

TIM HORTON CHILDREN'S FOUNDATION**5.0 Public Consultation**

As a key activity of Environmental Impact Assessment, mandated by *The Environment Act*, the public was consulted regarding its views of the proposed project. The public-consultation process outlined in this section provided the public with information regarding the proposed Tim Horton Children's Foundation Leadership Camp and solicited comments regarding the Project (thereby influencing the environmental assessment scope). Comments, concerns and support from the public were collected, tabulated and considered, and are reported herein (Appendix A).

5.1 PUBLIC INFORMATION AND OUTREACH

A Public Consultation Program was conducted by Manitoba Conservation and THCF as part of the initial Meditation Lake project location. These sessions were accompanied by TDL Group Corp (now Tim Hortons Inc.), THCF and Manitoba Conservation representatives. As part of this Public Consultation Program, two public "drop-in" sessions were held: April 30, 2009 in Winnipeg, and May 2, 2009 at Dorothy Lake in Whiteshell Provincial Park. A review and summary of the results of this Program are not included as part of this assessment, as the Meditation Lake location was deemed not suitable for the Project due to water quality concerns.

Stantec has summarized the results of a Public Consultation Program for the Project led by Manitoba Conservation, which consisted of two public "drop-in" sessions and a town meeting in the Town of Pinawa. The sessions and meetings were accompanied by Tim Hortons Inc. (formerly the TDL Group Corp.), THCF and Manitoba Conservation representatives. Twelve storyboards and a questionnaire were also provided at these sessions/meetings to provide information and solicit input regarding the proposed project (Appendix A). An advertised public review period associated with the Manitoba Conservation Public Notice occurred February 16 to March 22, 2010.

The public drop-in sessions were held on February 16, 2010, at Dorothy Lake in Whiteshell Provincial Park and February 17, 2010, in Winnipeg. A Town Hall meeting was held on April 20, 2010, in the Town of Pinawa. Led by the Mayor of Pinawa, this meeting was attended by 180 people.

A total of 118 articles of correspondence were received including questionnaire responses, email responses to the public notice and letters to the Minister of Conservation (Appendix A). Of the 118 respondents, the majority of respondents agreed with the Project in principle (i.e., establishing a Youth Camp in Manitoba), with over half of those respondents supportive of the Sylvia Lake location. Less than half of the respondents disagreed with the Project. A minority of respondents indicated a neutral position on the Project, or did not state a position.

In the questionnaire and written responses, concerns often expressed were related to locating the Project Site in a different location, with the most often reasons cited related to water safety

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due to fast water currents on the north side of the Site and protection of wilderness from development. Concerns were also raised about the site selection and environmental assessment process and general wildlife concerns, including the presence of bald eagles. However, the benefits of the Project were more often discussed than the remaining concerns which, in order of occurrence, included navigation, pollution and water quality issues, conflicts with other users, financial aspects, noise and visual impact.

In view of water-current and navigation concerns, the boat storage planned on the north portion of the Site was moved to the east side of the Site, which is characterized as experiencing negligible current (Section 6.3.1; Appendix F). Impacts to wildlife anticipated by respondents were taken into consideration when undertaking field programs (e.g., eagle nests were actively searched for and found not to be present).

Additional reconnaissance concerning the issue of currents on the north side of the site was conducted by two certified wilderness canoe trip leaders under the supervision of THCF on three separate occasions during the summer of 2010. This reconnaissance was conducted by canoeing, and also by swimming in the waters in question. THCF advises that the resulting report indicated that this risk was well within the Foundation's ability to manage as part of its ongoing operation.

5.2 GOVERNMENT LIAISON

THCF advises that it has been in contact with Manitoba Conservation to receive assistance with site selection and to discuss the expected scope of environmental assessment activities. Liaison with Manitoba Conservation began in June 2008, with a meeting at the ministerial level to identify alternative sites. Regular communication was maintained with Manitoba Conservation Ministers and Regional Park Staff to identify a preferred site.

A meeting was held with Pinawa Council to discuss the Project.

5.3 ABORIGINAL COMMUNICATION

Manitoba Conservation and THCF advise that they have each been in communication with Aboriginal groups regarding the proposed Camp.

Manitoba Conservation advises that they contacted the following First Nations (FNs) with known interests in the North Whiteshell area with information about this proposal: Sagkeeng FN, Brokenhead FN, Lake St. Martin FN, Lake Manitoba FN, Whitedog FN, Fairford FN and Black River FN. Manitoba Conservation advises that no written responses were received from contacted FNs.

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THCF advises that they contacted the Chief and Council of Sagkeeng First Nation as the proposed Camp is located within the First Nation's Community Interest Zone (CIZ). The four key pillars of their communications have been the empowerment of youth; economic development; education and employment.

THCF intends to deliver on these four key pillars with the SFN and other neighbouring Aboriginal communities through welcoming Aboriginal youth to the Camp; inviting Aboriginal communities to respond to the requests for proposals during Project Construction; working with Aboriginal Elders and Leaders to develop Aboriginal history and cultural education for all visitors to the camp; and inviting Aboriginal Community members to apply for employment opportunities at the Camp during operations.

6.0 Description of Existing Environment

6.1 PHYSICAL ENVIRONMENT

The Project Site is located within the Pinawa Ecodistrict of the Lake of the Woods Ecozone, part of the broader Boreal Shield Ecozone.

6.1.1 Climate

The Pinawa Ecodistrict is located within the Subhumid Transitional Low Boreal Ecoclimatic Region and experiences short, warm summers and long, cold winters (Smith et al., 1998). The mean annual temperature is 2.3°C, with extreme temperatures of 37.5°C and -47.5°C recorded historically (Environment Canada, 2010). Average annual precipitation for the region is 565.3 mm, approximately 20% of which falls as snow. The daily maximum temperature is above 20°C for approximately 96.6 days annually and above 30°C for 6.6 days. The daily maximum temperature exceeds 35°C less than one day per year, on average. Alternatively, approximately 19.2 days have a daily minimum temperature of less than -30°C (Environment Canada, 2010).

6.1.2 Ambient Air Quality

At present, there is no ambient air quality monitoring program available at the Project Site. The nearest monitoring locations are within residential and commercial zones in the city of Winnipeg.

6.1.3 Geology

The Project area is located within a geologic area called the Lac du Bonnet Area which extends from the southeast shore of Lake Winnipeg in the west to the Ontario border in the east (Smith *et al.*, 1967). Sylvia Lake falls within the eastern portion of the map area and is underlain by Precambrian crystalline rocks, commonly referred to as the Precambrian Shield. The western portion of the map is underlain by limestone, dolomite, shales, sandstone and evaporate. Although these rocks are not found at the site, they did contribute surface materials to the Sylvia Lake area; materials that were transported by receding glaciers. Glaciers completely covered the province of Manitoba, including the Sylvia Lake area, during the last glaciation period of the Pleistocene epoch.

6.1.4 Physiography

The Project area is located within the Precambrian Drift Plain Physiographic subdivision (Smith *et al.*, 1967). This area was affected by glacial Lake Agassiz and is characterized by discontinuous clay deposits in localized depressions within the landscape. Also characteristic of the area are the outcroppings of granitic rocks from the Precambrian Shield.

While some surficial drainage along the bedrock outcroppings along the northern edge of the Project area, and in close proximity to the Winnipeg River channel, occurs to the north, surficial

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drainage within the Project area generally occurs in southerly direction towards the lower-lying lands to the south of the proposed Project Site. South of the Project area, surficial drainage occurs along a natural drainage contour easterly into a small depressional area adjacent to Sylvia Lake, and ultimately into Sylvia Lake proper. While surficial drainage would be considered rapid in areas of bedrock outcrops, drainage would be slower over mineral soils. Nearly level to very gentle slopes dominate the Project area, with slope gradients generally ranging from 1 to 3%.

6.1.5 Soils

A desktop review of existing soil resource information (SRI) was conducted to provide a summary of the best available information of the existing soil environment at the site (Appendix B). Based on the existing soil resource information (Smith *et al.*, 1967), the Project area is located entirely within the Indian Bay Complex map unit. This map unit is primarily composed of three soil types (Manitoba Land Initiative, 2010):

- Acidic Bedrock – granitic bedrock outcrops of granite.
- Lettonia – well-drained Vertic and Solonetzic Gray Luvisols developed on moderately to strongly calcareous lacustrine clay sediments.
- Nora Lake – well-drained Eluviated Eutric Brunisols developed on thin glacial till deposits overlying granitic bedrock.

However, existing SRI and related interpretive ratings available in the existing data sources listed above are limited to survey intensity level 4 (SIL4), commonly referred to as Broad Reconnaissance survey. While this level of SRI provides an overview of the soil environment for the Project, it is typically limited in use to regional planning.

Therefore, field visits were conducted by Stantec to provide more detailed soil resource information for the Project (Appendix B). Field assessments consisted of conducting detailed soil inspections (i.e., to depths >100 cm) and topsoil inspections (i.e., to a depth of 30 cm). At each inspection site, pertinent soil and site information was collected. Detailed soil inspections and classification were conducted in a manner consistent with the guidelines presented by the Expert Committee on Soil Survey (1982) and the Soil Classification Working Group (1998).

Field visits were conducted specifically to assess:

- General soil conditions within the Project area; and
- Soil suitability for the proposed onsite wastewater-treatment system, including:

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- soil conditions at the location of the septic field component of the proposed onsite wastewater-treatment system, and
- potential sand source material for use as septic disposal bed pressure mounds.

6.1.5.1 Soil Conditions in the Project Area

A total of nine detailed soil inspections (SL01-SL06, SLR01-SLR03) and six topsoil inspections (SLR12-16, SLR24) were conducted within and in close proximity to the Project area. Based on these site specific inspections, soils were found to be dominantly imperfectly to moderately well-drained, Gleyed and Orthic Regosols developed on fine-textured glacio-lacustrine sediments overlying moderately fine textured glacial tills. Brunisolic, Luvisolic and Gleysolic soils were also found. Shallow water tables were found within the soil profile at two sites (SLR02 – 56 cm and SL05⁴). Bedrock outcrops were noted at two sites (SLR12 and SLR24), shallow bedrock was noted at SLR14 – 12 cm, and bedrock was noted below the soil profile at SL01 – 180 cm, SL03 – 150 cm and SL06 – 145 cm. Topsoil typically consisted of a thin organic (i.e., LFH) surface layer overlying the organic matter enriched mineral surface horizon, with depths ranging from 0 to 26 cm, with an average depth of 26 cm. The contrast between topsoil and subsoil was generally found to be good.

6.1.5.2 Soil Suitability for Septic Field

A letter summarizing the baseline soil data and soil suitability for the proposed septic field installation within the Project area, and requesting confirmation of the Nutrient Management Zone rating, was submitted to Manitoba Water Stewardship on November 27, 2009 (Appendix B). This was conducted to satisfy the regulatory requirement for approvals for septic field installations under the *Nutrient Management Regulation* (62/2008) of the *Water Protection Act* (C.C.S.M. c. W65).

Based on the site-specific assessment conducted by Stantec, the soils at the proposed septic field location were found to be moderately well-drained Orthic Regosols and imperfectly drained Gleyed Regosols developed on thin, clayey lacustrine sediments overlying loamy glacial till. These soils were found to have a soil capability classification of 3D, resulting in a Nutrient Management Zone rating of N2. According to prohibition 14(1) in Part 4 of the *Regulation* this site would not be precluded from the installation of an onsite wastewater management system, as defined in the *Onsite Wastewater Management Systems Regulation* (83/2003).

In a letter dated December 11, 2009, Manitoba Water Stewardship confirmed that the proposed location of the septic field is not in Nutrient Management Zone N4 and as such is not precluded

⁴ Site SL05 is located west of the Project lease area, in close proximity to a beaver flood area.

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from the installation of an onsite wastewater management system according to the terms of the *Nutrient Management Regulation* (Appendix B).

The potential sand source for the septic disposal bed pressure mound is a sand pit actively used by Manitoba Conservation, Parks and Natural Areas Branch, and is located approximately 12 km from the Project area. Particle size analysis conducted on the two samples taken from within the sand pit indicate the material is dominantly sand (i.e. 97.8 to 99.5 % sand), with the sand fraction comprised dominantly of fine sand (i.e. 63.6 to 74.8 %) with a significant medium sand component (i.e. 22.0 to 35.1 %). The analytical report for the sand samples is found in Appendix B.

6.1.6 Surface Water

The Project is located within the Slave Falls to Seven Sisters reach of the Winnipeg River System, part of the larger Winnipeg River Basin. Encompassing approximately 150,000 km², the Winnipeg River Drainage Basin drains an area including northwestern Ontario, northern Minnesota and southeastern Manitoba and is characterized by many large lakes (St. George, 2006). Flows on the Winnipeg River and its lakes are controlled by the Lake of the Woods Control Board. The elevation of the Slave Falls to Seven Sisters Reach of the Winnipeg River system is approximately 275 m above sea level (ASL; Lake of the Woods Control Board, 2000a). An aerial photo interpretation suggests the current water level (as of August 2010) in Sylvia Lake is approximately 274.1 m ASL (MTE Consultants Inc., 2010). The 100-year high water elevation in the vicinity is 276.0 m ASL (MTE Consultants Inc., 2010).

The Project Site is located on the western shore of the outlet of Sylvia Lake to the Winnipeg River. Sylvia Lake, part of the Seven Sister Lakes, is located downstream of Eleanor Lake and is separated from Margaret Lake by Carter Island. The English River is the major upstream tributary to the Winnipeg River System, relative to the Project Site. The average river flow at Seven Sisters Dam located approximately 10 km downstream is 910 m³/s, with an extreme high flow of 2600 m³/s and an extreme low flow of 110 m³/s (Lake of the Woods Control Board, 2000b).

Low lying wetlands, bogs and swamps occur throughout the Project Site, especially in the southwest portion of the Lease Area. There is a large beaver flood located to the southwest of the Project Site, outside of the lease area. Currently, all drainage from the property is via uncontrolled overland flow, generally from the south to the north (MTE Consultants Inc., 2010).

6.1.6.1 Water Quality

Water quality in the Winnipeg River System is described as uniform and excellent; however, slightly elevated levels of fecal coliform or indicator bacteria such as *Escherichia coli* (E. coli) are detected from beaches (Manitoba Conservation, 2010a). The presence of bacteria is

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attributed to both man-made pollutants and natural characteristics, often a combination of the two.

Manitoba Conservation routinely monitors the water quality of major beaches along the Winnipeg River System in Whiteshell Provincial Park. In 2010, all beaches routinely monitored for water quality within the South Whiteshell Park Area, including Pinawa and Otter Falls beaches located within 5 km of the Project Site, were within recreational water quality guidelines for all tests conducted in (Manitoba Conservation, 2010b).

Laboratory analyses of water samples collected by boat near the Project Site in November 2009 and September 2010 reaffirmed that water quality was within the Health Canada Guidelines for Recreational Water Quality (Health Canada, 1992) (Appendix C), and within acceptable limits and meet the aesthetic objectives of the Guidelines for Canadian Drinking Water Quality (Health Canada, 2008). However, samples were not taken or analyzed for coliforms, pesticides or hydrocarbons.

6.1.7 Groundwater

The Project Site contains the Precambrian Aquifer, which is formed from the Precambrian crystalline bedrock is near surface and outcrops throughout the Site. Predictability of the occurrence and productiveness of groundwater located in bedrock fractures is low. Total dissolved solids (TDS) in groundwater ranges from 0-1500 mg/l in the eastern portion of the region to 1500-3000 mg/l in the west. Groundwater pollution hazard areas are not anticipated on the Site. Insufficient information exists to determine groundwater levels and flow direction. The nearest domestic Precambrian wells are located approximately 4-5 km from the Project Site and have groundwater withdrawal licences for 50 to 500 cubic decameters per year. Groundwater withdrawal licences for the region reach up to 4,072 cubic decameters per year on Winnipeg's east side (Southeast Regional Groundwater Management Planning Group, 2010). Shallow water table was noted at a few of the soil inspection sites conducted within the Project Site and vicinity (Appendix B).

6.2 TERRESTRIAL ENVIRONMENT**6.2.1 Vegetation**

The Pinawa Ecodistrict is a transitional zone, with vegetation ranging from upland forests of black spruce (*Picea mariana*), white spruce (*Picea glauca*), balsam fir (*Abies balsamea*) and trembling aspen (*Populus tremuloides*) to deciduous riparian forests with green ash (*Fraxinus pennsylvanica*) and bur oak (*Quercus macrocarpa*). Bedrock outcrops and sandy deposits are dominated by jack pine (*Pinus banksiana*). Tamarack (*Larix laricina*) and alder (*Alnus spp.*) occur in peatlands, with sedge (*Carex spp.*), alder and birch shrub (*Betula spp.*) occurring in fens (Smith et al., 1998).

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Field investigations were undertaken to characterize Project Site vegetation, including meander searches within each development footprint area to survey for rare plants (Appendix D). The Project Site was primarily characterized as mixedwood forests of balsam fir, white spruce and trembling aspen, with hardwood-dominated stands of trembling aspen with willow (*Salix spp.*) and beaked hazel (*Corylus cornuta*) shrub strata. Rocky outcrops of jack pine and paper birch (*Betula papyrifera*) were located near the shoreline with an open meadow of grasses and sedges occurring in the interior. A full list of vegetation species observed is presented in Appendix D.

Green ash, black ash (*Fraxinus nigra*), bur oak, American elm (*Ulmus americana*), balsam poplar (*Populus balsamifera*) and black spruce trees were also found throughout the Project Site. Common shrubs included willow, alder, rose (*Rosa spp.*), bunchberry (*Cornus canadensis*), wild raspberry (*Rubus idaeus*) and trailing raspberry (*Rubus pubescens*). Poison ivy (*Toxicodendron rydbergii*) was present throughout the Site. The herb layer contained wild strawberry (*Fragaria virginiana*), wild sarsparilla (*Aralia nudicaulis*), asters, coltsfoot (*Petasites spp.*) and bedstraw (*Galium spp.*). The forest floor was dominated by leaf litter, with feather mosses (*Pleurozium schreberi* and *Hylecomium splendens*) occurring in some areas. The Project Site contained some small wetlands, swamps and very wet areas dominated by graminoids.

Transects were undertaken in select locations to quantify different forest types within the Project Site. Tree density ranged from 484 to 5,363 trees/ha, with nearest neighbouring trees ranging from 4.5 m away in areas of low density to 1.4 m away in areas of high density. The total basal area of trees ranged from 8.7 to 83.9 m²/ha, with an average diameter at breast height (dbh) of 12-13 cm throughout the Site.

6.2.1.1 Species at Risk

No listed rare or endangered plants were encountered during field investigations, however, the Project Site had ecological communities that could support such species. A search of the Manitoba Conservation Data Centre (MBCDC) identified previously recorded observations of four rare plants north of the Winnipeg River, in and adjacent to the Town of Pinawa, which may occur within the Project Site (Firlotte *pers. comm.* 2010). Information regarding the four recorded occurrences is tabulated in Table 6-1.

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| Table 6-1: MBCDC Recorded Observations of Rare Plants in the Pinawa Region, MB | | |
|---|----------------------------|-----------------------------|
| Common Name | Scientific Name | Manitoba Status Rank |
| Dog Violet | <i>Viola conspersa</i> | S3?: Uncommon |
| Hop Hornbeam | <i>Ostrya virginiana</i> | S2: Rare |
| Emory's Sedge | <i>Carex emoryi</i> | S2?: Rare |
| Narrow-leaved gerardia | <i>Agalinis tenuifolia</i> | S2S3: Rare or Uncommon |
| (Firlotte <i>pers. comm.</i> 2010) | | |
| ?: Denotes inexactness in ranking | | |

A pre-construction survey for rare plant species was not possible due to timing considerations. A botanical survey to determine the presence of any such species will be completed as early as possible in the Spring, so that any localized areas needing protection can be identified and the potential for foot traffic to impact the Site can be mitigated.

6.2.2 Terrestrial Mammals

Terrestrial mammals characteristic of the Lake of the Woods Ecoregion are expected to include moose, black bear, wolf, lynx, snowshoe hare (Smith et al., 1998) and deer. Trapping records for the Whiteshell District indicate beaver, bobcat, coyote, red fox, lynx, otter, raccoon, muskrat and various mustelid species are also common (Berezanski *pers. comm.* 2010).

Field investigations were undertaken in June 2010 to characterize wildlife which may be utilizing the Project Site (Appendix E). A series of transects were traversed on foot and mammalian sign (e.g., tracks, scat) were recorded when observed. Photos of representative wildlife habitats were taken and written descriptions of wildlife habitat were documented at each bird survey stop. The Project Site was not found to contain wildlife habitat that is rare or unique in the Pinawa Ecodistrict.

White-tailed deer sign were frequently observed on the Site and included tracks, trails and two incidences of skeletal remains (fawn and adult deer; Appendix E Figure 4-3). Deer were found to be using the entire Project Site, with sign most common in upland deciduous forest and along the shoreline where deer were presumably coming to drink. Deer tracks were also frequently observed along the existing hydroelectric line.

There was abundant old and recent beaver sign in the Project Site, especially along the shorelines (Appendix E Figure 4-3). An active beaver dam was in place west of the proposed Camp location (Appendix E Figure 4-2). This beaver dam has likely been tended in some

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fashion over many decades as evidenced by the degree to which the surrounding forest has been affected. Due to the extent of the flooding and size of the dam visible from the air photos, the construction is likely a multi-family project.

River otter scat was observed on the bedrock outcrops along the shoreline. Contents and location of the scat indicate the river otters are using the bedrock outcrops as entrance points into the lake, where they are foraging for aquatic invertebrates such as crayfish as well as mollusks.

Mud- and cattail-constructed muskrat lodges were noted in a wetland area along the existing distribution line right-of-way. This indicates the distribution line right-of-way must be perpetually wet and therefore probably creates habitat for a variety of species as an inland water source. This is supported by evidence of deer and black bear activity along the distribution line as noted by both wildlife and vegetation survey crews in the area.

The Project Site occurs within the ranges of six insectivorous bats: little brown myotis, northern myotis, silver-haired bat, eastern red bat, big brown bat, and hoary bat. Of the six species, three remain year-round, over-wintering in hibernacula (e.g., caves; northern myotis, little brown myotis and big brown bat) and three migrate south in late summer, returning again in spring.

6.2.2.1 Species at Risk

No wildlife Species at Risk listed by the *Species at Risk Act (SARA)*, *Manitoba Endangered Species Act (MESA)* or the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) were observed within the Project Site.

6.2.3 Birds

Bird species characteristic of the Lake of the Woods Ecoregion include ruffed grouse, hooded merganser, pileated woodpecker, bald eagle, turkey vulture, herring gull and a variety of waterfowl and song bird species (Smith *et al.*, 1998).

A breeding bird survey (Appendix E) conducted on June 22-24, 2010, resulted in the observation of 499 birds representing 54 species. The average density of birds was approximately 5 birds/ha with a diversity of approximately 7 species/observation location. The most abundant birds observed were passerines followed by raptors, woodpeckers and waterbirds. A list of species observed is included in Appendix E. Common bird species included the white-throated sparrow, red eyed vireo, ovenbird and black-and-white warbler. Uncommon species observed included the Connecticut warbler, boreal chickadee, American robin, Nelson's sharp-tailed grouse, savannah sparrow and Wilson's warbler.

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There were no observations of bald eagles or their nests, which was a concern raised by a minority of respondents to the Public Communications Program. As large predators, bald eagles are sparsely populated across the landscape in order to provide each mating pair with sufficient territory to find food. Studies of the defended territory radius around active nests in northern Minnesota averaged 600 m (Mahaffy and Frenzel, 1987). Home ranges surrounding active bald eagle nests are undoubtedly much larger than defended nesting territory and, dependent on line-of-sight, proximity to food sources and abundance of food. Minimum home range of breeding eagles in Saskatchewan is seven square kilometres (Gerrard *et al.*, 1992); on the Columbia River, Oregon, breeding home ranges averaged 21.6 km² (Garrett *et al.*, 1993).

The size of the Project site relative to the size of bald eagle home ranges means that at maximum density, only one or two bald eagle nests would be likely to occur within the Project site.

Since no bald eagles or their nests have been encountered by any field crew during spring studies at Sylvia Lake it is likely that many bald eagles are nesting elsewhere off system and, once the young have fledged, the family groups move to Sylvia Lake to utilize the abundant food source that is offered there. This explanation would account for the number of incidental observations of bald eagles by local residents, and the lack of observations during the breeding season.

6.2.3.1 Species at Risk

A search of the Manitoba Conservation Data Centre indicated that there have been 10 recorded occurrences of Barred Owl within the region, with one occurring to the west of the Project Site along PR 307 (Firlotte *pers. comm.* 2010). Barred Owl has a Manitoba Status Ranking of S3S4 (Uncommon to widespread and abundant).

None of the 54 birds species observed, including Barred Owl, are considered at risk by SARA, MESA or COSEWIC.

6.2.4 Amphibians and Reptiles

Approximately 12 species of amphibians and four species of reptile occur within the region. Of the 12 amphibians, eight are frogs, two are toads and two are salamanders (Preston, 1982). Amphibians likely occurring within the Camp footprint include those that forage in moist woods (e.g., wood frog) and/or damp grassy areas (northern leopard frog). The general lack of suitable amphibian breeding habitat (e.g., wetlands) limits amphibian use of the camp footprint during the breeding period (i.e., mid-April through June).

The proximity of a beaver flood to the southwest of the Camp footprint and the shores of Sylvia Lake to the north and east increases the likelihood of amphibian movements through the Camp

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footprint during the months of June through September. The beaver flood provides a breeding area for a diversity of amphibian species (e.g., toads, frogs, salamanders), many of which will disperse from the beaver flood to forage in adjacent areas during the summer. Following the summer foraging period, many amphibians will return to wetland margins and adjacent woods in search of suitable overwintering habitat (e.g., leaf litter). The areas adjacent to the beaver flood likely provide suitable overwintering habitat for amphibian species, with the exception of the northern leopard frog (Section 6.2.4.1).

Of the four species of reptile expected to occur within the area, two are turtles and two are snakes. Western painted turtle and common snapping turtle occur in areas where permanent water such as lakes and rivers exist. Both species forage on aquatic based foods (e.g., aquatic plants, mollusks, fish) but will also consume carrion (Preston 1982). In June, turtles leave aquatic areas in search of sandy or gravelly soils within which to lay eggs. The area within the Camp footprint likely supports both species of turtle in and along the shores of Sylvia Lake. Movement of turtles through the Camp footprint is likely during the June breeding period when female turtles seek out suitable nest sites.

Two species of snake are found in the region - red sided garter snake and northern redbelly snake. The red sided garter snake is often associated with mesic vegetation found along the margins of ponds where its food sources (e.g., mice, frogs, leeches and tadpoles) are most abundant (Preston, 1982). This species likely occurs within the Camp footprint as both the riparian areas associated with Sylvia Lake and the beaver flood would provide suitable snake foraging habitat. Crevasses within the rocky outcrops throughout the region would provide snakes with overwintering hibernacula. The northern redbelly snake may also occur within the region, where open areas, marshes and meadows occur. This species may use the beaver flood area, residing under logs and other debris.

6.2.4.1 Species at Risk

The northern leopard frog is the only amphibian species found within the region that is listed as special concern by *SARA* (Schedule 1) and *COSEWIC*.

During the summer environmental studies, northern leopard frogs were observed foraging within a wet low-lying sedge and grass dominated area of the Camp footprint. Leopard frogs forage in grasslands and wet woods, consuming a variety of foods including spiders, snails, crustaceans, amphibians and mammals (Preston 1982). For northern leopard frog, suitable overwintering habitat may include the deep water areas of the beaver flood and/or suitable sites along Sylvia Lake.

In addition, a search of the Manitoba Conservation Data Centre indicated that six occurrences of snake hibernacula have been recorded north of the Winnipeg River about the Town of Pinawa (Firlotte *pers. comm.* 2010). Snake hibernacula do not have an associated status

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ranking, but are noted as a unique habitat. There was no evidence of snakes or snake hibernacula noted during reconnaissance field investigations.

6.3 AQUATIC ENVIRONMENT

6.3.1 Fish Habitat

The aquatic environment of the Project Site can be divided into two distinct habitats – the north and east shore. A field investigation was undertaken to assess the fish and fish habitat (Appendix F). Bathymetry of the shoreline adjacent to the Project Site is illustrated in Figure 6-1.

Sylvia Lake can be classified as a circumneutral, softwater, mesotrophic, lake. The pH is just above neutral and has been measured at approximately 7.5. Total hardness is approximately 40 mg/L, and the Trophic State Index (Carlson, 1977), based on Total Nitrogen and Total Phosphorus (Appendix C), is estimated to be 48.

East Shore

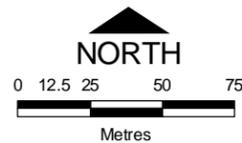
The eastern shoreline extends approximately 250 m and is characterized as gently sloping with fine inorganic silty-clay material sediments and a heavily vegetated riparian zone, healthy aquatic vegetation and negligible current. The first 30-45 m within the shore is gently sloped (<10%) with water depths ranging from 2-2.5 m. There is a dense cover of aquatic vegetation present at water depths of 0.5 – 2.5 m. Dominant aquatic vegetation species are pondweed (*Elodea Canadensis*), wild celery (*Valisneria Americana*) with abundant water milfoil (*Myriophyllum exalbescens*), buttercup (*Ranunculus spp.*) with occasional Richardson's pondweed (*Potamogeton richardsonii*). Emergent vegetation includes soft stem bulrush (*Scirpus validus*), arrowhead (*Sagittaria spp.*) and common bulrush (*Typha latifolia*). Approximately 45 m from shore the depth drops off to approximately 5 m, with visibility reduced to less than 1 m depth due to turbidity.

The eastern shoreline, categorized according to the Department of Fisheries and Oceans (1998) is considered to provide Important Fish Habitat. The littoral zone of the east shore provides potential spawning habitat for small-bodied fish species and nursery, rearing and feeding habitat for both small and large-bodied fish species, which is considered H2 habitat for purposes of defining protective setback distances relative to explosive charge weights. Due to the lack of cobble/boulder substrate and low-lying areas susceptible to spring flooding, the eastern shoreline does not provide spawning areas for large-bodied or indicator fish species. None of the habitat along the eastern shoreline is considered rare or critical to the maintenance of fish stocks.



Where kids discover their best.

Aquatic Habitat and Bathymetry



Acknowledgements:
 Data provided by ATLAS Geomatics (Imagery and surface elevations),
 Stantec (bathymetry) and THCF (project lease area and surface contours)
 Projection: NAD83 Zone 14N

Legend

- =260= Elevation Contours*
- Lease Area
- Habitat Type (DFO 2010)**

*Water level was at 274.1m at time of water depth sampling
 **Habitat type according to: DFO (2010) Blasting - Fish and Fish
 Habitat Protection.
<http://www.nfl.dfo-mpo.gc.ca/e0005460> Accessed September 15, 2010

PREPARED BY



| | | | |
|-----------------|---------|------------|------------|
| MAP SCALE | | DATA SCALE | |
| 1:2,500 | | NA | |
| DATE | | PROJECT | FIGURE NO. |
| October 6, 2010 | | 1112 | 6-1 |
| DRAWN | CHECKED | APPROVED | |
| KM | DH | DW | |

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North Shore

Extending 650 m, the north shoreline is characterized as a sparsely vegetated, bedrock controlled, vertical faced shoreline with strong currents and an absent littoral zone. Lesser slopes with shrub vegetation occur in some areas along the shoreline. Depth along the shoreline reaches 5-8 m almost immediately. The Winnipeg River flow along the west half of the north shore is constricted between the shoreline and an island located approximately 50-150 m offshore, resulting in strong currents with noticeable upwelling. Channel depths in this constricted channel vary up to approximately 10 m deep.

Fish habitat along the north shoreline, categorized according to DFO (1998) is considered to be Important Fish Habitat due to its provision of fish passage and overwintering habitat for large-bodied fish species. The north shore is not anticipated to provide spawning habitat for large-bodied fish species, which is considered H1 habitat for purposes of defining protective setback distances relative to explosive charge weights. None of the habitat along the northern shoreline is considered rare or critical to the maintenance of fish stocks.

6.3.2 Fish Species

A list of 53 fish species expected to inhabit the reach of the Winnipeg River containing Sylvia Lake (Seven Sisters Falls to Slave Falls) is included in (Appendix F). The fish community includes mid-level and top-level consumers, as well as apex predators. Species including Northern Pike (*Esox lucius*), Walleye (*Stizostedion vitreum*), Yellow Perch (*Perca flavescens*), Sauger (*Stizostedion canadense*) and Smallmouth Bass (*Micropterus dolomieu*) support a robust recreational fishery.

6.3.2.1 Species at Risk

There are three fish species of concern which may utilize the Winnipeg River System in the vicinity of the Project – Lake Sturgeon (*Acipenser fluvescens*), Chestnut Lamprey (*Ichthyomyzon castanaeus*) and Carmine Shiner (*Notropis percobromus*),

The Winnipeg and English river populations of Lake Sturgeon (Designatable Unit 5) are designated as Endangered by COSEWIC and are currently under consideration for listing under SARA (Department of Fisheries and Oceans, 2008). The Lake Sturgeon is found in large lakes and rivers, and utilizes fast, turbulent waters for spawning and medium current for feeding and foraging (Stewart and Watkinson 2004). Based on the habitat along the north shore of the Project Site, it can be expected that Lake Sturgeon are present within Sylvia Lake and the Winnipeg River upstream and downstream of the Project Site.

Chestnut Lamprey is listed as Special Concern under COSEWIC and SARA (Schedule 3). Optimal habitat, including spawning habitat, for the chestnut lamprey is absent or limited in the vicinity of the Site. It is unlikely that Chestnut Lamprey larvae would be found within Sylvia Lake;

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however, Chestnut Lamprey may be found parasitizing suitable host species, which are found in the Winnipeg River System.

Carmine Shiner has been identified as 'Threatened' by the COSEWIC. It is listed under the federal *SARA* and was afforded protection under the *SARA* as of June 2004. Carmine Shiners typically summer at midwater depths of clear, fast-flowing streams and small rivers over clean gravel or rubble substrates. They often school in riffles and pools near the confluence with larger streams and rivers. The Carmine Shiner has been found in the old Pinawa Channel, but has not been found in the mainstem Winnipeg River (Stewart and Watkinson 2004).

6.4 SOCIOECONOMIC ENVIRONMENT

The Project Site is located within Whiteshell Provincial Park. The Park, in the vicinity of the Project Site, is bordered by the Local Government District (L.G.D.) of Pinawa to the north and Rural Municipality (R.M.) of Whitemouth to the south.

6.4.1 Population and Demographics

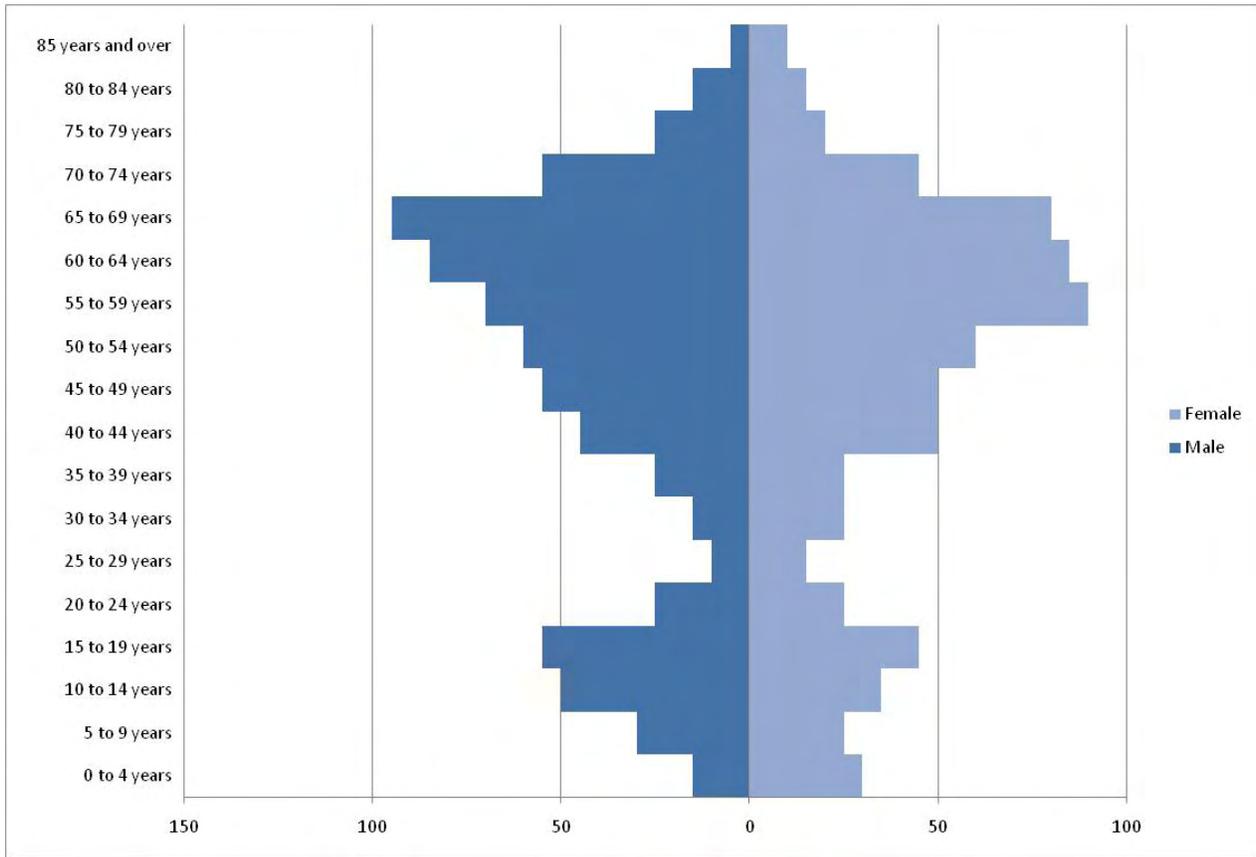
Statistics Canada (2006) data show the population of the L.G.D. of Pinawa and R.M. of Whitemouth to be 1,450 and 1,617, respectively. Both communities experienced a net decrease in population between 2001 and 2006, with a greater population decrease in the R.M. of Whitemouth (8.5%). The 2006 population density in the L.G.D. of Pinawa was approximately 11 people/km², as compared to approximately 2 people/km² in the R.M. of Whitemouth.

Figure 6-2 illustrates the 2006 demographic data for the L.G.D. of Pinawa and R.M. of Whitemouth. The 55+ cohort forms the largest and second largest demographic group in the L.G.D. of Pinawa, which suggests that it is a mature community. In contrast, the largest demographic groups in the R.M. of Whitemouth are in the 10 to 20 cohort and the 40 to 50 cohort, which suggests it is a family-based community.

6.4.2 Income

Table 6-2 presents 2006 income levels in the L.G.D. of Pinawa and the R.M. of Whitemouth alongside the corresponding values for all of Manitoba. The 2006 median total personal, family and household income in the L.G.D. of Pinawa exceeded the provincial average by up to 33%. Income levels in the R.M. of Whitemouth in 2006 were below the provincial average by up to 28%.

L.G.D. of Pinawa



R.M. of Whitemouth

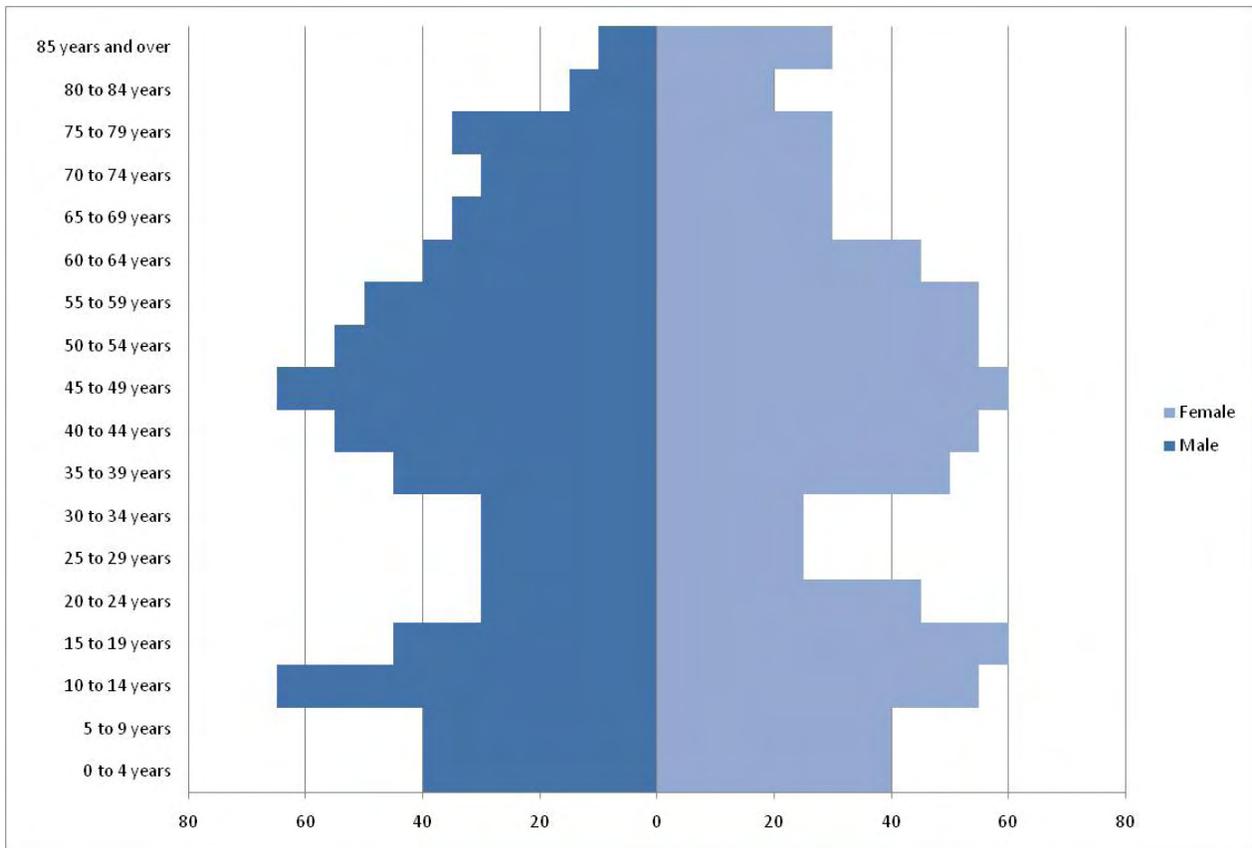


Figure 6-2: Population Pyramids for the L.G.D. of Pinawa and R.M. of Whitemouth, 2006

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| Table 6-2: Median Personal, Family and Household Incomes in the L.G.D. of Pinawa, R.M. of Whitemouth and the Province of Manitoba, 2006 | | | |
|--|-------------------------|---------------------------|-----------------------------|
| Income Type | L.G.D. of Pinawa | R.M. of Whitemouth | Province of Manitoba |
| Median total personal income ¹ | \$29,118 | \$20,497 | \$24,194 |
| Median family income | 59,886 | 50,194 | 58,816 |
| Median household income | 54,537 | 34,461 | 47,875 |
| Note: ¹ Persons 15 years of age or older with income | | | |

6.4.3 Education

A summary of the minimum education levels for the L.G.D. of Pinawa and the R.M. of Whitemouth compared with the typical education levels across the Province of Manitoba is provided in Table 6-3 (Statistics Canada, 2006).

The L.G.D. of Pinawa had the largest proportion of the population 15 years and over (81%) with some form of education (i.e., highschool, apprenticeship, college or university), which is above the provincial average (70%). In contrast, the proportion of the same population in the R.M. of Whitemouth was slightly below the provincial average, with 53 percent of the population having some form of education.

The most likely highest level of education in the L.G.D. of Pinawa after highschool, was college or a university diploma or degree; whereas, the most likely highest level of education in the R.M. of Whitemouth after highschool, was apprenticeship or college.

| Table 6-3: Education Levels in the Local Government District of Pinawa, R.M. of Whitemouth and Province of Manitoba | | | | | | |
|--|---|-----------------------------|---|-----------------------------|---|-----------------------------|
| Minimum Level of Education | % of Population Between Ages 15-24 | | % of Population Between Ages 25-34 | | % of Population Between Ages 35-64 | |
| | L.G.D. of Pinawa | Province of Manitoba | L.G.D. of Pinawa | Province of Manitoba | L.G.D. of Pinawa | Province of Manitoba |
| No Certificate / diploma / degree | 64.0 | 47.6 | 44.4 | 16.4 | 9.9 | 21.6 |
| High school certificate / equiv. | 32.0 | 36.4 | 22.2 | 27.9 | 31.9 | 24.6 |
| Apprenticeship / | 0.0 | 2.9 | 22.2 | 9.4 | 9.2 | 11.9 |

ENVIRONMENTAL IMPACT ASSESSMENT FOR A YOUTH LEADERSHIP CAMP AT SYLVIA LAKE, MANITOBA

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| Table 6-3: Education Levels in the Local Government District of Pinawa, R.M. of Whitemouth and Province of Manitoba | | | | | | |
|--|---|-----------------------------|---|-----------------------------|---|-----------------------------|
| Minimum Level of Education | % of Population Between Ages 15-24 | | % of Population Between Ages 25-34 | | % of Population Between Ages 35-64 | |
| | L.G.D. of Pinawa | Province of Manitoba | L.G.D. of Pinawa | Province of Manitoba | L.G.D. of Pinawa | Province of Manitoba |
| trades certificate / diploma | | | | | | |
| College / other non-university certificate / diploma | 8.0 | 6.3 | 0.0 | 19.5 | 23.4 | 18.5 |
| University certificate / diploma / degree (below bachelor level) | 0.0 | 1.4 | 0.0 | 3.7 | 7.8 | 5.1 |
| University certificate / diploma / degree | 0.0 | 5.4 | 22.2 | 23.1 | 16.3 | 18.3 |
| Minimum Level of Education | % of Population Between Ages 15-24 | | % of Population Between Ages 25-34 | | % of Population Between Ages 35-64 | |
| | R.M. of Whitemouth | Province of Manitoba | R.M. of Whitemouth | Province of Manitoba | R.M. of Whitemouth | Province of Manitoba |
| No Certificate / diploma / degree | 61.8 | 47.6 | 56.0 | 16.4 | 35.8 | 21.6 |
| High school certificate / equiv. | 29.4 | 36.4 | 28.0 | 27.9 | 22.5 | 24.6 |
| Apprenticeship / trades certificate / diploma | 8.8 | 2.9 | 8.0 | 9.4 | 17.5 | 11.9 |
| College / other non-university certificate / diploma | 0.0 | 6.3 | 0.0 | 19.5 | 14.2 | 18.5 |
| University certificate/diploma or degree (below bachelor level) | 0.0 | 1.4 | 8.0 | 3.7 | 3.3 | 5.1 |
| University certificate/diploma /degree | 0.0 | 5.4 | 0.0 | 23.1 | 6.7 | 18.3 |

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6.4.4 Parks and Protected Areas

The Project Site is located within the Whiteshell Provincial Park. Protected areas proximal to the Site include the Whitemouth Bog Ecological Reserve (ER) and Whitemouth Bog Wildlife Management Area (WMA), which are approximately 4 km south of the Site.

6.4.4.1 Whiteshell Provincial Park

The Whiteshell Provincial Park is a 2,729 km² Natural Park located in the Eastman Region of Manitoba. Natural Parks provide for a diversity of recreational opportunities and resource uses, while preserving areas representative of the Lake of the Woods region. One of the Park's intended uses is to provide for commercial developments and facilities including lodges and campgrounds, in addition to other activities. The Park is divided into five land use zones as identified in Section 6.4.5.

6.4.5 Zoning

The Project Site is located within the Winnipeg River sub-section of the Extensive Recreation Zone, the largest Whiteshell Provincial Park zone. Permitted uses include lodges, all-weather roads, remote campsites and remote cottages. Hiking trails, canoe routes and snowmobile trails are also supported.

Table 6-4 presents the five land use zones which exist in the Whiteshell Provincial Park and their permitted uses.

Manitoba Conservation (1991) indicates that Nutimik, Betula, Red Rock, Brereton, Falcon and West Hawk lakes have been developed to capacity. The report further indicates that future development proposals could be entertained for at least five other lakes in the Whiteshell, including Eleanor, Dorothy and Jessica lakes of the Seven Sisters chain.

Special Areas are areas of natural and/or cultural significance. The Whiteshell Provincial Park has set a target of 1% of the Park to be designated as a Special Area. Development beyond an interpretation facility is not permitted in an area designated as a Special Area (Department of Natural Resources, 1983). The nearest Special Area identified in the 1983 Management Plan is approximately 14 km to the east, between Nutimik and Betula lakes.

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Table 6-4: Whiteshell Provincial Park Zones and Permitted Uses

| Zone | Area | Size (km²) | Permitted Uses | Non-Permitted Uses | Notes |
|-----------------------------|-------------|------------------------------|---|--|---|
| Extensive Recreation Zone | 62% | 1,701 | Lodges, all-weather roads, remote campsites, remote cottages, hiking trails, canoe routes, snowmobile trails, mining, trapping, wildrice harvesting, fishing and hunting (where permitted) | | |
| Backcountry Recreation Zone | 15% | 420 | Commercial recreational facilities (lodges and campsites), mechanized (i.e. motorized) and non-mechanized recreational activities (snowmobiles, float planes, boats), fishing, hunting, mining, trapping and wild-rice harvesting activities. | All-weather roads | |
| Wilderness Zone | 12% | 320 | Non-mechanized recreational activities, fishing and trapping are permitted in this zone | Cottages, all-weather roads, hunting and mining. | |
| Intensive Recreation Zone | 10% | 303 | This zone allows for the most uses and developments to occur in the Park, including: cottage subdivisions, campgrounds, commercial services (hotels, stores and services stations), commercial air carriers, mining, trapping and wild-rice harvesting activities | | Seven zones Falcon/West Hawk lakes, Brereton Lake, Jessica Lake, Meditation Lake, Lone Island Lake, Big Whiteshell Lake, Betula Lake, Nutimik Lake and Pointe du Bois |
| Access Zones | - | - | Camping, commercial services, gravel and sand removal picnic facilities, scenic viewpoints, trails, trapping and wild-rice harvesting activities | Hunting and mining activities | 300 metre corridors from the centerline of highways and roads. |

Source: (Department of Natural Resources, 1983)

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6.4.6 Land Ownership

The majority of land within Whiteshell Provincial Park is Crown land. The Whiteshell Management Plan (1983) indicates that there are some small isolated pockets of private land within the Park, with the nearest parcel at that time being located on the southeast corner of Natalie Lake, approximately 4 km west of the Site.

Lands designated as Provincial parkland pursuant to the *Provincial Parks Act* cannot be sold. Disposition of Crown land in Parks is administered by the Parks Branch and consists of the issuance of permits, commercial leases and cottage leases. Leases are the preferred mode of disposition for land uses which constitute an investment in the site (e.g. cottage, commercial or mineral development) and are typically for a 21-year term. Leases can be renewed for a further 21 years, with consent of the provincial authority. The Minister of Conservation is the approval authority for permits and leases (Perozzo, 2003).

Cottage lot development is common on the south shore of the Winnipeg River System upstream of Sylvia Lake. There are a total of approximately 530 cottages located along the shores of the Nutimik, Dorothy, Margaret and Eleanor chain of lakes upstream, with the greatest amount of development occurring on Nutimik and Dorothy lakes. The nearest upstream lake, Eleanor Lake, has approximately 52 cottages.

6.4.7 Economy

A summary of the industries in the L.G.D. of Pinawa and the R.M. of Whitemouth according to Statistics Canada data (2006) are provided in Table 6-5 and compared with typical industries across the Province of Manitoba.

The most common industry in the L.G.D. of Pinawa, with 23% of the population employed, was "Business Services" followed by "Other services" (21.2%), and "Health care and social services" (20.4%). Pinawa was originally built in 1963 as a "company town" to house staff for the Atomic Energy of Canada Limited (AECL) research facility, which is currently being decommissioned (Local Government District of Pinawa, 2005). Residents are also employed at Tantalum Mining Corporation, Manitoba Conservation, Manitoba Hydro, North Eastman Health Authority and natural resource base companies, for example, peat moss and tourism (North Eastern Manitoba, Date Unknown(a)).

The most common industry in the R.M. of Whitemouth, with 35.3% of the population employed, was the "Agriculture and other resource-based industries", followed by "Other services" (21.2%), and "Business services"(15.4%). Agriculture is the dominant and most economically important industry in the R.M. of Whitemouth, with approximately 150 farms currently in operation (North Eastern Manitoba, Date Unknown (b)).

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| Table 6-5: Industries in the Local Government District of Pinawa, R.M. of Whitemouth and Province of Manitoba | | | |
|--|-------------------------|---------------------------|-----------------------------|
| Industries | L.G.D. of Pinawa | R.M. of Whitemouth | Province of Manitoba |
| Agriculture and other resource-based industries | 7.1 | 35.3 | 7.9 |
| Construction | 1.8 | 6.4 | 5.4 |
| Manufacturing | 4.4 | 3.2 | 10.4 |
| Wholesale trade | 1.8 | 0.0 | 3.8 |
| Retail trade | 11.5 | 1.9 | 10.9 |
| Finance and real estate | 0.0 | 1.9 | 5.2 |
| Health care and social services | 20.4 | 9.6 | 12.6 |
| Educational services | 8.0 | 3.2 | 7.9 |
| Business services | 23.0 | 15.4 | 15.8 |
| Other services | 21.2 | 21.2 | 20.1 |
| Source: Statistics Canada 2006 | | | |

The most common industry in the Province of Manitoba, with 20.1% of the population employed, was “Other services”. The second most common industry for people in the Province of Manitoba to be employed in was “Business Services” (15.8%), followed by “Health care and social services” (12.6%).

6.4.8 Infrastructure

6.4.8.1 Roads

At present, the Project Site is not traversed or accessed by any roads or highways.

PR 307, a hard-surfaced, two-lane, undivided road, located approximately 2.8 km south of the Project Site, provides an eastern access point to the Whiteshell Provincial Park and connects the settlements of Seven Sisters Falls to the west to Otter Falls to the east. A forest access road (#28) traverses the north portion of the R.M. of Whitemouth in a northwest-southeast orientation, crossing PR 307 just west of the Whiteshell Provincial Park entrance. The trail continues in the same orientation southwest of the Project Site, towards the Natalie Lake inlet.

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PTH 11 is a hard-surfaced, two-lane undivided highway, which generally traverses north-south, providing connectivity to the communities of Pinawa (via PR 211) and Lac du Bonnet to the north and Whitemouth to the south.

Major routes for accessing PR 307 from the city of Winnipeg include PTH 59 North and PTH 44. An alternate route includes PTH 15 to PTH 12 or PR 302. Most routes from the west pass through the town of Beausejour.

6.4.8.2 Airport

The nearest major airport to the Project Site is the James Armstrong Richardson International Airport (YWG) in Winnipeg, located approximately 130 km from the Site. Lac du Bonnet Regional Airport, the nearest small airport, is approximately 30 km from the Site (Pinawa Discover Guide, Date Unknown).

6.4.8.3 Utilities

The primary drinking water source for Pinawa is the Winnipeg River. The water intake is 6 m below the surface of the river and pumped to the Water-treatment Plant at Willis Drive and Massey Avenue. Water is distributed along approximately 20 km of piping varying in size from 6 to 14" comprised of 85% cast and 15% PVC (Local Government District of Pinawa, 2009). The primary water sources for the R.M. of Whitemouth are Natalie Lake and the Whitemouth River (North Eastern Manitoba, Date Unknown(b)).

A 66-kV distribution line is located west of the project Site.

Pinawa uses a low pressure sewer system and a facultative lagoon system. The R.M. of Whitemouth uses a low pressure, gravity sewage system. (North Eastern Manitoba, Date Unknown(a)).

Telephone services are provided by the Manitoba Telecom Services (MTS). Cellular service is available in the area for most carriers. Internet service is also available through MTS and Granite Internet Services (North Eastern Manitoba, Date Unknown(a) and North Eastern Manitoba, Date Unknown(b)).

6.4.8.4 Waste Disposal

The largest regional waste disposal facility is the St. Clements Landfill which is located on Road 88 North near Libau. There are a number of smaller regional facilities and transfer stations including a five-bin waste transfer station on PR 313 and the two-bin R.M. of Lac du Bonnet Transfer Station near Milner Ridge. There are recycling depots located in the L.G.D. of Pinawa and R.M. of Whitemouth (Pinawa Discover Guide, Date Unknown; R.M. of Whitemouth, 2005).

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6.4.9 Medical and Emergency Services

The Project Site and regional area are serviced by 911 for medical and emergency services (North Eastern Manitoba, Date Unknown(a) and North Eastern Manitoba, Date Unknown(b)).

The Pinawa hospital services both Pinawa and the R.M. of Whitemouth. The R.M. of Whitemouth is also serviced by the Whitemouth District Health Centre. Pinawa has ambulance service through the Winnipeg River Ambulance and the R.M. of Whitemouth through the Whitemouth Ambulance (North Eastern Manitoba, Date Unknown(a) and North Eastern Manitoba, Date Unknown(b)).

Pinawa and the R.M. of Whitemouth both have volunteer fire departments, the Pinawa Fire Department and the Whitemouth & District Volunteer Fire Department, respectively (North Eastern Manitoba, Date Unknown(a) and North Eastern Manitoba, Date Unknown(b)).

6.4.10 Resource Use**6.4.10.1 Forestry**

Industrial logging in Manitoba Provincial Parks, with the exception of Duck Mountain Provincial Park, was banned by the Provincial Government in April 1, 2009 pursuant to section 7(6) of the *Provincial Parks Act* (2010) and in accordance with section 15.1 of *The Forest Act*.

6.4.10.2 Mining

Pursuant to Section 7(5) of the *Provincial Parks Act* (2010) mining is prohibited in any area of a provincial park that is designated as a wilderness, backcountry or heritage land use category. Mining is permitted in Extensive Recreation and Intensive Recreation Zones (Department of Natural Resources, 1983). The Project Site is located within a mining restricted area for all minerals historically established by the AECL nuclear research facility.

AECL holds a mineral lease approximately 11 km north of the site, near the southeast corner of Lee River. There are two quarry leases held within 10 km of the site: one approximately 4 km southeast of the site south of the Park Boundary near Eleanor Lake and another 10 km west of the site, on the north side of the Natalie Lake outlet.

6.4.10.3 Hunting

Hunting is a popular activity at the Site and regional study area Site reconnaissance for environmental baseline studies noted a hunting tree-stand in the area.

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Hunting occurs in the Whiteshell Provincial Park in the Backcountry Recreation Zone, Extensive Recreation Zone and Intensive Recreation Zone (waterfowl hunting only). Hunting trophies have been awarded to people in the L.G.D. of Pinawa and R.M. of Whitemouth for black bear, caribou, elk, moose and whitetail deer (Travel Manitoba, 2010).

6.4.10.4 Trapping

The Project Site is located within Registered Trapline (RTL) 23 of the Whiteshell Trapping District. The current lineholder is active in the Project Site and surrounding area, particularly to the west of the site, from the end of October to mid January trapping primarily beaver and marten along the shoreline. The lineholder indicated that he was supportive of the Project and would adjust his trapping activities to accommodate the Camp (Henschell, *pers. comm.*, 2010). The lineholder further offered to share his trapping knowledge with the THCF Leadership Camp participants.

6.4.10.5 Berry Picking

Recreational berry picking occurs within the region. Berry picking is common along the Heritage Channel Walk (Wilderness Edge, Date Unknown). Some examples of berries recorded at the site include blueberries, chokecherries, cranberries, strawberries, trailing raspberries, wild raspberries and wild Saskatoon berries.

6.4.11 Outdoor Recreation

Extensive outdoor and water-oriented recreational activities take place along the Winnipeg River System (Smith et al., 1998). Summer activities include hiking, camping, canoeing, kayaking, sailing, water-skiing and birding. Cross-country skiing, snowshoeing and snowmobiling are popular winter recreational activities.

The Project Site is not traversed by any snowmobile or hiking trails. The nearest snowmobile trail is the 10.5 km Seven Sisters Trail which is located across the Winnipeg River along the south side of the town of Pinawa. The Ironwood Trail is a multi-use trail located along the south shore of Pinawa, across the Winnipeg River from the site. The North Whiteshell Trail, which forms the portion of the multi-use Trans Canada Trail in the Pinawa area, is currently under development and will traverse approximately midway between the Project Site and PR 307, approximately 2 km south of the Site.

Project Site reconnaissance activities related to environmental baseline studies observed make-shift fire pits and evidence of a recent camping site. The public consultation process also identified that local residents, particularly youth, jump into the Winnipeg River from the cliffs located primarily along the Site's north side.

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6.4.12 Fishing

Recreational fishing is a popular activity on the Winnipeg River System. Walleye, goldeye, northern pike are popular sport fish of the Seven Sister chain of lakes. Although not common, Lake Sturgeon can also be caught on Eleanor Lake

6.4.13 Campsites

There are approximately eight campgrounds in the region, located on Margaret, Dorothy and Nutimik lakes and near the Pinawa townsite. In total, these campgrounds support approximately 650 campsites. A description of some of these campgrounds is provided below.

The Pinawa Pioneer Bay Campground, located on the outskirts of Pinawa, has 130 fully serviced seasonal campsites and three overnight campsites, two of which are fully serviced (Backer, 2010). Relax Ridge Campground is located two minutes north of Pinawa and includes 56 fully serviced campsites. Campgrounds in the Whiteshell Provincial Park in the regional study area include Otter Falls Campground, located approximately 10 km from the Site with 38 electrical campsites and 34 basic campsites; Opapiskaw Campground, located approximately 15 km from the Site with 23 campsites; Nutimik Lake Campground located 20 km from the Site, with 63 basic campsites and 94 other campsites.

6.4.14 Aboriginal Communities

There are two Aboriginal Communities in the vicinity of the Proposed Project: Sagkeeng First Nation and Brokenhead Ojibway First Nation.

Sagkeeng First Nation is located on the Winnipeg River System, downstream of the Project, at a distance of approximately 55 km overland. The Project Site is located within the Sagkeeng First Nation Community Interest Zone (CIZ) under the Treaty Land Entitlement (TLE) selection process.

The Brokenhead Ojibway First Nation is located on the Brokenhead River System approximately 55 km northwest of the Site, overland.

6.4.15 Heritage Resources

A search was conducted of the Department of Manitoba Culture, Heritage and Tourism, Historic Resources Branch, Provincial Heritage Registry for previously recorded archaeological sites. The search yielded two records within the Project Site (EaKx-12 and EaKx-7) and two records immediately west of the Project Site (EaKx-63 and EaKx-64).

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EaKx-12 consisted of an isolated find, a jasper biface, along the beach on the east side of the Site, south of the proposed swimming area. EaKx-7 and EaKx-63 were poorly recorded sites that contained unidentified, isolated finds found along the riverbank. EaKx-64 consisted of a collection of several pottery sherds diagnostic of the Laurel phase (Early Woodland) of the Late Precontact Period (ca. 2500-360 Before Present [BP]) collected near the water's edge. These resources were primarily recorded in 1980 and 1981 (Buchner, 1982) following a 1979 announcement by Manitoba Hydro that it was lowering the Seven Sisters (and Great Falls) forebays, which previously inundated high heritage potential shorelines, for maintenance activities.

A field investigation (Manitoba Heritage Permit A36-10; Appendix G) was undertaken to revisit previously recorded sites and conduct pedestrian surveys and random shovel testing for intact heritage resources. Predictive modeling was utilized to determine high potential areas of undiscovered heritage resources in a boreal forest setting based on distance to water, slope and vista (Ebert, 2002). Distance to water was the most important site determining factor due to its historical role in transportation, harvestable resources, subsistence and the life chain cycle. Areas within 100 m of waterbodies were considered to have the highest potential, with distances of 100-200 m and more than 200 m considered to have respective moderate and low potential.

No additional heritage resources were discovered along the shoreline, riverbank or terrace. Areas of proposed development, located within areas considered of moderate to low potential, did not yield any finds.