



# COMMUNITY CONSERVATION PLAN

for the

## *W*HITEWATER *L*AKE *IMPORTANT BIRD AREA*

**Cory Lindgren,**  
Manitoba IBA Program  
Box 1160, Stonewall, Manitoba R0E 2Z0  
For  
Manitoba IBA Program



## Table of Contents

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Executive Summary.....	4
1.0 The IBA Program .....	6
1.1 IBA Manitoba.....	7
2.0 Introduction to Whitewater Lake .....	8
3.0 IBA Site Information .....	10
3.1 Vegetation.....	10
3.2 Hydrology.....	11
4.0 IBA Species Information.....	12
4.1 Natural History of IBA Species .....	13
4.1.1 Franklin's Gull .....	13
4.1.2 Tundra Swan.....	14
4.1.3 White-rumped Sandpiper.....	16
4.1.4 Snow Goose.....	17
4.1.5 Black-crowned Night-Heron .....	19
4.1.6 Sandhill Crane .....	21
4.2 Shorebirds.....	22
4.3 Other Birds .....	23
5.0 Other Elements of High Conservation Value .....	25
5.1 Grassland Birds .....	25
5.2 Mixed-grass Prairie.....	25
5.3 Seaside Heliotrophe.....	25
5.4 Newcomb's Hollow - Boundary Commission Trail.....	26
6.0 Land Ownership And Use .....	26
6.1 Waterfowl Hunting .....	26
6.2 Value to Muskrats and Waterfowl.....	26
6.3 Agriculture.....	27
6.4 Mineral Exploration.....	27
7.0 Conservation Management Achieved Whitewater Lake .....	27
7.1 Wildlife Management Area .....	27
7.2 Ducks Unlimited Habitat Restoration Project.....	28
7.3 Wildlife Observation Area.....	28
7.4 Heritage Marsh .....	28
7.5 Metigoshe Natural Area.....	29
8.0 IBA Stakeholder Group Activity .....	29
8.1 Turtle Mountain Conservation District.....	29
8.2 Ducks Unlimited Canada.....	29
8.3 Manitoba Conservation.....	29
9.0 Opportunities .....	29
9.1 Ecotourism.....	29
9.2 Education.....	30
9.3 Recreation.....	31
10.0 Threats .....	31
10.1 Avian Botulism.....	31
10.2 Drainage .....	31
10.3 Pesticides .....	33
10.4 Oil and Gas Development.....	33
10.5 Agricultural Practices .....	33
10.6 Exotic Invasive Weeds .....	33
11.0 Conservation Goals and Objectives.....	36
12.0 Evaluating Success .....	37
Acknowledgements .....	37
References .....	38
Appendix I: Whitewater Lake IBA Contacts.....	42

Appendix II: Historical Bird Counts..... 43  
Appendix III: MNS Bird Observations..... 45  
Appendix IV: Bird List..... 46  
Appendix V: IBA Canada Partners..... 48  
Appendix VI: Funding Opportunities..... 49  
Appendix VII: IBA Population Threshold Information..... 52

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**Preamble.**

This document is not intended to be static. It is hoped that the community stakeholder groups involved will use this CCP to guide their conservation efforts and continue to add to sections of this document over time.

## Executive Summary

### Whitewater Lake Important Bird Area

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#### The Important Bird Area Program

The Canadian Important Bird Areas Program (IBA) was established by the Canadian Birdlife Partners (see Appendix V), the Canadian Nature Federation and Bird Studies Canada, as part of an international effort to identify and conserve sites important to all bird species worldwide. In Manitoba, the IBA program is being delivered and administered by the Manitoba Naturalists Society. Conservation planning began in Manitoba in August 1999.

#### Goals of the Canadian IBA Program

The goals of the program are to (1) identify a network of sites that conserve the natural diversity of Canadian bird species and are critical to the long-term viability of naturally occurring bird populations; (2) to determine the type of protection or stewardship required for each site and (3) to ensure the conservation of each site through partnerships with local stakeholder groups who develop and implement an on-the-ground community conservation plan.

#### Whitewater Lake

Once known as "White Lake" because of its white alkali flats, Whitewater Lake is one of Canada's best known staging areas for waterfowl and shorebirds. The lake is a 9,000 ha saline wetland situated in southwestern Manitoba between the towns of

Boissevain and Deloraine and within the Rural Municipalities of Morton and Winchester. Whitewater Lake is within the mixed-grass prairie biome.

#### Significant Bird Numbers

Whitewater Lake is recognized as a Canadian Important Bird Area of global significance. Whitewater Lake provides habitat for over 110 species of birds as well as over 40 species of other wildlife. There are at least 8 bird species that meet IBA population criteria at the globally significant level.

Surveys have indicated that during the either the fall or spring migrations, Whitewater Lake may serve as staging area for as many as 190,000 Snow Geese, over 509,000 ducks and some 23,000 shorebirds. About 7% of the mid-continent population of Snow Geese consistently pass through the Whitewater Lake area in the fall. As many as 20,000 Tundra Swans have been recorded in November. Sandhill Cranes (not meeting IBA threshold criteria) have been observed at Whitewater Lake during their fall migration in numbers as high as 1,200 birds.

Periodically, when the lake levels are low, the largest shorebird concentrations in southern Manitoba occur on Whitewater Lake. An impressive 10,000 White-rumped Sandpipers were seen here in 1988. This is 2.5% of the known winter population of the species.

Black-crowned Night-Herons breed at Whitewater Lake in Nationally significant numbers with 85 pairs recorded which represents 1.7% of the estimated Canadian population of this species. Franklin's Gulls nest here in globally significant numbers with over 3,000 pairs or 1% of the estimated North American population, observed in past years and as many as 30,000 birds seen on May 7<sup>th</sup>, 2000.

### **Other Birds**

Whitewater Lake has historically been used by threatened and endangered species such as Piping Plovers, Burrowing Owls, Baird's Sparrows, Loggerhead Shrikes and Ferruginous Hawks. The northern shore was once known as a nesting area for Whooping Cranes with the last cranes sighted in 1879. Over 350 Eared Grebes pairs have nested on Whitewater Lake. The lake is also used by American Coots as a spring staging area. Pectoral Sandpipers and Lesser Yellowlegs are also common shorebirds found at Whitewater Lake. White-fronted Geese and Ross Geese can also be found in the IBA.

A small rare herbaceous plant (*Heliotropium curassavicum*) can be found at Whitewater Lake.

### **Threats**

Whitewater Lake has a long history of botulism outbreaks and water level fluctuations. During the drought years of the "Dirty Thirties" (1932-1937) Whitewater Lake dried up and local residents were able to use the area as a road. Other threats include the agricultural use of pesticides, drainage, oil extraction, and invasive alien species.

### **Past Conservation Efforts**

Past conservation and restoration efforts have been championed by Ducks Unlimited Canada, Manitoba Conservation and the Turtle Mountain Conservation District. These management efforts have included water management, habitat enhancement projects in the east end of the lake, as well as construction of wildlife observation facilities.

Whitewater Lake is designated a Wildlife Management Area and is a candidate Manitoba Heritage Marsh.

### **Conservation Goals and Objectives**

The present IBA working group was formed to develop an IBA community conservation plan (CCP). The intent of this CCP will be to increase awareness of Whitewater Lake and the associated birding and ecotourism opportunities. This may best be accomplished through education, extension and promotional programs.

### **Contacts**

*Manitoba Important Bird Areas Community*  
Cory Lindgren - (204) 467-3269

*Turtle Mountain Economic Development Corporation (Boissevain)*  
Roslyn VanderVelde, (EDO)  
(204) 534-633

*Deloraine and Area Economic Development Corporation*  
Grant Cassils (EDO) (204) 747-3982

*Turtle Mountain Conservation District*  
Gary Davis - (204) 747-2530

*Manitoba Conservation (Boissevain)*  
Tom Moran - (204) 534-6838

*Ducks Unlimited Canada (Brandon)*  
Dave Clayton - (204) 729-3511

## 1.0 The IBA Program

The IBA program is an international initiative coordinated by BirdLife International, a global partnership of over 100 countries seeking to identify and protect sites important to the conservation of bird species worldwide. Through the protection of birds and habitats, IBA's also promote the conservation of the world's biodiversity. IBA programs are currently in place in Europe, Africa, the Middle East, Asia, and the Americas.

The Canadian IBA Program was initiated in 1996 by two Canadian environmental non-government organizations - Bird Studies Canada (BSC) and the Canadian Nature Federation (CNF). BSC will focus on data collection, site evaluation, and research of Canadian IBAs. The CNF will work on policy development, advocacy, communications, and development and implementation of IBA conservation plans. The Canadian IBA program forms part of the Americas IBA program which includes the United States, Mexico, and 17 countries in Central and South America.

The goals of the Canadian IBA program are to:

- identify a network of sites that illustrate and conserve the natural diversity of Canadian bird species and are critical to the long-term viability of naturally occurring bird populations;
- determine the type of protection or stewardship required for each site, and ensure the conservation of sites

through partnerships between local stakeholder groups who develop and implement appropriate on-the-ground conservation plans; and

- establish ongoing local involvement in site protection and monitoring.

IBA sites are identified by the presence of birds falling under one or more of the following internationally agreed-upon categories:

- 1) Sites regularly holding significant numbers of an endangered; threatened, or vulnerable species,
- 2) Sites regularly holding an endemic species, or species with restricted-ranges;
- 3) Sites regularly holding an assemblage of species largely restricted to biome;
- 4) Sites where birds congregate in significant numbers when breeding, in winter, or during migration.

### Important Bird Areas Funding

In October 1998, the Government of Canada announced funding for the Natural Legacy 2000 project, a major initiative under the Canadian Millennium Partnership Program (CMPP). In total, \$10 million CDN were awarded to a consortium of four conservation organizations - Canadian Nature Federation, World Wildlife Fund Canada, the Nature Conservancy of Canada and Ducks Unlimited Canada. A portion of the grant, \$1.25 million was awarded to the Canadian Nature Federation to establish the Important Bird Areas Program in Canada. In Manitoba, funding has been received from the Murphy Foundation and the Sustainable Development

Innovations Fund. For further information on the IBA Program contact:

[www.ibacanada.com](http://www.ibacanada.com)

### 1.1 IBA Manitoba

The Manitoba Naturalists Society (MNS) is cooperating with the Canadian Nature Federation and Bird Studies Canada to deliver the conservation planning component of the Manitoba IBA program. The MNS is a non-profit organization made up of individuals who share a common concern for the well-being of Manitoba's nature. It was founded in 1920 for the popular and scientific study of nature. The MNS believes that the chance to experience an undamaged environment in peace and tranquility is a joy and a privilege. It also believes in the importance of sound stewardship, the wise use of our natural resources, fostering an awareness and appreciation of the natural environment and an understanding of humanity's place therein.

The objectives of the MNS include:

- providing an association and a voice for those interested in natural history and the outdoors,

- to cooperate with individuals and organizations with similar objectives,
- to arrange educational and recreational programs and field trips to promote an understanding of the natural environment,
- to stimulate research and to record and preserve data and material in natural history and allied subjects,
- and to work for the preservation of our natural environment.

In 1996, a number of Manitoba birders gathered to begin identification of potential Manitoba IBA's. By 1999, over 100 locations were nominated for IBA status in Manitoba. In August of 1999, the MNS began IBA community conservation planning with the hiring of a conservation biologist. Shortly after, strategy meetings were held to further identify Manitoba IBA's with local community interest. Advice was solicited from groups including the Manitoba Naturalists Society (Avian Research Committee), Canadian Wildlife Service, Ducks Unlimited Canada, Manitoba Conservation, The Nature Conservancy of Canada, Manitoba Habitat Heritage Corporation and local birders.

## 2.0 Introduction to Whitewater Lake

Situated between the towns of Deloraine and Boissevain (see map), Whitewater Lake is a globally significant IBA. It is known as a major staging area for waterfowl, shorebirds and Tundra Swans (see Appendix II and VIII). Once known as "White Lake" because of its white alkali flats (Ducks Unlimited, 2000), it has been reported that Whitewater Lake provides habitat for over 110 species of birds as well as over 40 species of other wildlife.

As a result of the high biodiversity found at Whitewater Lake, it has received a number of designations:

- it is recognized as a Canadian Important Bird Area of global significance;
- it is a Manitoba Wildlife Management Area (WMA);
- it is recognized as a priority migratory bird habitat of Canadian importance for staging shorebirds and geese by Posten et al. (1990); and
- it is a candidate Manitoba Heritage Marsh.

Whitewater Lake has been featured in a number of recent Manitoba birding books. Cuthbert (1990), in his book entitled "Birder's Guide to Southwestern Manitoba", reported the following bird species can be found at Whitewater Lake - Burrowing Owls; Chestnut-collared Longspurs; Orchard Orioles (breeding); Swainson's Hawks; Upland Sandpipers; Marbled Godwits; Chestnut-collared Longspurs; Sparage's Pipits; Ferruginous

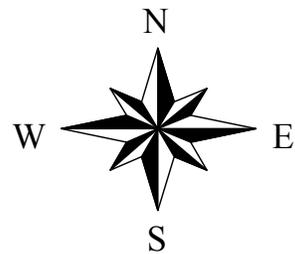
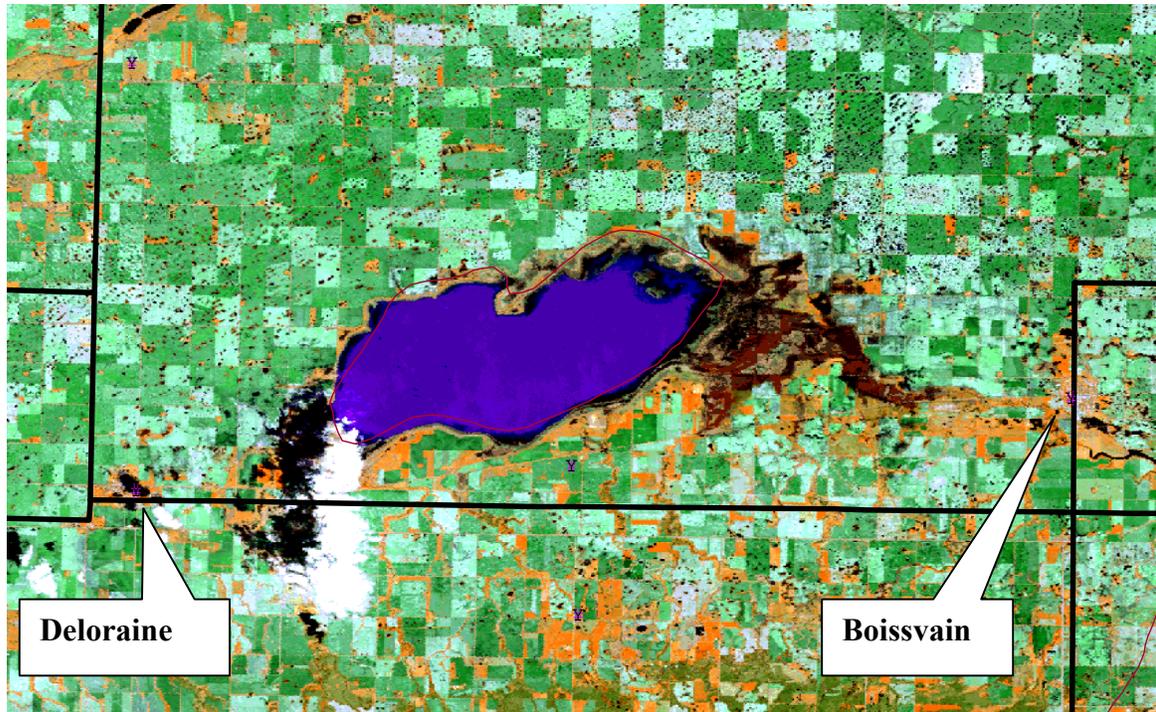
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Hawks; Sedge Wrens; Marsh Wrens; Le Conte's Sparrows; Sharp-tailed Sparrows; Short-eared Owls; Wilson's Phalaropes; Baird's Sparrows; Piping Plovers; California Gulls; Ring-billed Gulls; and the Prairie Falcons.

Stilwell (1997), in his book "The Scenic Secrets of Manitoba", notes that Whitewater Lake is a major breeding, nesting area, and migration stop for waterfowl, Tundra Swans, Snow Geese, Mallards, Northern Pintails, Marbled Godwits, Piping Plovers, Sprague's Pipits, American Avocets, Orchard Orioles and Marsh Wrens.

Both these books are recommended reading for birders visiting Whitewater Lake and Manitoba.

# Whitewater Lake IBA



### 3.0 IBA Site Information

**Site:** Whitewater Lake, CAMB015

**Location:** 49°15' 26 N, 100°19' 29 W

**Elevation:** 457 to 460 m

**Biome:** Mixed-grass Prairie

**Size:** 6,070 to 10,320 hectares

Whitewater Lake is in southwestern Manitoba. The lake was first referred to as White Lake on the Palliser expedition map of 1865 because when water levels are low the presence of alkali gives the shoreline a whitish appearance (Ham 1980). The three main settlements around the lake are Whitewater, Deloraine and Boissevain. The hamlet of Whitewater is to the east of Deloraine and was named after the lake. The Whitewater school and post office opened in 1884 (Ham 1980).

Deloraine is situated 203 miles west and south of Winnipeg and the first settlers were of Scottish origin in the 1880s. Deloraine is found on a small area of ground moraine surrounded by lakebed. Draining and dyking has been necessary to protect Deloraine from flood waters. The original townsite was along the Commission Trail and is referred to as Old Deloraine (Ham 1980).

Boissevain was incorporated as a town in 1906 and is known as the entrance to the International Peace Gardens. The town was named after Adolph Boissevain, a prominent financier who introduced the CPR shares to Europe (Ham 1980). Boissevain was earlier known as Cherry Creek (Ham 1980).

Soils are of the Whitewater Association developed upon lucustrine sediments. Streams carrying water run-off dumped inorganic material into the lake resulting in sedimentary deposits of sand, silt, and clay within the basin. During the time when the lake was at its largest size it apparently had two outlets known as Elgin Creek (northwest of Boissevain) and Medora Creek (north of Deloraine). Post glacial streams once had well defined channels ending at the shoreline of the lake. These streams have since deposited their loads of suspended materials forming alluvial fans, so that the streams end as far as four miles from the shoreline hence the lake has no water outlets.

The topography of Whitewater Lake is generally flat. There are two pronounced sandbars in the northeast corner of the lake with a small vegetated mud bar (Ransom and Hochbaum 1972). There is one island known as Sexton's Island on the north shore. The region is in the Mixed-grass Prairie biome, generally dry, and experiences annual moisture deficits of about 4-inches (Sexton 1983).

#### 3.1 Vegetation

The dominate nesting and roosting cover is in the form of cattails, bulrushes and Whitetop Grass. Upland of the lakeshore, meadowlands of spikerush and sedge give way to Mixed-grass prairie (Senecal 1999).

With the exception of the Hochbaum (1970) report, limited information is available on the vegetation of Whitewater Lake. Hochbaum (1970) divided the marsh into 26 units and described the vegetation within each unit,

however, no map is contained within the report indicating where the units are located. Hatch (1996) reported 84 plant species are found in the southeast corner of Whitewater Lake. Hatch (1996) found Seaside Heliotrope (*Heliotropium curassavicum*), a rare plant in Manitoba, is localized and abundant. The dominant plant species in the southeast corner were found to be Whitetop Grass (*Scholohloa festuacea*). Other plant species included Curly-leaf Dock (*Rumex crispus*), Reed Bentgrass (*Calamagrostis inexpansa*), Perennial Sow Thistle (*Sonchus arvensis*) and Many-flowered Aster (*Aster ericoides*).

Bossenmaier (1953) characterized Whitewater Lake by mudflats with dense broad growths of aquatic and marsh vegetation. He reported the dominant plant species included Common Reed (*Phragmites communis*) and Cattail (*Typha latifolia*).

Vegetation composition, dominant species and distribution of plant species varies as the lake undergoes high water years and drought periods. This can occur in less than 60 years in some cases (Don Sexton, personal communication, March 2001).

### 3.2 Hydrology

Whitewater Lake is fed from 8 major creeks and streams from the Turtle Mountains to the south. The water is moderately brackish with sodium and magnesium sulfate salts predominating (Ransom and Hochbaum 1972). Whitewater Lake lies in a flat, poorly drained terminal basin. Water enters through several major creeks and streams

from the north slope of Turtle Mountains to the south (Pratt 1996). Whitewater has no water outlet hence water is lost through evapotranspiration and possibly seepage (Sexton 1983). Consequently, lake levels fluctuate violently. Ransom and Hochbaum (1972) noted that with no water outlet mineral content of the lake can be expected to increase over time.

Historically the lake has experienced complete drying as well as flooding (Sexton 1983). The lake was completely dry from 1913 to 1915 and again between 1932 to 1934. Water levels were low again in the 1960's and 1980's. As a result of flooding, and more specifically flooding of adjacent agricultural lands, various proposals have been explored to manage water levels. Artificial water outlets to the west at Medora Creek or north to Elgin Creek and various dyking proposals have been investigated but were found not economical (Hatch 1996).

Lake levels can also fluctuate daily due to wind tides or seiches that affect water levels at opposing points on the lake (Pratt 1996). These tides can have deleterious effects on nesting birds by flooding nesting areas. For example, Ransom and Hochbaum (1972) reported that on July 1<sup>st</sup> 1970, a wind of 35-40 miles per hour moved water 1/8 of a mile beyond the normal waters edge and raised water levels by at least one foot.

#### 4.0 IBA Species Information

Species or groups meeting IBA criteria	Season	Number
Waterfowl	FM	250,000 (??)
Ducks	FM	509,085 (1967)
Mallard	FM	55,000 (1967)
Tundra Swan	FM	20,000 (1970)
Snow Goose	FM	190,000 (1983)
Shorebirds	SM	23,068 (1987)
White-rumped Sandpiper	SM	10,000 (1988)
Black-crowned Night-Heron	B	170 (??)
Franklin's Gull	B	30,000 (2000)
Sandhill Crane	FM	1,200 (1970)

B = Breeding FM = Fall migration SM = Spring Migration  
W = Winter S = Summer (non-breeding)

Whitewater Lake is a **Globally Significant** Important Bird Area (see Appendix VII). Whitewater Lake is famous for attracting significant numbers of waterfowl, shorebirds, grassland birds and colonial waterbirds (see Appendix II). At least 7% of the Mid-continent population of Snow Geese consistently pass through the Whitewater Lake area in the fall. As many as 2,000 Tundra Swans have been recorded at Whitewater Lake during fall migrations (observed in November) which is about 2% of the eastern population of the species. Ransom and Hochbaum (1972) reported more than 20,000 Tundra Swans were present on October 15<sup>th</sup> 1970. Senecal (1999) reports Whitewater Lake hosts one of the largest concentrations of Tundra Swans in Manitoba in October. Large numbers of Sandhill Cranes with as many as 1,200 field-feeding individuals were observed in 1970 on fields surrounding Whitewater Lake (Ransom and Hochbaum 1972).

Up to a quarter of a million geese and ducks have been recorded at Whitewater Lake during fall migration. About 7% of the Mid-continent population of Snow Geese consistently pass through the Whitewater Lake area in the fall.

The lake is also used by several geese species, American Coots and ducks as a staging area. The IBA is also important for postbreeding and molting waterfowl, mostly dabblers. Whitewater is renowned as a fall staging area for waterfowl, for example in 1967, 509,085 ducks were counted. Sexton (1983) reported that Whitewater Lake is also used by Redheads, Northern Shovelors, Blue-winged Teal, Northern Pintails, Mallards, Ruddy Ducks, Canvasbacks and Gadwalls for breeding. Ransom and Hochbaum (1972) reported that in 1967 over 55,000 Mallards and 5,000 White-fronted Geese were observed during the fall migration.

When the lake levels are low, the largest shorebird concentrations in southern Manitoba can occur on the lake. In the spring of 1987, as many as 23,068 shorebirds were observed. An impressive 10,000 White-rumped Sandpipers were seen here in 1988. This represents 2.5% of the known wintering population of the species. Common shorebirds seen include Pectoral Sandpipers and Lesser Yellowlegs. In June of 2000, as many as 250 American Avocets were observed nesting at Whitewater Lake (see Appendix III).

Various colonial waterbirds nest at Whitewater Lake meeting IBA population criteria. Eighty-five pairs of Black-crowned Night-Herons have been observed representing 1.7% of the estimated Canadian population for this species. Franklin's Gulls nest here in

**globally significant numbers** with as many as 3,000 pairs being observed which is over 1% of the estimated North American population. More recent records indicate that as many as 30,000 Franklin's Gulls were observed Whitewater Lake in 2000 (see Appendix III). Although not meeting IBA population criteria, Eared Grebes nesting at Whitewater Lake can reach over 350 pairs.

#### 4.1 Natural History of IBA Species

##### 4.1.1 Franklin's Gull

*Larus pipixcan*

Unless otherwise cited, the following life history information is from Burger and Gochfeld (1994). Franklin's Gulls nest in dense colonies, forage in flocks and commute to and from foraging sites (Kopachena 1987). It is a small, black hooded gull that nests in marshes of interior North America.

The Franklin's Gull depends on extensive prairie marshes for breeding, and entire colonies may shift from year to year depending on water levels. Once threatened by habitat loss due to large-scale drainage projects and the Dust Bowl years, this species has regained numbers with the creation of large wetlands, mainly on protected national wildlife refuges. Colony shifts continue to occur, however, influenced by drought and fluctuating water levels (Burger and Gochfeld 1994).

##### **Historical Population Changes.**

Requires large prairie marshes for nesting, depending on water levels colonies will shift nesting sites in favour of suitable

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sites. Many colonies disappeared entirely during the Dust Bowl years of the 1930s and these populations were not regained. Populations began increasing after the 1930s with the creation of wildlife refuges and protected areas of marshland. Formerly abundant summer resident in Saskatchewan but has declined in the 1980's. Many colonies have been destroyed as a result of wetland draining across the Canadian prairies. Reported as a common breeder in south western Manitoba.

**Population Status.** North American population estimated at 500,000 birds. Some controversy over recent population trends. Based on U.S. Fish and Wildlife Service BBS's, which reported a 7.4% annual decline or a 90% decline overall. Negative trend is not consistent with reports from breeding colonies. Nesting habits of the Franklin's Gull which prefer remote, large marshes makes breeding birds difficult to survey. Main factors regulating populations are sufficient and suitable nesting habitats on large marshes. These marshes are vulnerable to drought, draining, and burning.

In Manitoba, Manitoba Conservation Data Centre (1996) ranks the Franklin's Gull as "apparently secure" with 5-6 main nesting colonies with 12,000 breeding pairs in 1994 (W. Koonz, personal communication, 2000).

**Habitat and Predators.** Always nests over water on floating mats of vegetation, on muskrat houses or floating debris in inland freshwater marshes or lakes. Colonies can be found in Cattails (*Typha* spp.), Bulrushes (*Scirpus* spp.),

Common Reed (*Phragmites communis*) or other emergents. Birds nest over water. Predators are mainly aerial or aquatic such as Mink (*Mustela vison*), Muskrat (*Ondatra zibethica*), Northern Harrier (*Circus cyaneus*), Great Horned Owl (*Bubo virginianus*), Peregrine Falcons (*Falco peregrinus*). Black-crowned Night-Herons (*Nycticorax nycticorax*) and American Coots will take young chicks and eggs.

**Food Habits.** Franklin's Gulls eat earthworms, grubs, insects, seeds, mice, fish, fish offal, crab, snails, and invertebrates. They forage in flocks in wet pastures. During the breeding season, Franklin's Gulls will feed aerially on swarming insects and on water for aquatic insects as well as on the ground for earthworms and insects.

**Vocalizations and Behaviour.** There has been considerable research on Franklin's Gull vocalizations and behaviour. The vocal array includes an alarm call, long call, landing call, gakkering, and a mew call. Numerous displays have been identified such as wing-flapping, swoop and soar, threat, pursuit flights, upright, oblique, head-tossing, choking, and gakkering.

**Breeding.** Breeding is highly synchronous over a 21-d period. Arrives near breeding colonies in April (Dakotas and Minnesota). Subcolonies are formed around a series of epicentres which may coalesce. Birds often nest on same water body year after year but often use a new colony site. Pair formation occurs prior to arrival at colony. Egg laying begins about 1-week after nest construction usually in early to mid-May in Minnesota. Eggs

hatch late May to mid June. Clutch sizes range from 2-4 eggs with a modal size of 3 eggs.

#### **Conservation and Management.**

Franklin's Gulls are sensitive to human disturbance early in the breeding cycle and will entirely desert a nesting colony with excessive exposure to humans. Eggshell thickness did not change during the DDT era suggesting limited exposure. Loss of nesting habitat occurs during drainage of marshes or intentional drawdowns for management of waterfowl habitat. Gulls cause some degradation of habitat because of net contribution of nitrogen and phosphorus to the immediate area of nesting. No real management programs for Franklin's Gulls other than the Migratory Bird Convention Act. Maintaining large marshes and suitable water levels is the main management technique for this species.

#### **4.1.2 Tundra Swan** *Cygnus columbianus*

Life history information for the Tundra Swan was taken from Limpert and Earnst (1994). The Tundra Swan, once known as the Whistling Swan is the most numerous and widespread of the two swan species native to North America.

The sexes are similar with males being larger. Tundra Swans are all white while juveniles are gray. In North America it may be confused with the Trumpeter Swan (*Cygnus buccinator*) and the feral Mute Swan (*C. olor*). Tundra Swans are smaller than these two similar species, Mute Swans have an orange bill

and Trumpeter Swans lack the yellow lore spot.

**Distribution.** Tundra Swans breed on Arctic wetlands and winters on estuaries along the East and West coasts. Migration routes are across North America that includes Whitewater Lake. They leave the wintering grounds in mid-March and can be found in southern Canadian Prairies by late April. Tundra Swans migrates in flocks composed of family groups.

**Breeding.** Tundra Swans are monogamous and pairs are maintained year round. Pairs produce one clutch per season with an incubation period of 31-32 days. In the Yukon Delta mean number of eggs was about four eggs per nest with a range from 3.3 to 4.9 eggs. Nests are built near large waterbodies.

**Fidelity.** Tundra Swans demonstrate fidelity to both breeding and wintering grounds. Adult Tundra Swans neckbanded on breeding territories in



Alaska were observed using the same territories in subsequent years.

**Population Status.** Populations of Tundra Swans have doubled over the past

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35 years. From 1987-1989, there were an estimated 87,065 Tundra Swans in the eastern wintering populations and 63,751 in the western wintering population.

Tundra swans are not colonial nesters and they breed at low densities across vast expanses of the Canadian and U.S. arctic. Both Eastern Population (EP) and Western Population (WP) Tundra Swans were historically harvested commercially as well as for sport throughout the 1800s and early 1900s. After nearing extinction, tundra swans were given total protection under the Migratory Bird Treat Act of 1916. Upon receiving this protection, North America's Tundra Swan populations quickly rebounded. By the 1950s and 1960s, the WP had stabilized at 35,000 to 45,000 birds. This steady increase can almost certainly be attributed to the fact that birds began consuming agricultural grains in the 1960s and 1970s. Highly nutritious, digestible and available, cereal grain and winter wheat consumption on wintering and spring staging areas, probably enables Tundra Swans to obtain higher levels of body fat in a shorter period of time. The net result is an increase in overwinter survival as well as increased reproductive output. In fact, WP swans have been above Pacific Flyway Council (PFC) population objectives every year since 1971, and the population is currently well above the North American Waterfowl Management Plan (NAWMP) objective.

Tundra Swans have experienced a subsequent, even more dramatic increase in numbers throughout the 1990s. The timing of spring has the most pronounced influence on population levels of high-arctic nesters, as they have limited time

and endogenous resources to reproduce. A series of early springs can result in substantial population increase, whereas several consecutive late springs can have the opposite effect. The 1990s have been the warmest decade on record, with numerous early springs and late falls. This has probably enabled birds to begin nesting early, which generally results in an increase in the proportion of swans that breed, as well as increases in clutch sizes, nesting success, and fledgling success. The WP has increased from 40,000 birds in 1990, to 120,000 in 1999. If the WP continues to increase at this staggering rate (14.8% annually), the population will double in five years (241,363 swans) and quadruple in ten years (485,467 swans).

The size of wildlife populations is determined by recruitment into the population, otherwise known as productivity, as well as mortality, immigration and emigration. As there is very limited mixing between the EP and WP and less than 2% of tundra swans winter outside the midwinter survey area, immigration and emigration certainly are not key determinants of WP tundra swan population trends. Therefore, given the rate of population growth of the WP, recruitment has exceeded mortality, on average, for more than 30 years. The 1998 NAWMP Update lists the population of EP swans as stable and at the level of the Plan objective, whereas the WP is twice as large as the population objective specified in the plan and is continuing to increase.

**Conservation.** The most direct human impact on Tundra Swans has been from the annual hunting season (since

1962) on the western wintering grounds. Hunting Tundra Swans had been justified due to population increases and due to the damage they cause while feeding on agricultural crops. Tundra Swans are managed as two populations (EP and WP) by the US. Fish and Wildlife Service and the Canadian Wildlife Service based upon their wintering locations in North America.

#### 4.1.3 White-rumped Sandpiper

*Calidris fuscicollis*

Unless otherwise referenced, life history information on the White-rumped Sandpiper was taken from Parmelee (1992). It is very similar to the Baird's Sandpiper (*Calidris bairdii*) in size and structure but is usually grayer (see below photo source: [www.museum.gov.ns.ca](http://www.museum.gov.ns.ca)).

**Distribution and Migration.** This small Nearctic sandpiper migrates from its principal breeding ground in the Canadian Arctic to the southern extremes of South America, one of the longest animal migrations in the Western Hemisphere. Much of its migration is made of few, long, non-stop flights which can last as long as 60 hours and 4,000 kilometers. Wetlands play an important role in these migrations as they provide the food for fat reserves necessary for these long migrations. Banding studies indicate this species is capable of flying directly over the Atlantic Ocean from eastern Canada to northeastern South America.

The breeding habitat usually consists of wet, hummock-tundra near marshy ponds. Birds are most conspicuous above breeding grounds in

aerial display. Males typically flies 10-25 meters above ground and changes from normally deep to shallow wing beats while hovering and uttering rattling sounds interrupted with piglike sounds with the head up and neck stretched out. Breeding males extend their throats while performing aerial displays.

**Breeding.** Birds are polygynous and pairs are formed on the males' territory. Females alone build the nest. Females generally lay 4 eggs that are a distinctive pale to olive green and are spotted reddish-brown. Incubation period is around 22 days.

**Population Status.** Canadian and global population estimates of White-rumped Sandpipers are 400,000 birds, which is considerably higher than the previous estimates of 50,000 birds (Morrison et al. 2001). Total adult summer



populations are estimated at 25,000 birds at Banks Island, 15,000 birds at Prince of Wales Island and 1,056 birds at Jenny

Lind Island. The finding of 10,000 White-rumped Sandpipers during the spring migration at Whitewater Lake in 1988 is indeed significant.

**Conservation.** Loss of wetlands for feeding and resting and in wintering areas is a threat to this species as well as to all shorebirds. The preservation of wetland staging areas in Latin America is of equal importance.

#### 4.1.4 Snow Goose

*Anser caerulescens*

Based upon numbers, the Snow Goose is the most significant avian species associated with the Whitewater Lake IBA. As many as 250,000 migrating Snow Geese have used the area in spring and fall or about 7% of the Mid-Continent population of Snow Geese. Whitewater Lake (Boissevain-Hartney Plain) is recognized by Poston et al. (1990) as a wetland site of national importance for staging geese. The following information on Snow Geese is taken from the Canadian Wildlife Service (1989) Hinterlands Who's Who.

**Description.** The Lesser Snow Goose comes in two different color phases. The plumage of white-phase geese is almost completely white, except for black wing tips. The blue-phase goose has a white head, a bluish color on the feathers of the lower back and flanks, and a body that ranges in color from very pale, almost white to very dark. Both the white and blue-phase snow geese frequently have rusty orange faces, because their feathers have been stained by iron in the earth where the birds feed.

**Population Status.** In an age of declining wildlife populations, Lesser Snow Geese have doubled in number in the past 15 years and, among North American geese, their numbers are second only to those of the Canada Goose. However, because there are many subspecies and races of Canada Geese, the Lesser Snow Goose can probably be considered the single most abundant goose in Canada. The current population of mid-continent Lesser Snow Geese is probably between 4.5 and 6 million (Batt 1997).

Birds from the eastern Arctic stage in very large numbers in James Bay and on the west coast of Hudson Bay before heading farther south. During migration they pass through Manitoba and Ontario, on a rather broad front, en route to the coast of the Gulf of Mexico.

**Manitoba Migration Shift.** Major shifts in autumn distribution have taken place in prairie Canada since 1975. In 1975, 50,000–100,000 snow geese started to use a more westerly route through eastern Saskatchewan rather than the traditional route through southwestern Manitoba. The shift from southwestern Manitoba to eastern Saskatchewan has continued annually.

**Nesting.** Snow Geese, unlike most other waterfowl, usually nest close to each other in large colonies with densities of up to 2,000 pairs per square kilometre. When snow geese first return to their breeding colony the ground is often still snow-covered. But snow geese are well adapted to wait for the thaw of ice and snow in order to nest. In spring they carry heavy loads of fat and protein in their body

reserves and can live on these for up to two weeks, though where possible they feed on emerging vegetation. As the snow begins to melt the flock breaks into smaller groups and eventually into pairs.

The nest itself consists of a scrape in the moss or gravel that often becomes built up into a mound over the years with bits of moss, willow, and grasses. Some down is added to the nest bowl as the eggs are laid. From two to six eggs are produced, with the average clutch size being around four. Incubation begins when the last egg is laid and continues for about 23 days. Only the female incubates. The male remains nearby to protect the female and nest from predators and from other geese looking for a ready-made home. The female leaves the nest for only a few minutes each day, and in the latter part of the incubation period she may not leave at all. As a result she is very thin by the time hatching begins; she may lose up to 30% of her body weight, which she regains when she starts to feed with the goslings.

Nesting starts as early in the spring as northern snow conditions allow and varies between colonies. Depending on latitude, egg-laying begins from late May to mid-June. If delayed by snow cover after 20 June, the geese do not breed; instead, they resorb their eggs and wait until the next year. Incubation starts about five or six days after the first egg is laid.

After all the young birds have hatched they may stay together in the nest for up to 24 h. When they have dried off they leave the nest, together with both parents, and begin to feed. Initially their diet consists mostly of insects, which are never scarce during summer in the Arctic.

As they grow, their need for a high-protein diet diminishes, and within about two weeks they have switched almost completely to grasses and sedges. From an initial weight of about 100 g at hatch the young grow to more than 1200 g in six to seven weeks. While the young are still small both adults moult their flight feathers, the males a week or so ahead of the females. Subadults and failed breeders moult two to three weeks before successful parents. Some goslings and their parents walk and swim up to 50 km during the eight-week period from hatching to fledging. Both the young and the adults must spend most of their time feeding in order to grow large enough to fly or to regain their flight feathers by mid-August. The family group gains its power of flight at the same time.

**Management Concerns.** The increased population is creating problems both for the Lesser Snow Goose and for people. When large numbers of geese concentrate in relatively small areas, they may deplete their natural food supplies. At McConnell River, on the west coast of Hudson Bay, a colony of about 200,000 breeding geese has denuded the original nesting area of edible vegetation so that little more than bare soil remains. On some colonies, including a recently established one on Jenny Lind Island, there may be too many geese for the food resources available.

#### 4.1.5 Black-crowned Night-Heron

*Nycticorax nycticorax*

Unless otherwise referenced, life history information is taken from Davis (1993). The Black-crowned Night-Heron  
10/01/01

is a rather stocky heron. It looks as if it is hunched over with its head usually tucked down into its shoulders. Its plumage is gray and white with a distinctive black cap and a pair of white plumes that extend from the back of the head. During the breeding season, the black feathers from the head and back emit a bluish-green gloss and the legs become red.

This bird is a nocturnal and noisy heron. While "day" herons and egrets are roosting during the night, the Black-crowned Night-Heron is up feeding on fish, frogs, crustaceans, small mammals and even the young of other colonial-nesting waterbirds. Their digestive acids are so strong that bones that are consumed simply dissolve in their stomachs.

**Breeding.** Black-crowned Night-Herons are colonial breeders and gregarious throughout the year usually found among reeds in marshes, or up above the ground in trees. Their nests are seemingly haphazard piles of reeds, sticks or twigs that may, over the years, become very bulky. Often, more than a dozen nests can be found in a single tree. They roost



communal in the winter and will nest with other herons.

**Breeding.** Males initially begin to build a new nest or refurbish an old one with about 86% of birds using old nests. The males' twig ceremony gradually changes to nest building and may function to strengthen the pair bond. Generally only 2-3 bluish-green eggs per clutch are laid between June and July. Eggs are laid in 2-day intervals, both parents incubate the eggs and eggs hatch in about 23-26 days. After 2 weeks, the young can leave the nest and after 3 weeks, are often found clustered at top of a tree. Birds have one brood per year but will renest if the first nest fails. Juvenile birds disperse widely in all directions after nesting, however, the northern populations have received much attention as birds disperse in the opposite direction from normal migratory movements.

**Migration.** This heron migrates in large flocks almost exclusively at night resting during the daylight hours. Southward migration begins in late September or October following the Mississippi River system pathways. Birds begin to arrive in the northeast by the end of March.



**Habitat.** Birds prefer wetlands with equal proportions of water and

vegetation. Use of habitats fluctuates accordingly to water levels. General habitats used by Black-crowned Night-Herons includes swamps, streams, rivers, lakes, lagoons, canals, ponds and wet agricultural fields.

**Diet.** Main foods taken include leeches, earthworms, aquatic and terrestrial insects, fish, lizards, rodents, snakes, eggs and plant material. Prefers to feed along shallow weedy margins of marshes. Feeds primarily from evening to early morning but will feed during the day during the breeding season.

**Behavior.** The male chooses the nest site and advertises for females. Pair formation begins with males performing "Snap Displays" in which they walk about in a crouch and lower extended head and neck with feathers of head and neck and back somewhat erect, and snap mandibles together. At the time of pair formation the legs of both sexes turn pink, back and head plumage has a glossy bluish-green sheen, and lores become black. The white cranial plumes displayed during courtship are thought to aid in pair formation.

**Population Status.** Nesting individuals tend to be inconspicuous during aerial surveys, hence aerial surveys underestimate true numbers. No population data is available for North America. Little historic data exist for Manitoba (Koonz and Rakowski 1985). A general lack of census data makes population trends difficult to assess. Drainage of wetlands may have caused some population declines due to loss of habitat.

In 1975 this species was listed on the National Audubon Society Blue List ("species which, in all or a significant part of their range, currently exhibit potentially dangerous, apparently non-cyclical population declines"), with Quebec and Ontario to the west coast also believed to be in population decline.

**Habitat Destruction.** Drainage of wetlands for development and agriculture, increased human disturbance, and usage of islands continues to threaten Black-crowned Night-Herons. Koonz and Rakowski (1985) also identified marsh drainage, pesticides, predators and human disturbance as the important limiting factors for this species.

**Conservation and Management.** In the past, Black-crowned Night-Herons have been shot and trapped at fish hatcheries and hunted for food. Declines in many of its populations were probably attributable to the use of DDT. Black-crowned Night-Herons are high on the food chain and serve as excellent environmental indicators. They are being evaluated as an indicator of estuarine contamination by the U.S. Fish and Wildlife Service's National Contaminant Biomonitoring Program (Custer et al. 1991). Pesticide contamination (organochlorine) also has been demonstrated in eggs of Black-crowned Night-Herons.

#### 4.1.6 Sandhill Crane

##### *Grus canadensis*

Sandhill Cranes are large birds that walk on the ground with stately tread, and

10/01/01

fly with their long necks and legs fully extended, often giving a wild guttural bugling in flight. Large numbers of Sandhill Cranes can be found migrating through Whitewater Lake in April and May and then again during the fall migration in October and November (see Appendix II).

**Migration.** Sandhill Cranes travel in flocks, pausing at traditional stopover points such as Whitewater Lake. *Grus canadensis canadensis* are the subspecies believed to migrate through Whitewater Lake.

**Habitat.** Habitat varies between regions, but Sandhill Cranes usually nest around marshes or bogs, either in open grassland or surrounded by forest. Northernmost birds nest on marshy tundra. During migration and winter, birds are often around open prairie, agricultural fields, river valleys.

**Diet.** Sandhill Cranes are omnivorous, food items include insects, roots of aquatic plants; also eat rodents, snails, frogs, lizards, snakes, nestling birds, berries, seeds. Birds may eat large quantities of cultivated grains when available. Sandhill Cranes feed on land or in shallow water. Birds forage by probing in the soil with their bill, and by taking items from surface. Except during the breeding season, Sandhill Cranes forage in flocks.

**Breeding.** Sandhill Cranes return to Manitoba around the 3<sup>rd</sup> week of April, on their way to their northern breeding grounds. Some birds do nest in southeastern portions of Manitoba (C. Lindgren, personal observation). The start

of the breeding season is marked by spectacular courtship displays, in which members of a pair face each other, then leap into the air with wings extended and feet thrown forward. The pair then bows to each other and repeats the ritual. They construct their nest in undisturbed marshy areas, or on open tundra near water. The nest consists of a large mound of marsh vegetation, 1 - 1 ½ m across and up to 45 cm high with a slight central depression. The female lays 2 eggs, olive-buff in color, spotted with brown, which both sexes incubate for about 30 days. The young are downy at hatching, and leave the nest soon afterward. They are tended by both parents and can feed themselves by their second week. Although they can fly at about 70 days, they remain with the adults until the following year (Source: Manitoba Museum of Man and Nature Birds of Manitoba On Line [Http://www.chin.gc.ca/~anana/MMMN/English/index.html](http://www.chin.gc.ca/~anana/MMMN/English/index.html).)

**Nest.** Nest sites are among marsh vegetation in shallow water (sometimes up to 3' deep), sometimes on dry ground close to water. The nest (built by both sexes) is a mound of plant material pulled up from around site. Sandhill Cranes usually lay 2 eggs, sometimes 1, and rarely 3, that are pale olive to buff in color and marked with brown or gray. Incubation is by both sexes for about 29-32 days. The female does much of the incubating, typically all night.

**Young.** The young leave the nest within a day after hatching and follow the parents into the marsh. Both parents feed the young at first. Age at first flight about 65-75 days. The young remain with parents for 9-10 months accompanying them in the fall migration.

10/01/01

**Conservation:** Most populations are now stable or increasing slightly, but still vulnerable to loss of habitat. Degradation of habitat at major staging areas is seen as a serious threat to this species.

## 4.2 Shorebirds

Whitewater Lake (Boissevain-Hartney Plain) is recognized by Poston et al. (1990) as a wetland site of national importance for staging shorebirds. Nationally important staging sites are based on criteria for Hemispheric and Regional Western Hemisphere Shorebird Reserve Network (WHSRN) sites. Shorebird populations in many parts of North America are in decline (Morrison et al. 2001) emphasizing the need for shorebird habitat conservation.

Piping Plovers (*Charadrius melodus*) have been observed at Whitewater Lake. The Piping Plover was first designated endangered by COSEWIC in 1985 and reconfirmed in 2000. Piping Plover populations are declining in Manitoba (Koonz 1994). Piping Plovers were last observed at Whitewater Lake during the breeding season of 1986 (Bill Koonz, personal communication, March 2001). Conditions must be right for the birds to find suitable nesting habitat at Whitewater Lake. It requires a receding lake over a period of time. The drought conditions in the mid-late 1980's offered suitable nesting conditions at Whitewater Lake. The 1991 International Piping Plover census found no Piping Plovers at Whitewater Lake. In the 1996 International Piping Plover survey, a total

of 60 adults were found in Manitoba (Plissner and Haig 2000) with no adults found at Whitewater. Based upon the declining numbers of this species, it is important that Whitewater Lake continued to be monitored for Piping Plovers.

### **4.3 Other Birds**

Bald Eagles can be found around Whitewater Lake as the water freezes between late October and mid-November (Senecal 1999). American Avocets are common breeders at Whitewater Lake

with as many as 250 seen in 2000 (see Appendix III).

Whitewater Lake provides varied opportunities for birders to observe avifauna normally not seen in southern Manitoba. Cattle Egrets, White-faced Ibis, Black-necked Stilt and Cinnamon Teal have all been seen at Whitewater Lake (see Appendix III). When lake levels permit, Forster's Terns and Black Terns can be found at Whitewater Lake (Bill Koonz, personal communication, March 2001) Ransom and Hochbaum (1972) provide the following list of bird species they encountered in the early 1970s and where in the lake to observe these species.

**List of Birds seen at Whitewater Lake (Ransom and Hochbaum 1972).**

<b>Species</b>	<b>Status</b>	<b>Where Observed</b>	<b>Comments</b>
Western Grebe	Regular Visitor	Open Water	Arrive Mid-May
Eared Grebe	Breeding	East End	Two Colonies
American White Pelican	Regular Visitor	Open Water	Arrive Mid-July
Double-crested Cormorant	Casual Visitor	Open Water	Arrive Mid-July
Marsh Hawk	Breeding	Marsh Meadows	
Great Blue Heron		Lake Shore	Arrive Early August
Black-crowned Night-Heron	Regular Visitor	Lake Shore	
American Bittern	Breeding	Lake Shore	
Sandhill Crane	Regular Visitor	Marsh Meadows	Arrive Early August
Sora Rail	Breeding	Marsh Meadows	Common
Yellow Rail	Breeding	Marsh Meadows	Small Population
American Coot	Breeding	Marsh Meadows	Abundant
American Avocet	Regular Visitor	Lake Shore	Common June-August
Black-Bellied Plover	Casual Visitor	Lake Shore and Mud Bars	
Killdeer	Breeding	Dry Shore	Common
Marbled Godwit	Regular Visitor	Mudflats	Common
Hudsonian Godwit	Casual Visitor	Mudflats	Rare
Upland Plover	Casual Visitor	Surrounding Grasslands	
Spotted Sandpiper	Casual Visitor	Lake Shore	
Willet	Regular Visitor	Lake Shore	Common in Pasture Lands
Greater Yellowlegs	Regular Visitor	Lake Shore	
Lesser Yellowlegs	Regular Visitor	Lake Shore	Common
Long-Billed Dowitcher	Regular Visitor	Mudflats	Arrive Late June
Pectoral Sandpiper	Regular Visitor	Lake Shore	Common After Mid-July
Baird's Sandpiper	Regular Visitor	Lake Shore	Common After Mid-July
Least Sandpiper	Regular Visitor	Lake Shore	Common After Mid-July
Semi-Palmated Sandpiper	Regular Visitor	Lake Shore	Common After Mid-July
Wilson's Phalarope	Breeding	Marsh Meadows	Common
Herring Gull	Regular Visitor	Lake Shore	Occasional
Ring-billed Gull		Lake Shore	Nests in East End of Lake
Bonaparte's Gull	Casual Visitor	Lake Shore	Occasional
Franklin's Gull	Breeding	Lake Shore	Large Colonies in East End
Common Tern	Breeding	Lake Shore	Occasional
Forester's Tern	Casual Visitor	Lake Shore	
Caspian Tern	Casual Visitor	Lake Shore	Rare
Black Tern	Breeding	Lake Shore	Abundant South Shore
Long billed marsh wren	Breeding	Marsh Edge	
Bobolink	Breeding	Marsh Meadow	
Redwing Blackbird	Breeding	Marsh Meadow	
Yellow Headed Blackbird	Breeding	Marsh Meadow	
Savanah Sparrow	Breeding	Marsh Meadow	
Grasshopper Sparrow			
LeConte's Sparrow			
Vesper Sparrow			
Swamps Sparrow			
Song Sparrow			

## 5.0 Other Elements of High Conservation Value

### 5.1 Grassland Birds

The steep declines of grassland birds in Canada can be explained by the loss of grassland habitat. Fragmentation of prairie habitats has also led to declines in grassland birds (Houston and Schmutz 1999). There is a need to conserve the remaining grassland stands in the Whitewater Lake area. Grasslands in southwestern Manitoba have consistently accounted for a majority of the endangered grassland bird nesting sites in Manitoba. Several grassland birds that are threatened nationally or endangered in Manitoba have been found at Whitewater Lake. These include the:

- Ferruginous Hawk  
(*Buteo regalis*)
- Burrowing Owl )  
(*Athene cunicularia*),
- Loggerhead Shrike  
(*Lanius ludovicianus*)
- Baird's Sparrow  
(*Ammodramus bairdii*)

De Smet (1992) reported that Burrowing Owls had a history of breeding in Boissevain-Whitewater Lake area. No Burrowing Owls have been seen over the past few years in the Whitewater Lake IBA.

### 5.2 Mixed-grass Prairie

In southwestern Manitoba, significant tracts of Mixed-grass prairie still exist. The Mixed-grass prairie is a blend of the Tall-grass prairie and the Short-grass prairie. Plants of the Mixed-grass prairie are adapted to the climate and moisture conditions. Cool season plants emerge in the spring and lie dormant during the summer while warm season plants have a unique metabolism that allows them to grow during hot summers without losing moisture (Manitoba Natural Resources 2001). It is reported that less than one quarter of the original 24 million hectares of Mixed-grass prairie remains in Canada (Manitoba Natural Resources 2001). Mixed-grass prairie and many of its plants and animals have been and continue to be lost. The introduction of exotic weed species such as Leafy Spurge and Canada Thistle, encroachment by native shrubs and trees, and overgrazing by livestock have led to the degradation of thousands more hectares (verbatim-Critical Wildlife Habitat Program 2001).

### 5.3 Seaside Heliotrophe

Seaside Heliotrophe (*Heliotropium curassavicum*), a rare plant in Manitoba, is localized and abundant at Whitewater Lake (Hatch 1996). It is a native herb found in southern parts of western Canada. Seaside Heliotrophe is a low perennial that tolerates alkaline soils. The plants have fleshy stems, succulent leaves, and white flowers in scorpioid inflorescences. This plant contains pyrrolizidine alkaloids. Members of the genus (*Heliotropium species*) are used in herbal teas and have

been used in several parts of the world for medicinal reasons.



#### **5.4 Newcomb's Hollow - Boundary Commission Trail**

Newcomb's Hollow interpretive site, just south of Whitewater Lake, features one the longest remnants of the Boundary Commission Trail left in existence. The site features native oak savanna with over 50 species of native Mixed-grass prairie. Ground Plum, a rare plant, can also be found here. This is also the site of the Turtle Head Creek Riparian Project. Remnants of the Boundary Commission Trail can be found near Turtle Head Creek where preserved wagon ruts can be seen. These wagon ruts are believed to be an old buffalo migration route.

#### **6.0 Land Ownership And Use**

The lake basin is Crown Land (public land) while the land surrounding Whitewater Lake is largely privately owned

10/01/01

Whitewater Lake has been designated a Wildlife Management Area (WMA), hence the lake itself is under the control of the province of Manitoba. . Ducks Unlimited Canada has a license to manage water levels on a small portion of the eastern side of Whitewater Lake (Don Sexton, personal communication, March 2001). The use of motorized boats is prohibited on Whitewater Lake.

#### **6.1 Waterfowl Hunting**

Hunters are the most significant users of Whitewater Lake (Ransom 1972). Waterfowl hunting has a long history at Whitewater Lake and has been a traditional use of the area since the time of settlement (Ransom and Hochbaum 1972). Whitewater Lake also provides opportunities for Sandhill Crane hunting.

Depredation by waterfowl and Sandhill Cranes in surrounding agricultural fields is a concern. Economic losses due to depredation ranges yearly from insignificant to several thousand dollars (Ransom and Hochbaum 1972).

#### **6.2 Value to Muskrats and Waterfowl**

The value of Whitewater Lake as a waterfowl and muskrat marsh has varied with changing water levels over the years. In 1933, 1934 and 1935 the lake was dry and had no value to waterfowl or muskrats. The marsh became productive once again around 1946 and 1947 when the estimated harvest of muskrats was 11,914 belts valued at \$37,209.35. Muskrat trapping was prohibited in 1949

after emergent vegetation such as Cattail (*Typha spp.*) and Bulrush (*Scirpus spp.*) died off and the marsh became an open lake. In August of 1968 there was virtually no emergent vegetation in the lake. However, in September of 1968 the lake was reflooded and stands of Alkali Bulrush (*Scirpus paludosus*) established. These stands have since died out and emergent vegetation has returned. Ransom and Hochbaum (1972) reported that in 1970 there were no Muskrats present and trapping had no economic value.

### 6.3 Agriculture

A large proportion of the land is either under cultivation or used for grazing. Close to 90% of the uncultivated grasslands surrounding Whitewater Lake are used to graze cattle. Mixed farming predominates with the major crops being cereal grains, flax, rapeseed and domestic forage (Ransom 1972). The capability of the land varies from Class 2 to Class 6 with the majority being limited by excess water and salinity. Much of the Crown Land around Whitewater Lake is used for grazing or haying with or without government approvals (Ransom and Hochbaum 1972). In wet years little or no haying occurs while in dry years haying operations are extensive (Ransom and Hochbaum 1972).

### 6.4 Mineral Exploration

Oil extraction has occurred in the Whitewater Lake basin since the early 1950's. Ransom (1972) noted that sporadic exploration has been carried out since the 1950's which includes the

drilling of a hole in the bed of the lake in February of 1970. Oil extraction takes place along the south side of the lake. The center portion of Whitewater Lake is not protected from oil and gas development. Discussions are in progress between Manitoba Conservation and the petroleum industry in an effort to protect portions of the WMA from petroleum exploration and development.

## 7.0 Conservation Management Achieved Whitewater Lake

### 7.1 Wildlife Management Area

The majority of Whitewater Lake has been designated a Wildlife Management Area (WMA) and is protected from mining, logging and hydro-electric development. The center portion of Whitewater Lake has partial protection from logging and hydro-electric development but is not protected from oil and gas development (see section 6.4). The Whitewater Lake WMA was established in 1972 and includes only the lands covered by the waters of Whitewater Lake. In 1997 the WMA was expanded to include most of the adjoining Crown Lands and areas where the lake meets private lands. The WMA boundary was set at the Ordinary High Water Mark as surveyed in 1983. The WMA is defined by a Director of Surveys Plan No. 19675A. The WMA includes the managed marsh unit at the eastern side of the lake as well as Crown Lands surrounding the lake. The WMA is protected under regulation to the standards of the Protected Areas Initiative in all sectors except petroleum.

## **7.2 Ducks Unlimited Habitat Restoration Project**

In 1989, after six years of planning, Ducks Unlimited began a \$2 million dollar project to enhance the marsh area at the east end of the lake. Funding for this project came from the North American Waterfowl Management Plan and Ducks Unlimited while Manitoba Conservation provided nearly 800 hectares (2,000 acres) of its WMA for the project. Cooperation was also secured from local landowners, Manitoba Wildlife Foundation Inc., Turtle Mountain Conservation District, and the Rural Municipality of Morton.

Ducks Unlimited completed construction of two wetland cells in 1997. Eight miles of dike protect the marsh cells with an area of 900 hectares (2,200 acres). The dike serves two purposes (1) to hold fresh runoff water in the marsh cells and (2) to keep out saline lake water. The amount of water entering and leaving the marsh cells and backflood area is regulated by eleven water control structures. Runoff water is held temporarily in the backflood area and then released into the lake. This water management technique stimulates the growth of native whitetop grass which provides rich feeding areas and secure sites for nesting birds and other wildlife early in the season, and a valuable hay crop for local farmers in the late summer (source: Ducks Unlimited Canada 2000 brochure, verbatim).

## **7.3 Wildlife Observation Area**

In the southeast end of Whitewater Lake, Manitoba Conservation has developed a public access area which includes a wildlife observation area complete with a viewing mound and a boardwalk system. From this area, opportunities exist to walk, canoe, hike or cycle the dyke system surrounding the managed wetland cells. Access to the area is maintained by the Turtle Mountain Conservation District and is open to the public at no cost. The area is wheelchair accessible and has parking for cars or buses.

## **7.4 Heritage Marsh**

Whitewater Lake is a candidate Manitoba Heritage Marsh based upon the following elements (Manitoba Conservation, 2001):

- Approximately 12,000 hectares in southwest Manitoba, 90% of which is Crown Land.
- Major migration stop for Sandhill Cranes, Snow Geese, Tundra Swans and shorebirds.
- Possibly the highest concentration of Tundra Swans anywhere in Manitoba in the fall.
- Up to 10,000 White-fronted Geese observed in the fall.
- Nesting colony of terns.
- White-tailed deer use the marsh fringe in mid-winter.
- Exceptional muskrat production in years of good water.

## 7.5 Metigoshe Natural Area

The Turtle Mountain Conservation District owns and maintains a 110 acre parcel of native uplands and wetlands open to public use and interpretation. The area features a 1-km hiking trail, observational tower, marsh boardwalk and washrooms (Gary Davis, personal communication, March 2001).

## 8.0 IBA Stakeholder Group Activity

The current Whitewater Lake IBA working group includes representatives from the Boissevain Economic Development Offices, Boissevain and Morton Chamber of Commerce, Turtle Mountain Conservation District, Manitoba Conservation, and Ducks Unlimited Canada. Ducks Unlimited Canada and Manitoba Conservation have historically been active in the management of Whitewater Lake. These two agencies will provide support, but not lead, the IBA working group. The IBA working group activities will be led by the Boissevain (and hopefully Deloraine) Economic Development Offices.

### 8.1 Turtle Mountain Conservation District.

Situated along the international boundary in the southwest corner of Manitoba lies the 4260 square km Turtle Mountain Conservation District (TMCD). Consisting of five rural and four urban municipalities, the TMCD is bounded on

the west by the historic Souris River and to the east by Pelican Lake and the upper reaches of the Pembina River watershed. Activities of the TMCD include habitat protection through conservation easements, habitat leases, riparian protection and wetland retention projects.

### 8.2 Ducks Unlimited Canada

Ducks Unlimited partnered with the Provincial Government to complete construction of two wetland cells in 1997. Ducks Unlimited Canada has license to manage water levels in the eastern portion of Whitewater Lake. Ducks Unlimited Canada partners with Manitoba Conservation when botulism clean-ups are necessary.

### 8.3 Manitoba Conservation

Manitoba Conservation has designated Whitewater Lake as a Wildlife Management Area and as a candidate Manitoba Heritage Marsh. Manitoba Conservation partnered with Ducks Unlimited Canada in a marsh restoration project complete in 1997. Manitoba Conservation partners with Ducks Unlimited Canada when botulism clean-ups are necessary at Whitewater Lake.

## 9.0 Opportunities

### 9.1 Ecotourism

Scace et al. (1992) defined ecotourism as:

*"Ecotourism is an enlightening nature travel experience that contributes*

*to conservation of the ecosystem while respecting the integrity of host communities".*

Ecotourism is a significant component of the largest growth industry on Earth - tourism (Scace et al. 1992). Tourism worldwide is a \$250 billion dollar per year industry and growing dramatically (Scace et al. 1992), bird watching in Point Pelee National Park in Ontario generates \$6 million annually. Ecotourism can provide the economic justification to conserve areas that might otherwise not be protected. Bird watching is a significant component of ecotourism. Bird watching is conservatively estimated to be worth more than \$20 billion each year in North America. Currently, the local communities surrounding Whitewater Lake and surrounding towns benefit very little from ecotourism expenditures in the area.

There is a need to market and coordinate ecotourism opportunities to benefit the local communities of Deloraine and Boissvain. Ecotourism can create jobs. The willingness of individuals to "pay substantially" for ecotourism opportunities is high, as evident in the fees charged for 13-day trips from Winnipeg (as high as \$2,500 USD).

*"Ecotourism can generate badly needed revenue for local and regional economies, heightened local awareness of the importance of conservation, and create new incentives for governments and dwellers in and around appealing natural areas to preserve them" Scace et al (1992, p. 11)."*

Efforts to foster greater community awareness and profile Whitewater Lake will result in economic benefits to the surrounding communities -

- Ecotour operators across the world could be contacted and provided with information on opportunities available in the Whitewater Lake area.
- Manitoba birders and "day-trippers" could be contacted and encouraged to visit Whitewater IBA.
- Information on the importance of Whitewater Lake could be placed in publications such as the Manitoba Explorers Guide.

## 9.2 Education

The Whitewater Lake IBA provides numerous opportunities to foster educational programs and general awareness of Whitewater Lake and the peril of wetlands and grassland birds in North America. One simple tool that could be used is the creation of a world wide web site containing pages on Whitewater Lake. Information on the significant bird species, when and where to observe, as well as information on rare bird sightings could be included. Birders will travel to the Whitewater area to observe rare birds and update birding life lists.

There are opportunities for educational programs focusing on bird ecology, wetlands and water quality to be delivered into local schools. Studies and projects by senior biology students would increase community awareness which would help lead to the further conservation of Whitewater Lake IBA and the significant bird species. Students could

also become involved in monitoring bird populations at Whitewater Lake.

Programs available that maybe of use:

**(1) Marsh Monitoring Program.** Bird Studies Canada (Box 160, Rowan, Ontario). Established to aid the conservation and rehabilitation of marshes in Canada by studying population changes and habitat requirements of marsh birds and amphibian.

**(2) Ducks Unlimited's Wetland Ecosystems III Educators Guide High School grades 9 to 12.** A 31-page student manual for grades nine to twelve. Sex lesson plans including field trip activities for use at a local wetland. Subject areas include environmental impact, environmental solutions, biodiversity, sustainable development, wetland types, pollution and taxonomy. Download from [www.ducks.ca/edu/resource.html](http://www.ducks.ca/edu/resource.html)

### 9.3 Recreation

Ransom and Hochbaum (1972) suggested that the high diversity of shorebirds and waterbirds at Whitewater Lake make it an ideal location for bird watchers and nature photographers and suggested the development of a nature centre having the island as its geographical focus.

## 10.0 Threats

### 10.1 Avian Botulism

Avian botulism can be viewed as a naturally occurring threat to bird

10/01/01

populations, especially waterfowl and shorebirds. Whitewater Lake is susceptible to botulism outbreaks, such as in 1996 when it was estimated that as many as 117,289 bird carcasses were collected after a botulism outbreak. Pratt (1996) reported that during the summer of 1996 approximately 84,220 ducks and 34,240 others (shorebirds, coots, grebes, geese, and others) died of botulism. A high number of American Coots and grebes were collected during the 1996 clean-up efforts (Pratt 1996). Recent data indicate that 49,000 (1997), 19,000 (1998) and 15,000 (1999) birds were lost to avian botulism at Whitewater Lake.

Avian botulism results from a food poisoning like neurotoxin produced predominantly by the bacterium, *Clostridium botulinum* Type C. The organism is a strict anaerobe which forms dormant spores in the absence of oxygen and other adverse environmental conditions. Spores of Type C botulism are widely distributed in wetland sediments and in the tissues of aquatic insects, mollusks, and vertebrates. Despite the widespread distribution of Type C botulism spores outbreaks of avian botulism are sporadic and unpredictable.

### 10.2 Drainage

Whitewater Lake is a catchment basin with no water outlet. Some landowners would like to have an outlet for the lake established. Conflicts have existed for many years between landowners and conservation organizations regarding management of water levels. Water levels in the lake

**Avian botulism outbreaks 1912-1995 (Source Sexton 1983).**

<b>Year</b>	<b>No. of Birds (Mainly Ducks)</b>
1944	Severe Outbreak
1945	9,000-40,000
1946	3,000-1,000 (Gulls)
1949	30,000-60,000
1950	4,500
1951	2,000
1952	2,000
1958-1960	Some losses
1970	3,000-5,000
1995	1,700
1996	<b>116,000</b>
(Pratt 1996)	84,255 ducks and 32,240 other birds
1997	48,683
(Pisiak 1999)	35,130 ducks and 13,553 other birds
1998	19,106
(Pisiak 1999)	11,631 ducks and 5,562 other birds
1999	15,512
(Pisiak 1999)	9,950 ducks and 5,562 other birds

determine property lines. There is a continuing interest by some landowners to construct a water outlet.

### 10.3 Pesticides

Houston and Schmutz (1999) reported that after the widespread use of DDT, the Peregrine Falcon (*Falco peregrinus*) has disappeared from southern Alberta and that Merlin (*Falco columbarius*) populations declined with the extensive use of dieldrin in the late 1950s and early 1960s. The deleterious effects of the insecticide Carbofuran on Burrowing Owls is also well documented.

Pesticide runoff from adjacent agricultural fields is identified as a threat to Whitewater Lake. Fertilizer and pesticides from both surface and subsurface flow is also a threat. It is unknown if any agency is monitoring pesticide levels in the basin. The potential for the herbicides to drift through the air and contaminate wetlands such as Whitewater Lake is also a concern.

### 10.4 Oil and Gas Development

The center portion of Whitewater Lake has partial protection from logging and hydro-electric development but is not protected from oil and gas development. There is interest in oil extraction in the region. Records of oil leases and drilling adjacent to the lake go back to the 1950's and 1960's (Don Sexton, personal communication, March 2001). Oil and gas developments may have deleterious impacts on avifauna habitat. Possible spills

and seepages would degrade the water quality.

### 10.5 Agricultural Practices

The declines of grassland birds since the mid 1960s can be explained in part by disappearing and the fragmentation of grasslands particularly the Sprague's Pipit and Chestnut-collared Longspur (Houston and Schmutz 1999). It is critical that grasslands in the area be conserved for grassland birds.

Agricultural practices outside the WMA continue to result in the loss of perennial cover as some landowners convert pastureland into annual crops. Grazing has resulted in waterfowl habitat destruction in some years. In 1970, Ransom and Hochbaum (1972) reported several miles of habitat between the waters edge and private lands was heavily grazed, in many cases without permit. The results were stands of barley grass (*Hordeum jubatum*) and gumweed (*Grindelia squarosa*) which provide poor nesting cover for waterfowl.

### 10.6 Exotic Invasive Weeds

Globalization has resulted in an accelerated rate of biota transfer between continents. Many of these alien introductions have had economic and ecological consequences. For example, the large scale introduction of Eurasian plant species into North America has had a negative effects on grassland bird populations (Robbins and Dale 1999). Invasive alien species are the greatest threat to the biological diversity of natural

ecosystems second only to habitat loss. Noxious weeds of concern include Canada Thistle (*Cirsium arvense*), Purple Loosestrife (*Lythrum salicaria*), Flowering Rush (*Butomus umbellatus*), Leafy Spurge (*Euphorbia esula*) and Salt Cedar (*Tamarix* species). Kochia (*Kochia scoparia*) is a noxious weed that has proliferated in the general area. Other exotic invasive species of concern include Eurasian water-milfoil (*Myriophyllum spicatum* L.) which was found in North Dakota along the Sheyenne River in 1996 and Salt Cedar (*Tamarix ramosissima*) which was introduced from Eurasia in the 1800's as an ornamental.

**Purple Loosestrife.** Purple loosestrife was originally introduced to the East Coast of North America in the 1800's, probably as a contaminant of ship ballast. Purple loosestrife aggressively invades wetland habitats. In Manitoba, Purple Loosestrife has Noxious Weed Status and can be found throughout southern Manitoba. Purple Loosestrife is not currently found in Whitewater Lake. Efforts to prevent an invasion of Purple Loosestrife should target awareness activities.

**Flowering Rush.** In North America Flowering Rush has been described as an aggressive plant that outcompetes native aquatic vegetation. Flowering Rush is an aquatic plant that most often grows as an emergent on wet soil or in shallow water to about one meter deep (Hroudova 1989). The species can also grow as a terrestrial plant (*B. umbellatus* forma *terrestris*) on drier areas, but emergent and terrestrial plants are identical in appearance. Dense stands of flowering rush may impede water

recreational activities, and in turn may negatively impact local economies. Some studies suggest degraded water quality and/or habitat alteration result in loss of native plant species diversity (Stuckey 1968). Flowering Rush has invaded several aquatic habitats in Manitoba. Whitewater Lake should be monitored annually for Flowering Rush infestations.

**Salt Cedar.** Salt Cedar is a deciduous or evergreen shrub or a small tree, usually 5 to 20 feet tall that can cause enormous damage to aquatic ecosystems. Damage by saltcedar includes the displacement of the extremely valuable cottonwood, willow, seepwillow baccharis, mesquite and other native plant communities, often by dense monotypic thickets of saltcedar. Also, it uses great amounts of groundwater and lowers water tables, causing springs to dry up and native plants to perish. It increases soil salinity and is highly susceptible to fires, both of which kill associated intolerant cottonwoods and other plants. It also causes sedimentation and narrowing of channels, increases flooding, interferes with recreational usage, and reduces agricultural production (DeLoach and Lewis 2000). Salt Cedar infestations can be found in the northern parts Montana and is expanding its range northward towards the Whitewater Lake area. The spread of Salt Cedar should be monitored in the Whitewater Lake area.

**Leafy Spurge.** Leafy Spurge infestations in southwestern Manitoba already impact several vulnerable species protected under Manitoba Protected Species Act including the Western Spiderwort, Baird's Sparrow and Small White Lady Slipper (Leafy Spurge

Stakeholders Group 1999). A Leafy Spurge infestation around Whitewater Lake degrades available grassland habitat. Current infestation levels in the area are

categorized as light (Leafy Spurge Stakeholders Group 1999).

## 11.0 Conservation Goals and Objectives

**Vision:** Whitewater Lake Important Bird Area will be conserved in perpetuity for its importance to the conservation of resident and migratory bird species that provide economic, ecological and educational benefits to the residents of Deloraine and Boissevain, Manitoba.

**Overall Goal:** By increasing exposure to the Whitewater Lake area through the development of a website and the creation of educational resources such as brochures, signage, and a map of the Whitewater area awareness of Whitewater Lake will be fostered. Whitewater Lake has a high degree of biodiversity with is evident by the numerous bird species found there. It is critical that Whitewater Lake be maintained as a naturally occurring bird habitat. Many of the identified threats such as pesticides, botulism, petroleum exploration will not be addressed in this document and should be addressed by the working group in the future.

### Objectives

Objective	Action	Partners
Creation of a Whitewater Lake IBA Website	Creation of website with access maps, bird species present, when to observe and links to IBA site(s). To be updated by partners to reflect current bird species present. To include information on vulnerability of key species.	<ul style="list-style-type: none"> <li>• Turtle Mountain Community Development Corporation</li> <li>• Deloraine and Area Economic Development Corporation</li> </ul> <p><b>Lead Partners: Above Timeline: April 2002</b></p>
Increase public awareness through education which will lead to greater habitat conservation.	Production of a education brochure on birds and birding at Whitewater Lake, maps of the area and signage.	<ul style="list-style-type: none"> <li>• Turtle Mountain Community Development Corporation</li> <li>• Deloraine and Area Economic Development Corporation</li> </ul> <p><b>Lead Partners: Above Timeline: April 2002</b></p>

## **12.0 Evaluating Success**

The Whitewater Lake IBA conservation plan will be reviewed on an annual basis at meetings of the Turtle Mountain Economic Development Corporations.

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## Appendix I: Whitewater Lake IBA Contacts

<b>Cory Lindgren</b> IBA Community Conservation Planner	Manitoba IBA Program Box 1160, Stonewall Manitoba, R0C 2Z0	Ph: 204-467-3269 Fx: 204-467-9028 c_lindgren@ducks.ca
<b>Roslyn VanDeVelde</b> Econ. Development Officer	Turtle Mountain Economic Development Corporation Box 368, Boissevain, MB	Ph: 204-534-6303 Fx: 204-534-3710 tmedc@escape.ca
<b>Grant Cassils</b> Econ. Development Officer	Deloraine and Area Economic Development Corporation	Ph: 204-747-3982 Fx: 204-747-2320 <a href="mailto:g.cassils@mb.sympatico.ca">g.cassils@mb.sympatico.ca</a>
<b>Gary Davis</b> <b>Manager</b>	Turtle Mountain Conservation District Box 508, Deloraine, MB	Ph: 204-747-2530 Fx: 204-747-2956
<b>Tom Moran</b> Resource Manager	Manitoba Conservation P.O. Box 820 Boissevain, MB R0K 0E0	Ph: 204-534-6838 Fx: 204-534-6858 tmoran@nr.gov.mb.ca
<b>Dave Clayton</b>	Ducks Unlimited Brandon, Manitoba	Ph: 204-729-3511 D_Clayton@ducks.ca
<b>Lorraine Houston</b>	Boissevain and Morton Chamber of Commerce	Ph: 204-534-6479
<b>Grant Cassels</b>	Economic Development Office, Deloraine	Ph: 204-747-3984
<b>Les Diehl</b>	Town of Boissevain	Ph: 204-534-2275

## Appendix II: Historical Bird Counts

Species	Season	No. of birds Peak Day	References
<b>Waterfowl</b>			
Waterfowl	FM	250,000	
Waterfowl & Coots	Molting	70,000 (1950, 1951)	Bossenmaier 1953
Ducks	Molting	8,500 (1980)	Wark 1981
Ducks	FM	130,000	D.U. unpublished
Ducks	FM	509,085 (1967)	Ransom and Hochbaum 1972
Ducks	FM	359,000 (1968)	Ransom and Hochbaum 1972
Ducks	FM	191,000 (1969)	Ransom and Hochbaum 1972
Waterfowl	SM	4000 (May 5 1983)	Sexton 1984
Snow, Canada, Whitefront	SM	2100 (May 5 1983)	Sexton 1984
Waterfowl	B	1200 (May 20 1983)	Sexton 1984
Waterfowl	B	1750 (June 3 1983)	Sexton 1984
Waterfowl	Molting	4500 (July 14 1983)	Sexton 1984
Waterfowl	FM	156,603 (1982 mean/day)	DU Files
Waterfowl	FM	62, 326 (1982 mean/day)	DU Files
Mallard	FM	55,000 (Fall 1967)	Ransom and Hochbaum (1972)
Mallard	FM	25,405 (Nov 5 1974)	Beacham and Brace 1974
Mallard	FM	15,620 (Oct. 27 1970)	Ransom and Hochbaum (1972)
Northern Pintail	FM	9,998 (Oct 22 1974)	Beacham and Brace 1974
Northern Pintail	FM	6,925 (Oct 27 1970)	Ransom and Hochbaum (1972)
Blue-winged Teal	FM	622 (Oct 8 1974)	Beacham and Brace 1974
Gadwall	FM	999 (Oct 3 1974)	Beacham and Brace 1974
Lesser Scaup	FM	1,033 (Oct 28 1974)	Beacham and Brace 1974
Canada Geese	FM	4,140 (Oct 28 1974)	Beacham and Brace 1974
White-fronted Geese	FM	1,350 (Sept 13 1970)	Ransom and Hochbaum 1972
White-fronted Geese	FM	5,000 (Fall 1967)	Ransom and Hochbaum 1972

### Geese

Geese	FM	13,448 (1967)	Ransom and Hochbaum 1972
Geese	FM	21,059 (1968)	Ransom and Hochbaum 1972
Geese	FM	7,716 (1969)	Ransom and Hochbaum 1972
Snow Geese	FM	59,214 (Oct 8 1974)	Beacham and Brace 1974
Snowgeese	FM	190,000 (Sept. 12 1982)	Sexton 1983
Snowgeese	FM	116,000 (Oct. 14 1982)	Sexton 1983
Snow Geese	FM	150,000-200,000 Sept-Oct.	Cuthbert 1990
Snow Geese	FM	15,000 - 200,000 (1960's)	Gillespie 1983
Snow Geese	FM	180,000 (1982)	Gillespie 1983
Canada Geese			
Ross' Geese			

## **Shorebirds**

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Shorebirds	FM	30,000	
Shorebirds		23,070 (1987)	Dickson & Smith 1988
White-rumped Sandpipers		10,000 (1988)	Morrison et al. 1995
American Avocets	FM	100's	Cuthbert 1990

## **Colonial Water Birds**

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Black-crowned Night Heron	B	85 pairs	David Hatch
Franklin's Gull	B	3,000+ Pairs	David Hatch

## **Sandhill Cranes**

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Sandhill Cranes	FM	1,200 (Aug 31 1970)	Ransom and Hochbaum 1972
Sandhill Cranes	FM	100's Sept.	Cuthbert 1990
Sandhill Cranes	FM	1000 (September)	Sexton 1983

## **Tundra Swans**

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Tundra Swans	FM	20,000	Ransom 1972
Tundra Swans	FM	2000 (Early November)	Sexton 1983
Tundra Swans	FM	100's Oct.	

### Notes:

- Morrison et al. (1995) - 13.7% censused coastal wintering population (72,996) in South America Max. 23,068 (one day count spring 1987 White-rumped Sandpipers).
- Beacham and Brace (1974) represent highest numbers from survey data.
- B = Breeding
- FM = Fall Migration

### Appendix III: MNS Bird Observations

Some Bird Observations from Whitewater (Rare Bird Sightings are Shaded)  
Reference: Manitoba Naturalists Society Bulletins (Gordon Grief)

2000	No.	Date	Observers
Great Egret	7	June 18 00	R. Staniforth, I. Magnuson, C. Curtis, G. Holland
Tricolored Heron	1	June 17 00	A. Courcelles, J. Bell, L. Layman, et al
Cattle Egret	1	July 14 00	R. Will, A. Walley
Black-crowned Night Heron	12	June 14 00	C. Curtis
White-faced Ibis	1	June 29 00	P. Grief, D. Boutang
Black-bellied Plover	2	June 14 00	C. Curtis
Black-necked Stilt	1	June 1 00	C. Cuthbert
Prairie Falcon	1	June 29 00	P. Grief, D. Boutang
American Avocet	250	June 17 00	A. Courcelles, J. Bell, L. Layman
Cinnamon Teal	1	June 14 00	B. Dilabio
Franklin's Gull	30,000	May 7 00	R. & T. Will
<b>1999</b>			
American Bittern	3	Aug 29 99	D. Fast
Great Blue Heron	12	Aug 29 99	D. Fast
Great Egret	10	Aug 29 99	D. Fast
Cattle Egret	42	Aug 29 99	D. Fast
Black-crowned Night Heron	9	Aug 29 99	D. Fast
American Avocet	70	Aug 29 99	D. Fast
White-faced Ibis	5	Aug 29 99	D. Fast
Snow Goose	100,000	Oct 31 99	R. & T. Will

## Appendix IV: Bird List

### Birds Recorded at Whitewater Lake and Surrounding Area

Based on observations by Cal Cuthbert of Ducks Unlimited and from previous literature

Pied-billed Grebe	American Kestrel
Eared Grebe	Prairie Falcon
American White Pelican	Burrowing Owl
Double-crested Cormorant	Sharp-tailed Grouse
American Bittern	American Coot
Great Blue Heron	Whooping Crane (extirpated)
Great Egret	Sora Rail
Black-crowned Night Heron	Yellow Rail
Trumpeter Swan (extirpated)	Black-bellied Plover
Lesser White-fronted Goose	Lesser Golden Plover
Snow Goose	Semipalmated Plover
Ross' Goose	Killdeer
Canada Goose	American Avocet
Wood Duck	Greater Yellowlegs
Green-winged Teal	Lesser Yellowlegs
American Black Duck	Willit
Mallard	Spotted Sandpiper
Northern Pintail	Upland Sandpiper
Blue-winged Teal	Hudsonian Godwit
Cinnamon Teal	Marbled Godwit
Northern Shoveler	Ruddy Turnstone
Gadwell	Sanderling
American Wigeon	Short-billed Dowitcher
Canvasback	Long-billed Dowitcher
Redhead	Red-tailed Hawk
Ring-necked Duck	Swainson's Hawk
Lesser Scaup	Northern Harrier
Greater Scaup	White-winged Scoter
Common Goldeneye	Red-breasted Merganser
Bufflehead	Hooded Merganser
Ruddy Duck	Rough-legged Hawk
Semipalmated Sandpiper	Ferruginous Hawk
Least Sandpiper	Common Merganser
Baird's Sandpiper	Black Tern
White-rumped Sandpiper	Common Tern
Pectoral Sandpiper	Caspian Tern
Common Snipe	Forster's Tern
Wilson's Phalarope	Great Horned Owl

Franklin's Gull	Snowy Owl
Bonaparte's Gull	Short-eared Owl
Ring-billed Gull	Common Nighthawk
Herring Gull	Northern Flicker
Western Kingbird	Black-billed Cuckoo
Eastern Kingbird	Horned Lark
Tree Swallow	European Starling
Bank Swallow	Yellow-rumped Warbler
Barn Swallow	Palm Warbler
Black-billed Magpie	Common Yellowthroat
American Crow	Yellow Warbler
Sedge Wren	American Tree Sparrow
Marsh Wren	Clay-colored Sparrow
American Robin	Vesper Sparrow
Sprague's Pipit	Savannah Sparrow
Cedar Waxwing	Baird's Sparrow
Northern Shrike	Grasshopper Sparrow
Lapland Longspur	Le Conte's Sparrow
Chestnut-collared Longspur	Sharp-tailed Sparrow
Snow Bunting	Song Sparrow
Bobolink	Lincoln's Sparrow
Red-winged Blackbird	Swamp Sparrow
Yellow-headed Blackbird	Dark-eyed Junco
Rusty Blackbird	Western Meadowlark
Northern Oriole	Common Grackle
House Sparrow	Brown-headed Cowbird
	American Goldfinch

## **Appendix V: IBA Canada Partners**

The Canadian Important Bird Areas Program has been undertaken by a partnership of two lead agencies. The Canadian Nature Federation and Bird Studies Canada are the Canadian BirdLife International partners.

### **BirdLife International**

A pioneer in its field, BirdLife International (BL) is the first non-government organization dedicated to promoting world-wide interest in and concern for the conservation of all birds and the special contribution they make to global biodiversity. BirdLife operates as a partnership of non-governmental conservation organizations, grouped together within geographic regions (e.g. Europe, Africa, Americas) for the purpose of planning and implementing regional programs. These organizations provide a link to on-the-ground conservation projects that involve local people with local expertise and knowledge. There are currently 20 countries involved in the Americas program throughout North, Central and South America.

For further information about BirdLife International, check the following web site: <<http://www.birdlife.net/>.

### **The Canadian Nature Federation (CNF)**

The Canadian Nature Federation is a national conservation organization with a mission to be Canada's voice for the protection of nature, its diversity, and the processes that sustain it. The CNF

represents the naturalist community and works closely with our provincial, territorial and local affiliated naturalists organizations to directly reach 100,000 Canadians. The strength of our grassroots naturalists' network allows us to work effectively and knowledgeably on national conservation issues that affect a diversity of ecosystems and human populations in Canada. The CNF also works in partnership with other environmental organizations, government and industry, wherever possible. Our approach is open and cooperative while remaining firm in our goal of developing ecologically-sound solutions to conservation problems. CNF's web site is <<http://www.cnf.ca>.

### **Bird Studies Canada (BSC)**

The mission of Bird Studies Canada is to advance the understanding, appreciation and conservation of wild birds and their habitats, in Canada and elsewhere, through studies that engage the skills, enthusiasm and support of its members, volunteers, staff and the interested public. Bird Studies Canada believes that thousands of volunteers working together, with the guidance of a small group of professionals, can accomplish much more than could the two groups working independently. Current programs collectively involve over 10,000 volunteer participants from across Canada.

Bird Studies Canada is recognized nationwide as a leading and respected not-for-profit conservation organization dedicated to the study and understanding of wild birds and their habitats. Bird Studies Canada's web site is <<http://www.bsc-eoc.org/>

## Appendix VI: Funding Opportunities

The following funding opportunities are available to assist with delivery of project objectives:

- **Important Bird Areas Community Action Fund.** Contact the Canadian Nature Federation.  
(www.ibacanada.ca)
- **Manitoba Government Special Conservation Fund.** Set up to promote sustainable development at the community level. Finances conservation projects that local groups and organizations support and need in their communities, that sustain and enhance resource productivity and improve the quality of life of all Manitobans. Eligibility includes non-government conservation organizations capable of administering the funding such as: community groups and associations; school and youth groups; conservation groups; environmental groups. Funding is limited to \$25,000 per project per organization, per year. Cover only direct spending on projects, not administrative costs. Examples of projects include: conserving wetlands; tree planting and enhancement of woodlands; fish and wildlife habitat restoration and protection.
- **Manitoba Government Sustainable Development Fund.** Conservation of resources, preservation and maintenance of urban forests and ecosystems, initiatives to rehabilitate and revitalize degraded areas. Projects that help Manitobans make educated

decisions and take action regarding the environment, such as education and awareness activities, training, research, seminars and forums. A project-funding cap of \$50,000 has been set, however, projects that require funding in excess of this amount may be considered.

Applicants are encouraged to investigate alternative funding arrangements with other agencies for cash contributions or in-kind support. In-kind support can include donations of equipment, materials, office space, volunteer time and professional service. The SDIF will normally support one-time only grants. For further information: Sustainable Development Innovations Fund- c/o Manitoba Conservation - Pollution Prevention Branch - 123 Main Street, Suite 160 - Winnipeg MB R3C 1A5. Phone: (204) 945-8443 - Toll Free: 1-800-282-8069 ext 8443 - Fax: (204) 945-1211.

- **Ducks Unlimited Canada. Institute for Wetlands and Waterfowl Research.** 204-467-3000
- **Wildlife Habitat Canada.** 7 Hinton Avenue North, Suite 200. Ottawa, ON K1Y 4P1 . Telephone: (613) 722-2090. Fax: (613) 722-3318 . Email: [reception@whc.org](mailto:reception@whc.org)
- **Murphy Foundation (Winnipeg).**
- **Environment Canada EcoAction 2000.** The EcoAction Community Funding Program is an Environment Canada program that provides financial support to community groups for projects that have measurable, positive impacts on the environment. Non-profit groups and organizations are eligible to apply to the Funding Program. This includes,

but is not limited to: community groups, environmental groups, aboriginal groups and First Nations councils, service clubs, associations and youth and seniors' organizations. Public awareness and capacity-building activities can only be funded if they are part of a project that produces measurable environmental results. Project examples - restoring a wetland, • restoring and conserving habitat through a variety of enhancement techniques, and persuading community members to protect environmentally sensitive areas. Funding is available up to a maximum of \$100 000; however, the average amount is \$25 000. Application deadlines - February 1<sup>st</sup> and October 1<sup>st</sup>

- **Mountain Equipment Co-op.** To provide financial assistance to Canadian environmental groups involved in activities concerned with environmental conservation and wilderness protection. The aim of the Environmental Project Grants is to help preserve the environment and educate the public about environmentally responsible use of the outdoors. Land acquisition grants will be up to an aggregate of \$100,000 annually. The grant range for projects is generally from \$2,000 to \$10,000. Application deadline - January 31, May 31 and September 30, annually. Approval notification usually takes up to 6 weeks.
- **Friends of the Environment Foundation Canada Fund.** Canada Trust. To fund projects that make a positive difference to the environment. Projects may be local, regional or national in scope. Not-for-

profit organizations. Projects that help protect and preserve the Canadian environment; address a local, regional, or national environmental issue; have measurable results; involve and benefit the community, region, and country; and make a sustainable difference to the well-being of our environment. Funding ranges from \$10,000 to \$100,000. Projects are approved as a one-time grant and should not expect ongoing funding. Applications are reviewed on an annual basis. The deadline for 1998 applications was October 2, 1998. The Friends of the Environment Canada Fund Advisory Board will announce its decision by April 1998. A new deadline is set each year. Application forms are available by writing to the address below or from the website below. Contact Friends of the Environment Foundation Canada Fund. Canada Trust, 161 Bay Street, 33rd Floor, Toronto, Ontario, M5J 2T2. Tel.: 1-800-361-5333, Website: <http://www.fef.ca/index.html>

- **Manitoba Hydro (Winnipeg).** Brendan Carruthers 204-474-4934
- **Shell Environmental Fund.** Shell Canada. A national program to provide financial support for innovative, community-based, action-oriented projects that improve and protect the Canadian environment. \$5,000. Deadlines for applications are February 28 and September 15. Applicants must complete the Shell Environmental Fund application form, which can be obtained by writing to the address below. Contact: Nicole Belval, Shell Environmental Fund, 7101 Jean-

Talon Street East, Suite 900 Anjou,  
Quebec Tel.: (514) 356-7036 Fax.:  
(514) 356-1662. Website:  
<http://www.shellcan.com>

- **Manitoba Rural Green Team.**
- **ENVIRONMENTAL PARTNERS FUND.** The Environmental Partners Fund provides up to 50% of eligible project cost, on a matching basis, to a maximum of \$200,000 over three years for new community-based activities that protect, preserve or restore the environment, or provide knowledge on environmental issues that enable people to take direct action. Canadian non-profit, non-governmental groups working at the community level are eligible. Applications must be submitted by June 1 and December 1 each year. Applications for projects with a total value not exceeding \$20,000 may be

submitted throughout the year. Information and applications may be obtained from Environment Canada regional offices, or: Sonya Strasbourg Environment Canada Hull, Quebec (819) 994-4939; Fax 994-1245.

- **Friends of the Environment Foundation Community Fund.** The Friends of the Environment Foundation Community Fund considers projects that meet the following criteria: protects and preserves the Canadian environment; assists young Canadians in understanding and participating in environmental activities in local communities; enhances partnership among environmental organizations. Applications to the Community Fund are reviewed throughout the year. <http://www.canadatrust.com/>

**Appendix VII: IBA Population Threshold Information**

<b>Species or Groups</b>	<b>IBA Threshold Criteria</b>	<b>Highest Nos. Observed</b>	<b>Level of Significance</b>
Waterfowl	20,000	250,000 (??)	Globally Significant
Ducks	20,000	509,085 (1967)	Globally Significant
Mallard	20,000	55,000 (1967)	Globally Significant
Tundra Swan	2,080	20,000 (1970)	Globally Significant
Snow Geese	20,000	190,000 (1982)	Globally Significant
Shorebirds	20,000	23,070 (1987)	Globally Significant
White-rumped Sandpiper	500	10,000 (1988)	Globally Significant
Black-crowned Night-Heron	80	170 (??)	Nationally Significant *
Franklin's Gull	5,000	30,000 (2000)	Globally Significant
Sandhill Crane <i>G. canadensis canadensis</i>	3,213	1,200 (1970)	Not Meeting Continental Criteria **

\* No figures provided for thresholds indicating Continental or Global Significance for this species.

\*\* No figures provided for thresholds indicating National Significance for this sub-species.