



Canadian Herpetological Society  
Société d'Herpétologie du Canada

# Important Amphibian and Reptile Areas Nomination Form

## SPRUCE WOODS PROVINCIAL PARK

### Part 1: IMPARA Criteria:

The Important Amphibian and Reptile Areas Program (IMPARA) Site Criteria are intended to be guidelines for identifying the importance of a site, and are somewhat flexible, depending on the specifics of the site. These criteria are intended to be the first step in a dialogue between the nominator and CHS.

Sites may be nominated based on one or more of the following criteria:

1. Sites containing species of conservation concern
2. Sites containing a high diversity of species
3. Sites that fulfill important life history function for congregations of species

#### 1. Species of Conservation Concern

A site that is nominated under this criterion must contain a significant number of individuals of a species that is of conservation concern at one or more of the following levels:

- Globally designated as Critically Endangered, Endangered or Vulnerable by the International Union for the Conservation of Nature ([IUCN](#)).
- Nationally designated as at-risk (Endangered, Threatened, and Species of Special Concern) by the Committee on the Status of Endangered Wildlife in Canada ([COSEWIC](#))
- Provincially/territorially designated as at-risk by: COSEWIC, a provincial government or other designated group that assesses the status of species within a province, or a provincial/regional Conservation Data Centre.

Defining what is meant by a "significant" number of individuals of any species is difficult given the diversity of life histories, geographic distributions and abundances of amphibians and reptiles. Here are two methods to define a significant number of individuals:

- The site holds greater than or equal to 1% of a species' Canadian population.
- The site is one of 50 or fewer sites, or is one of the 50 most important sites supporting the Canadian population of a species.

These three methods require different qualities and quantities of information. They reflect the reality that a great deal is known about some species of amphibians and reptiles, and relatively little about the majority. Therefore, we encourage nominators to include as much information as

they can in their nomination. For example, when it is possible to estimate the number of individuals at a site as well as in all of Canada, then method 1 should apply. Otherwise, if the total number of sites at which the species occurs is known, method 2 should apply. Sites from which a species has been extirpated may also be nominated if habitat restoration and/or re-introductions are underway or planned.

CHS uses the broad definition of a species used by COSEWIC, which defines species as, "Any indigenous species, subspecies, variety or geographically defined population of wild fauna and flora."

## **2. High Diversity of Species**

A site that is nominated under this criterion regularly holds a large proportion of the amphibian and/or reptile species known to be present within the nation, province/territory, region, or another spatial scale. The goal of this criterion is to identify sites that contain higher than average numbers of species. Species diversity varies significantly from region to region across Canada, and lower latitudes generally have more species than higher latitudes. This means that a significant proportion of the herpetofauna in one region may be relatively insignificant in another region, and vice versa. Therefore, it is up to the nominator to define the geographic scale (i.e. national, provincial/territorial, regional, or other) under consideration, and to demonstrate how the site's diversity is relatively high.

Nominators may also choose to make their case based on various taxonomic levels. For example, the site may hold a large proportion of the province's snake species.

## **3. Important Life History Requirements**

A site that is nominated under this criterion is used by exceptionally large numbers of amphibians and/or reptiles that congregate for the purpose of completing some life history activity such as reproduction, hibernation, or thermoregulation (e.g. communal hibernation sites, vernal breeding ponds). The nominator should define the geographic scale at which this site should be considered important. Nominators should also provide evidence supporting their claim that the congregation of a species at the site is exceptionally large.

## **Other Considerations**

Important Amphibian and Reptile Areas must have clear boundaries (geographical or political), and must be large enough to potentially support self-sustaining populations. However, they should also be small enough that they form units amenable to locally-oriented conservation and restoration. While areas that already protect amphibian and reptiles (i.e., parks and conservation areas) are obvious candidates for IMPARA designation, it is also important to nominate areas that are not currently protected.

## Part 2: Nomination Form

### Personal Information

Name: Pamela Rutherford  
Organization/Affiliation: Brandon University  
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City/Town: Brandon  
Province/Territory: Manitoba  
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### Location

Site names: Spruce Woods Provincial Park (SWPP)  
Province/Territory: Manitoba County/Region/District(s): Canada  
Closest City/Town: Carberry  
UTM/Geographical Coordinates: 49°39' N, 99°1' W  
Directions to Site: Leaving Winnipeg on Highway 1 West, travel 160 km to the junction with PTH 5 at Carberry. Drive south for 20 km to SWPP.  
Maps (please attach): See Figure 1 and Figure 2.  
Other: Spruce Woods Provincial Park has a large camping area available for visitors, as well as a significant amount of infrastructure built to provide entertainment, education, and other amenities for these visitors. There are also many groomed and developed trails all over the area. There are a number of other more eco-tourist type activities available at the park, such as long hiking trails through fairly remote areas, fishing, canoeing, bird watching, and many winter activities.

### Physical Description

Area (please specify units): 26,900 ha

Please describe the site, providing information of habitat type, vegetation type, presence and type of water bodies:

This area consists of different cover types (Figure 3). These cover types include: spruce parkland, upland deciduous forest, the mixed grass prairie of the area holds both short and tall grass prairie, the latter of which is an endangered ecosystem (Manitoba Sustainable Development). There is also a large area of approximately 400 ha of open and stabilized sand dunes known as the Spirit Sands. Sand dunes of this scale can be found nowhere else in Manitoba, and very few other places in Canada. The area also has a large amount of stable and seasonal water bodies which consists of underground streams, wetlands, and a large section of the Assiniboine River. Around the Assiniboine there is a large expanse of river-bottom forest.

## Land Ownership

If there are five or fewer owners, please list them. Otherwise, an appropriate government representative, such as municipal council or regional district, is sufficient.

Name: Manitoba Parks  
Organization/Affiliation: Government of Manitoba  
Address: Box 900  
City/Town: Carberry  
Province/Territory: Manitoba  
Postal Code: R0K 0H0  
Telephone and Fax: (204) 834-8800  
E-mail:

Are the land owners/managers aware of the importance of the site to amphibian and reptile conservation? Yes

Are they aware of this site nomination, and if so did they participate in the process?  
Yes, SWPP is aware of this nomination and fully supports it. The park interpreters were very helpful with the process. Madelyn Robinson, in particular, being an amazing resource with her knowledge from her position as a permanent Spruce Woods Provincial Park interpreter.

## Amphibian and Reptile Species

In the table provided, please list all species of amphibians and reptiles recorded at the site, estimated numbers of individuals of each species (if known), and any citations from which information was obtained (include the name of an observer if information is not published). Provide a Literature Cited section at the end of the nomination.

The following is a description of the relative abundance categories used in the following table:

- **Rare:** Restricted to specialized habitats that are very limited (occur in less than 25% of the site) and / or occurs at very low density and is usually not encountered during surveys
- **Uncommon:** Encountered as often as not during surveys but is likely to be seen over several days of surveys
- **Common:** Usually encountered during surveys, multiple individuals often encountered during surveys of high quality habitat; typically widespread and occurs in a variety of habitats throughout the site
- **Abundant:** Many individuals encountered regularly during surveys, typically “tripping” over this species in high quality habitat (e.g. concentrations of leopard frogs along a shoreline); widespread and occurs in a variety of habitats throughout the site

<b>Species</b>	<b>Status</b>	<b>No. of Individuals</b>	<b>References</b>
<i>Plestiodon septentrionalis</i> (Prairie Skink)	Endangered (SARA)	Common	(COSEWIC 2004)
<i>Heterodon nasicus</i> (Western Hognose Snake)	Threatened (Manitoba)	Rare	(Manitoba Species at Risk)
<i>Thamnophis sirtalis parietalis</i> (Red-sided Garter snake)	Not assessed	Common	
<i>Thamnophis radix</i> (Western Plains Garter snake)	Not assessed	Rare	
<i>Storeria occipitomaculata</i> (Northern Red-bellied Snake)	Not assessed	Rare	
<i>Liochlorophis vernalis</i> (Smooth Greensnake)	Not assessed	Common	
<i>Chrysemys picta bellii</i> (Western Painted Turtle)	Not At Risk	Common	(COSEWIC 2006a)
<i>Chelydra serpentina</i> (Common Snapping Turtle)	Special Concern (SARA)	Rare	(COSEWIC 2008a)
<i>Ambystoma mavortium</i> (Western Tiger Salamander)	Special Concern (SARA)	Uncommon	(COSEWIC 2012)
<i>Anaxyrus hemiophrys</i> (Canadian Toad)	Not At Risk (SARA)	Uncommon	
<i>Pseudacris maculata</i> (Boreal Chorus Frog)	Not assessed	Common	
<i>Hyla chrysoscelis</i> (Cope's Gray Treefrog)	Not At Risk (SARA)	Uncommon	
<i>Lithobates pipiens</i> (Northern Leopard Frog – Prairie Population)	Special Concern (SARA)	Common	(COSEWIC 2002)
<i>Lithobates sylvaticus</i> (Wood Frog)	Not assessed	Common	

## Other Species

Please list other significant non-amphibian and non-reptile species (e.g. rare or endemic) that are present at the site and describe the importance of the site to these species.

Species	Status	Importance of Site	References
<i>Hesperia ottoe</i> (Ottoe Skipper)	Endangered (SARA)	In Canada, the Ottoe Skipper has been recorded from three localities in southern Manitoba. It was last recorded in Canada in 1986 from Spruce Woods Provincial Park and was not found in surveys conducted in 2002 and 2003. It is possible that it is extirpated in Canada. If a population is still extant in Canada, a continuing decline is expected due to habitat loss and degradation.	(COSEWIC 2005a)
<i>Schinia avemensis</i> (Gold-edged Gem)	Endangered (SARA)	In Canada, they are known from two disjunct populations, separated by about 750 km, in the southernmost portion of the three Prairie provinces. One population occurs at a single site, Spirit Dunes, in southwestern Manitoba, and the second population occurs at three current sites and a fourth historical site in southwestern Saskatchewan and southeastern Alberta.	(COSEWIC 2006b)
<i>Schinia verna</i> (Verna's Flower Moth)	Threatened (SARA)	First reported in Canada in 1929, Verna's Flower Moth has been reported in a total of four localities, all in the Prairie provinces, from Spruce Woods Provincial Park in Manitoba to Jenner and Medicine Hat in Alberta. The species is believed to be extant at only one site. The most recent record is a single specimen collected in 2000 in the Red Deer River valley, north of Jenner, Alberta.	(COSEWIC 2005b)
<i>Schinia bimatrix</i> (White Flower Moth)	Endangered (SARA)	The White Flower Moth is present at the Spirit Dunes in SWPP, and at the Canadian Forces Base Shilo, near Brandon, Manitoba. Additional field surveys are needed in southwestern Manitoba to determine if the species is restricted to this region, or if populations are more widespread in dune habitats overgrown by plants.	(COSEWIC 2014a)
<i>Buteo regalis</i> (Ferruginous Hawk)	Threatened (SARA)	East of the Rocky Mountains, the Ferruginous Hawk is strongly dependent on native grasslands, which have been subject to degradation, conversion and fragmentation by urbanization, farming and industrial development.	(COSEWIC 2008b)
<i>Anthus spragueii</i> (Sprague's Pipit)	Threatened (SARA)	Native grassland is an important habitat for Sprague's Pipits.	(COSEWIC 2010)
<i>Lanius ludovicianus excubitorides</i> (Loggerhead Shrike - Prairie Subspecies)	Threatened (SARA)	Suitable habitat includes pasture, old fields, prairie, savannah, pinyon-juniper woodland, shrub-steppe and alvar. In 2002 there were ~ 118 individuals in MB, the numbers are declining quickly. A drop in the reproductive success rate has been observed in MB since 1993, which has been a contributing factor to the overall population collapse.	(COSEWIC 2014b)

## Site Criteria

Under each category, please provide a description of how this site fulfills the Important Amphibian and Reptile Areas criteria (see Part 1). If a category does not apply to this site then simply leave it blank (e.g. if there are no threatened species present then leave the Threatened Species category blank).

### 1. Species of Conservation Concern:

The Spirit Sands in Spruce Woods Provincial Park is a rare type of habitat in Canada, and is found nowhere else in Manitoba. Its large stretches of open sand contain Manitoba's only lizard species, and one of only six native lizard species in Canada, the endemic and endangered Northern Prairie Skink (Manitoba Sustainable Development). The Prairie Skink, *Plestiodon septentrionalis*, consists of 3 subspecies (Crother 2012), one of which, the Northern Prairie Skink (*Plestiodon septentrionalis septentrionalis*), occurs only in Canada and is endemic to Manitoba (COSEWIC 2004). The Northern Prairie Skink is listed under the Manitoba Endangered Species Act. The Spirit Sands at SWPP have a substantial amount of habitat for the Canadian population of Northern Prairie Skink.

The Northern Leopard Frog (Prairie Population) is a common inhabitant of this area, although population sizes are not known. This subpopulation is classified Special Concern in Canada (COSEWIC 2002). This species is widespread but occurs as scattered populations that fluctuate widely in size. The destruction or modification of this species' breeding, summer, or overwintering habitat, or a change that prevents the frogs from moving from one habitat type to another, can eliminate a local population. Introduction of animals or plants, such as common carp or purple loosestrife, can make habitat unsuitable for Northern Leopard Frogs. In addition, commercial collection of Northern Leopard Frogs in Manitoba may threaten the local populations.

### 2. High Species Diversity:

With an area of 269 km<sup>2</sup>, Spruce Woods Provincial Park is characterized by spruce parkland, upland deciduous forest, mixed-grass prairie, open and stabilized sand dunes, and river-bottom forest. There are 14 different species of reptiles and amphibians that require this area for their various life stages. Provincially, SWPP is rich in its reptile and amphibian diversity. Being that it holds Manitoba's only lizard species, and one of only 6 species in Canada, the Northern Prairie Skink, makes it imperative to ensure the protection of this unique ecosystem.

Along with the reptile and amphibian species found in this area, the area is rich in other species. There are at least 7 species of birds and invertebrates that are Species at Risk, and require habitat only found within SWPP.

### 3. Important Life History Requirements:

## Human Impacts

Please describe how human activities are impacting the site and the immediately surrounding areas in the following ways:

- Current site usage (if any), e.g. industrial, residential, farming, logging, camping, recreation, etc. (please indicate relative importance):

Classified as a Natural Park, its purpose is to preserve areas that are representative of the Assiniboine Delta Natural Region; and accommodate a diversity of recreational opportunities and resource uses (Manitoba Sustainable Development). The park:

- o Provides nature-oriented recreational opportunities such as hiking, cross-country skiing, horseback riding and wildlife viewing in a largely undisturbed environment;
- o Provides opportunities for high-quality intensive recreational developments such as trails, campgrounds, day-use areas and picnic sites;
- o Protects and profiles Aboriginal heritage in the Spirit Sands area and the early settlement along the Assiniboine River valley; and
- o Promotes public appreciation and understanding of the park's natural features

Within the centre of SWPP, there is a privately-owned plot of land that is used for agriculture, and may be a barrier for the movement for some species.

- Pollution (air, water, light, noise):

The area encompassing SWPP experiences similar pollution types and levels of many other provincial parks. It has a significant traffic volume with tens of thousands of visitors every year, although this has declined since the significant flooding event in 2011. In addition, recent construction of the nearby Sand Hills Casino in 2014 has brought more traffic to the area. Large numbers of visitors contributes to increased air and noise pollution. The area is not as affected by light pollution as many other parks, and is under consideration for a "Dark Sky" designation (Robinson, M. 2009, Personal Communication). The Spirit Sands and the Devil's Punchbowl are areas that are geared towards the more experienced eco-tourist, due to their more harsh conditions. Therefore, except for the infrastructure built by the park, there is limited disturbance and pollution to these areas. Much of the infrastructure of SWPP was destroyed in the 2011 flooding, and the park is still in the process of rebuilding this infrastructure. The park surrounds a large portion of the Assiniboine River. According to a number of samples taken from the Assiniboine River in nearby Brandon, this river is relatively polluted (Paton, Unpublished Data).

- Threats to habitat (e.g. development, habitat loss or degradation, succession, fire)

Potato farming has greatly increased in the Carberry area. In 1961, approximately 5000 ha were planted in potatoes, but by 2004 this had increased to over 40 000 ha (Khakbazan et al. 2010). Potato fields now border CFB Shilo, and are encroaching on SWPP, likely resulting in loss of Northern Prairie Skink habitat in the area. In a study of mixed-grass prairie conducted by the province of Manitoba at 83 sites, it was found that 5004 ha of mixed-grass prairie were lost to the plough from 1995-1998 and an additional 1125 ha of mixed-grass prairie was slated for cultivation. Cultivation was identified as the major threat to mixed-grass prairie (Mansell and Moore 1999).

Within the Carberry Sandhills, as in the rest of North America (Samson et al. 2004), the amount of mixed-grass prairie habitat has declined throughout the 20th century as a

result of numerous factors, including cultivation, urbanization, road construction, fire suppression resulting in the succession of prairie to Aspen Parkland, and the invasion of the exotic Leafy Spurge.

To date, Northern Prairie Skinks are now absent from a minimum of four areas because of succession, and to date, there are at least a minimum of three sites no longer have skinks as a result of Leafy Spurge taking over the understory (COSEWIC 2004).

In 2014, the Sand Hills Casino opened; it is located 5 minutes north of the park boundary on the grounds of the Swan Lake Indian Reserve. Construction of the casino has resulted in loss of habitat, increased traffic, as well as an influx of inexperienced visitors to the area could create problems for the park and its species.

- Past or current habitat conservation or restoration efforts:

The area is protected by being listed under the title of a Natural Park (Manitoba Sustainable Development). Conservation Officers and Park Interpreters attempt to patrol the entire area of the park and control the many thousands of visitors that come to the park every year. They are also responsible for reducing and mitigating damage done by visitation, through education of the public on the importance of the area and education of the Park Regulations. Park Regulations include:

- Stay on the trails. Access to the Spirit Sands is restricted to designated hiking trails and covered wagon routes;
- Do not pick or remove any object including plants, minerals and animals here or elsewhere in the park;
- Pets must be kept on a leash at all times;
- Bicycle, horse and ATV riding are not permitted; and
- Do not litter; pack out what you packed in.

These rules are great guidelines to give visitors, however it is very difficult to enforce these rules in such a large area with limited staff.

### **Recommended conservation actions for this area**

Please describe any conservation actions that are needed/recommended for this area:

The presence of the endemic Northern Prairie Skink in SWPP makes it imperative that the area be protected through enforcement of Park Regulations. It is particularly important that hikers stay on the trails, do not modify the habitat and do not litter. Spruce Woods Provincial Park has educational signage, as well as interpreters who do a wonderful job of educating visitors about the species and how important it is to protect and conserve the area. In addition, SWPP hosts an annual event called Skinkfest, that focuses on amphibian and reptile education for a weekend in August each summer.

## Other Concerned Organizations

Please provide contact information for organizations or individuals that are involved in protection/conservation of this site, *i.e.* World Wildlife Fund Canada, Nature Conservancy Canada, Ducks Unlimited, Federation of Nova Scotia Naturalists.

- The Friends of Spruce Woods: <https://www.friendsofsprucewoods.com>
- Manitoba Herp Atlas: [http://www.naturenorth.com/Herps/Manitoba\\_Herps\\_Atlas.html](http://www.naturenorth.com/Herps/Manitoba_Herps_Atlas.html)
- Nature Conservancy Canada: <http://www.natureconservancy.ca/en/where-we-work/manitoba>

## Previous Work

Please list studies/documents/papers that have been derived from this site. If possible, include the documents with the submission or provide enough information so that the sources can be retrieved by CHS

Cairns, N.A. 2007. Habitat suitability model for the Northern Prairie Skink (*Eumeces s. septentrionalis*) in Manitoba. Technical Report submitted to Manitoba Conservation. 21 pp.

Chhin, S., and G.G. Wang. 2002. Spatial and temporal pattern of white spruce regeneration within mixed-grass prairie in the Spruce Woods Provincial Park of Manitoba. *J. Biogeogr.* 29:903–912.

Chhin, S., and G.G. Wang. 2007. Growth of White Spruce, *Picea glauca*, seedlings in relation to microenvironmental conditions in a forest-prairie ecotone of Southwestern Manitoba. *Can. Field Nat.* 121:191–200.

Chhin, S., and G. Wang. 2008. Climatic response of *Picea glauca* seedlings in a forest-prairie ecotone of Western Canada. *Ann. For. Sci.* 65:207.

Chhin, S., and G.G. Wang. 2016. Climatic sensitivity of a mixed forest association of White Spruce and Trembling Aspen at their southern range limit. *Forests* 7:235.

Chhin, S., G.G. Wang, and J. Tardif. 2004. Dendroclimatic analysis of white spruce at its southern limit of distribution in the Spruce Woods Provincial Park, Manitoba, Canada. *Tree-Ring Res.* 60:31–43.

Dransfield, A.S. 2008. The impact of habitat modification and fragmentation on the Northern Prairie Skink (*Eumeces septentrionalis*) populations in Manitoba. Technical Report submitted to Manitoba Conservation. 40 pp.

Larkin, J.A. 2011. Microhabitat preferences of the prairie skink (*Plestiodon septentrionalis*) in southwestern Manitoba. MNRM Thesis, University of Manitoba. 77 pp.

Larkin, J.A., and P.L. Rutherford. 2008. Management implications of the effects of leafy spurge (*Euphorbia esula*) on northern prairie skink (*Eumeces septentrionalis*) microhabitat in southwestern Manitoba. Technical Report submitted to CFB Shilo. 38 pp.

Robson, D.B. 2014. Mutualistic and antagonistic networks involving the rare silky prairie-clover

(*Dalea villosa* var. *villosa*) and its co-flowering plants and insect visitors. *Botany* 92:47–58.

Scott, J.L. 2007. Activity and habitat use of prairie skinks, *Eumeces septentrionalis*, in Manitoba. M.Env. Thesis, University of Manitoba. 155 pp.

Wang, G.G., S. Chhin, and W.L. Bauerle. 2006. Effect of natural atmospheric CO<sub>2</sub> fertilization suggested by open-grown white spruce in a dry environment. *Global Change Biol.* 12:601–610.

Westwood, A., and C. Friesen. 2009. Occurrence and habitat of the endangered White Flower Moth, *Schinia bimatrix* (Lepidoptera: Noctuidae), in Manitoba. *Can. Entomol.* 141:80–85.

### Literature Cited

Please list any references cited in this nomination.

COSEWIC. 2002. COSEWIC assessment and status report on the northern leopard frog *Rana pipiens* (Southern Mountain and Western Boreal/Prairie populations) in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vi + 39 pp.

COSEWIC. 2004. COSEWIC assessment and update status report on the prairie skink *Eumeces septentrionalis* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vi + 22 pp.

COSEWIC. 2005a. COSEWIC assessment and status report on the Ottoo Skipper *Hesperia ottoe* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vi + 26 pp.

COSEWIC. 2005b. COSEWIC assessment and status report on the Verna's Flower Moth *Schinia verna* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vi + 19 pp.

COSEWIC. 2006a. COSEWIC assessment and status report on the Western Painted Turtle *Chrysemys picta bellii* (Pacific Coast population, Intermountain-Rocky Mountain population and Prairie/Western Boreal - Canadian Shield population) in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vii + 40 pp.

COSEWIC. 2006b. COSEWIC assessment and status report on the Gold-edged Gem *Schinia avemensis* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vi + 26 pp.

COSEWIC. 2008a. COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vii + 47 pp.

COSEWIC. 2008b. COSEWIC assessment and update status report on the Ferruginous Hawk *Buteo regalis* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. vii + 24 pp.

- COSEWIC. 2010. COSEWIC assessment and status report on the Sprague's Pipit *Anthus spragueii* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. xi + 34 pp.
- COSEWIC. 2012. COSEWIC assessment and status report on the Western Tiger Salamander *Ambystoma mavortium* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. xv + 63 pp.
- COSEWIC. 2014a. COSEWIC assessment and status report on the White Flower Moth *Schinia bimatrix* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. xi + 43 pp.
- COSEWIC. 2014b. COSEWIC assessment and status report on the Loggerhead Shrike Eastern subspecies *Lanius ludovicianus ssp.* and the Prairie subspecies *Lanius ludovicianus excubitorides* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. xiii + 51 pp.
- Crother, B.I. 2012. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding. Herpetological Circular 39:340–341.
- Khakbazan, M., R.M. Mohr, K.M. Volkmar, D.J. Tomasiewicz, A.P. Moulin, D.A. Derksen, B.R. Irvine, D.L. McLaren, and M.A. Monreal. 2010. The Economics of Irrigated Potato Crop Rotation in Manitoba. *Am. J. Potato Res.* 87:446–457.
- Manitoba Species at Risk. Manitoba Species At Risk. Available at <http://www.gov.mb.ca/sd/wildlife/sar/sarlist.html>.
- Manitoba Sustainable Development. Spruce Woods Provincial Park. Available at [https://www.gov.mb.ca/sd/parks/popular\\_parks/western/spruce\\_info.html](https://www.gov.mb.ca/sd/parks/popular_parks/western/spruce_info.html).
- Mansell, T., and J. Moore. 1999. Mixed-grass Prairie Inventory of Manitoba. Interim Status Report. Critical Wildlife Habitat Program and Manitoba Conservation. 135 pp.
- Samson, F.B., F.L. Knopf, and W.R. Ostlie. 2004. Great Plains ecosystems: past, present, and future. *Wildl. Soc. Bull.* 32:6–15.

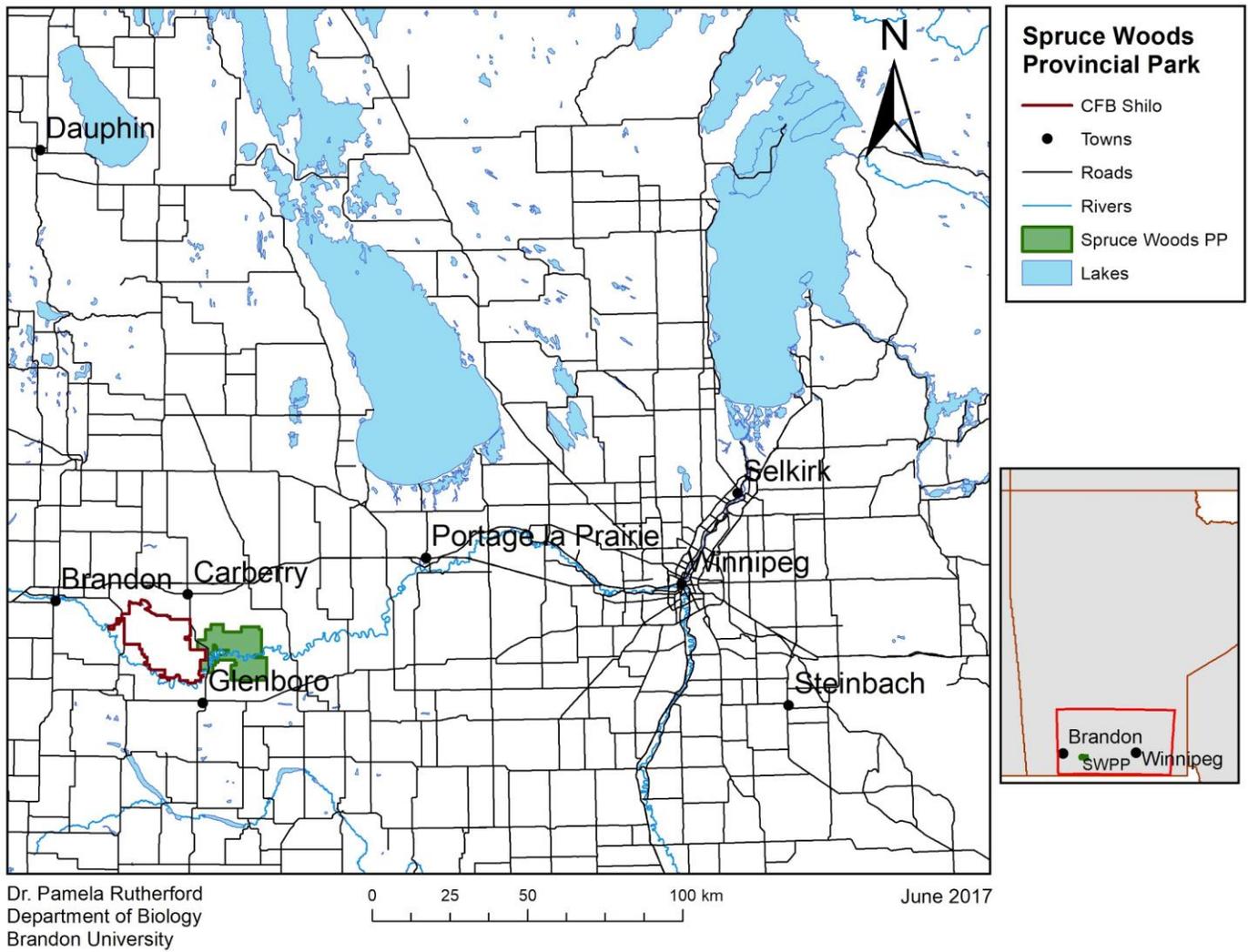
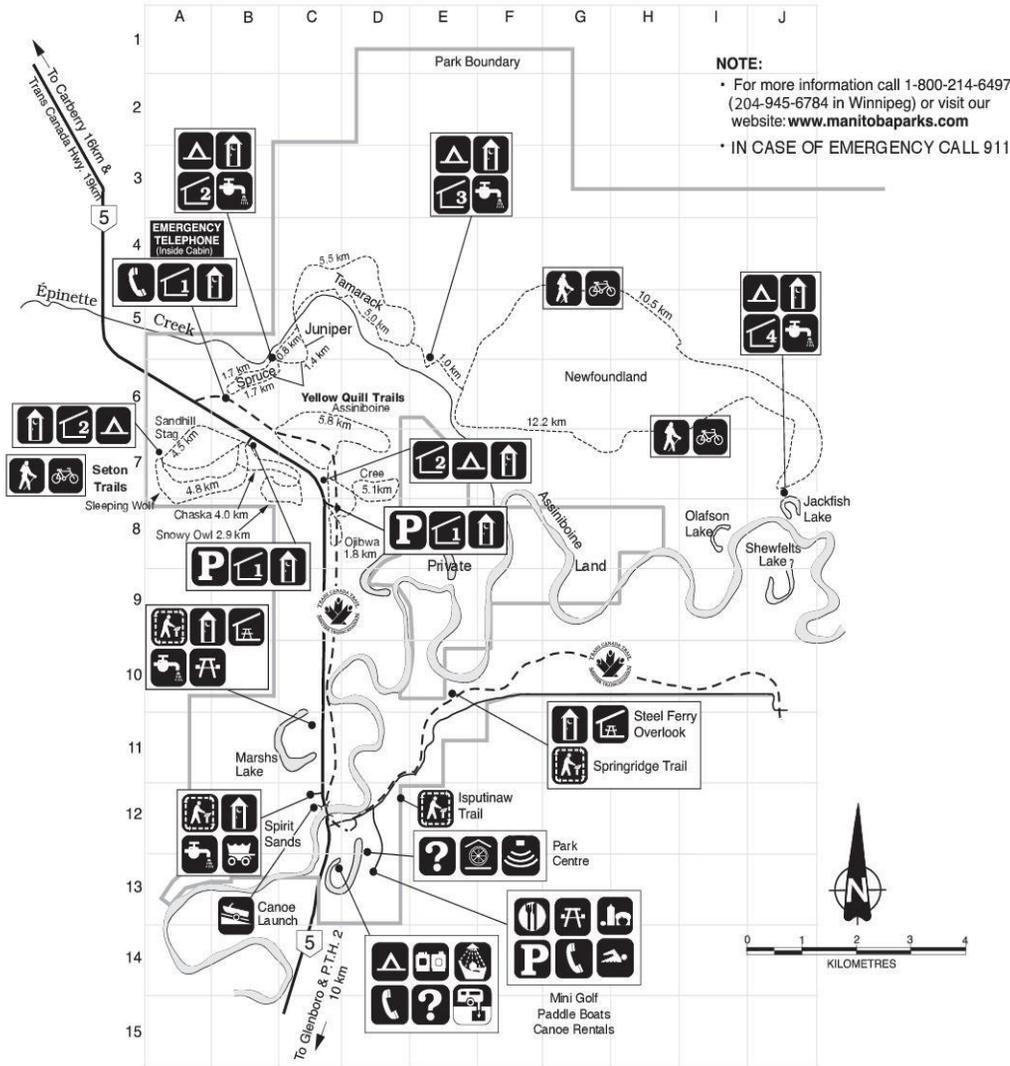


Figure 1. Location of Spruce Woods Provincial Park in Manitoba.

# Summer Recreation Activities

Spruce Woods  
Provincial Park



## LEGEND


April 2013

Manitoba

Figure 2: Summer recreation activities at Spruce Woods Provincial Park, Manitoba.



Figure 3: There are a range of habitats in Spruce Woods Provincial Park, including: A) sand dunes on the Spirits Sands Trail, B) hog'sback in the east side of SWPP on the Hog'sback Trail, C) punchbowl in Devil's Punchbowl on the Spirit Sands Trail, and D) mixed-grass prairie on the Yellowquill Trail.

Spruce Woods Provincial Park was designated as an IMPARA in March 2014. This account was updated in June 2017.