originated as a “company” town for hydro development. It has its own municipal infrastructure including water and sewage systems. Although the community was generally self-supporting when it was relatively isolated, the introduction of a rail, and later, a road link with Lac du Bonnet created a larger socio-economic community and eliminated a number of the local amenities.

Many of the people who work for Manitoba Hydro at Pointe du Bois and Slave Falls Generating Stations live in and around Lac du Bonnet. Lac du Bonnet provides a number of basic services to the area including education, medical services, shopping, and banking. The surrounding area provides for limited commercial resource use, including forestry, outfitting, trapping and commercial recreational activities.

Labour force characteristics for the project study area and the surrounding larger region (i.e., Division No. 1 – Unorganized Territory) was collected based on Statistics Canada data (2001 Census). About 555 people in the larger region, or 83% of the region’s project area population, were of working age (i.e., 15 years of age and over). The actual employment of workers of