



Habitat Conservation Plan for the Town of Labrador City

February 2017

**Prepared with assistance from the
Wildlife Division, Government of Newfoundland and Labrador**



LABRADORCITY

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Preface

In the province of Newfoundland and Labrador some of the wildlife that are in greatest danger of being negatively impacted are those influenced by residential, commercial and industrial activities within the vicinity of municipalities. In this province, the primary focus of the Eastern Habitat Joint Venture (EHJV) is to conserve valuable wildlife habitat through Stewardship Agreements. The Town of Labrador City was identified as having just such ecologically valuable, and unique, habitat located within its municipal planning boundaries.

The Town of Labrador City originally signed a stewardship agreement on March 7th, 2005, pledging their commitment to conservation and protection of habitat within designated areas known as Management Units as well as promoting wise use of other wildlife habitat within the vicinity of the Town. This agreement was mutually amended by the parties in March of 2014. In accordance with the agreement, Labrador City manages these wetland areas with technical advice provided by the provincial Wildlife Division, in part via the Habitat Conservation Plan, originally signed in 2010. With the signing of this updated plan, the agreement parties officially accept this Habitat Conservation Plan and agree to use it as a guide to govern activities within the designated Management Units.

The following signatories agree to work towards the implementation of the following "Habitat Conservation Plan" for the Town of Labrador City:

K. Sedford
Mayor

K. Sedford
Witness

May 23/17
Date

May 23/17
Date


Wildlife Division
Government of Newfoundland and Labrador

May 24/17
Date

Contents

List of Figures	4
Section 1: Plan Overview.....	5
Section 2: Habitat Conservation in Newfoundland and Labrador	6
Section 3: Wildlife and Wildlife Habitat in Labrador City	11
Section 4: General Policies for Habitat Conservation	30
Section 5: Habitat Conservation and Education Strategies	34
Appendix 1: Labrador City Municipal Stewardship Agreement.....	45
Appendix 2: Bird Species found in the Town of Labrador City	52
Appendix 3: Other Wildlife Species found in Labrador City’s Stewardship Zone.....	54
Appendix 4: Example of a Trail Interpretive Sign	55
Appendix 5: Bird House Dimension and Placement.....	56
Appendix 6: Plants for ecological restoration.....	62
Appendix 7: Bird viewing towers, blinds, and lookouts	65

List of Figures

Figure 1. Map of Habitat Stewardship Agreements signed in Newfoundland and Labrador.	8
Figure 2. Management Units within the Town of Labrador City.	12
Figure 3. Labrador City Stewardship Zone.	13
Figure 4. Map of the Lac Virot, Ironstone River, Walsh River, and Pike Lake North Management Units.....	15
Figure 5. Northern portion of Ironstone River Management Unit.....	16
Figure 6. Aerial view of Ironstone River Management Unit.....	17
Figure 7. Walsh River Management Unit.	18
Figure 8. Map of Town site Management Units – Beverly Lake, Tamarack Creek, Wabush Narrows and Little Wabush Lake.	19
Figure 9. Looking south at Beverly Lake Management Unit	20
Figure 10. Looking north at Beverly Lake Management Unit.....	20
Figure 11. Labrador West Agricultural Society’s Alex Duffett Community Garden.....	21
Figure 12. The southern portion of the Tamarack Creek Management Unit.....	22
Figure 13. Aerial view of Tamarack Creek Management Unit extending into Beverly Lake.	23
Figure 14. Looking east at the Wabush Narrows.....	24
Figure 15. Aerial view of Little Wabush Lake Management Unit, looking north.	25
Figure 16. Aerial view of the western portion of Little Wabush Lake Management Unit.....	26
Figure 17. Strawberry Lake Management Unit	27
Figure 18. Aerial view of Strawberry Lake Management Unit	28
Figure 19. Osprey nesting platform in Stephenville Crossing.	37
Figure 20. Cavity Nest Box in Cobb’s Pond, Gander.....	39
Figure 21. Bat Roosting Box in Salmonier Nature Park.	41

Section 1: Plan Overview

Stewardship Agreement Goals

- (1) To conserve habitat located within the designated Management Units and to positively influence habitat located within the larger Stewardship Zone.
- (2) To maintain and/or increase wildlife use of those areas, particularly by waterfowl and other bird species.
- (3) To increase public awareness of the importance of wetland habitats for conserving waterfowl and other wildlife.

Plan Purpose

The Town of Labrador City will use this Habitat Conservation Plan as a guide to govern activities which impact wildlife habitat, wetlands, and waterfowl in order to minimize negative impacts within the areas designated for conservation.

Plan Objectives

- (1) To present a general assessment of the wetland habitats and waterfowl or wildlife species designated for conservation.
- (2) To recommend protection, conservation and enhancement strategies.
- (3) To describe potential initiatives for education and awareness among the public in order to increase support and cooperation of the Town's citizens.

Section 2: Habitat Conservation in Newfoundland and Labrador

Introduction

Human development has resulted in the destruction of many types of habitat all over the world. Wetlands are among the areas most critically affected by this development and are, in fact, one of the most sensitive ecosystems on the planet. Wetlands are unique ecosystems that often occur at the edge of aquatic (water, fresh or salty) or terrestrial (upland) systems. They may be wet year-round, wet during certain seasons, or wet during part of the day. In general, “wetland” refers to land that has the water table at, near, or above the land’s surface and refers to land which is saturated for a long enough period to promote wetland processes. In addition to bogs and swamps, wetlands include tidal marshes, forested wetlands, fens, estuaries and shallow open water (at a depth less than two meters). Healthy wetlands and associated uplands contain fresh, brackish or salt water and are some of the most biologically diverse and productive ecosystems on earth.

Wetlands play a major role in the status of continental ecosystem health, as well as regional and local ecosystem health. Wetlands serve as important buffers to flooding, function as enormous sinks for carbon and as natural reservoirs for the holding, purifying and recharging of water resources. From an economic stance, wetlands are associated with a range of values from recreational and subsistence opportunities for hunting, fishing, trapping for food and fur, the gathering of fruit and berries and for non-extractive activities like wildlife viewing, ecotourism, paddling sports and hiking. Wetlands also provide for the seasonal resource requirements of many waterfowl species and serve as important habitat for waterfowl throughout breeding, feeding, staging and over-wintering. All migratory waterfowl, many other migratory birds, and half of all threatened and endangered species depend on wetlands and associated upland habitat for their existence.

The number and diversity of North America’s wildlife species has been declining over the latter half of the twentieth century. At least a portion of this decline can be directly attributed to the loss of natural habitats to urban, industrial and agricultural expansion. Wetlands have historically been among those areas most critically impacted by human development. Canada, the United States and Mexico have signed the North American Waterfowl Management Plan (NAWMP, nawmp.wetlandnetwork.ca), thereby committing to a long-term program of partnership projects aimed at assuring the survival and increase of waterfowl populations and protecting the wetland habitat on which their survival depends. A number of joint ventures, ranging from species to regional-specificity, have been established to achieve and implement the objectives of the NAWMP. The province of Newfoundland and Labrador, through the provincial Wildlife Division, became a partner of the Eastern Habitat Joint Venture (EHJV, ehjv.ca) in 1989.

Eastern Habitat Joint Venture (EHJV)

The premise behind the EHJV is to conserve, enhance and restore wildlife habitat for birds, especially wetlands, in the six eastern Canadian provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. Each province deals with wildlife habitat conservation issues slightly differently, depending on the unique requirements of each province and individual habitat concerns. Each provincial program, coordinated by a separate program manager, involves the cooperation of international partners, including government agencies and non-government groups, each working to forward specific goals and objectives of the NAWMP. In Newfoundland and Labrador, the program is administered through the provincial Wildlife Division. Its local contributors, other than the province, include Ducks Unlimited Canada, Canadian Wildlife Service (a part of Environment and Climate Change Canada), Nature Conservancy of Canada and Wildlife Habitat Canada. While each province may function independently, the EHJV works towards attaining common goals of influencing wildlife habitat quality and quantity in Eastern Canada through conservation, enhancement and/or restoration initiatives.

NL EHJV Wetland Stewardship Program

Wetlands have historically been affected by heavy development pressure. In Newfoundland and Labrador development pressure occurs regularly and most often within municipal boundaries. As such, wetlands that exist within municipal boundaries are often at the greatest risk of destruction or alteration and often in greatest need of conservation and/or management. Municipal Wetland Stewardship is perhaps the most successful component of the Eastern Habitat Joint Venture in Newfoundland and Labrador. Its principal goal is to help make municipalities, corporations, developers, landowners, and other wetland habitat stakeholders more aware of the value of wetlands within their jurisdiction and to empower them to take action to conserve these areas. This leads to more informed development decision-making and works towards minimizing negative impacts on wetland areas and local ecosystems as a whole.

This component of the program focuses largely upon signing Stewardship Agreements with municipalities, corporations and individual landowners who own or manage significant wetland habitat. A Stewardship Agreement represents a formal public commitment by a community, corporation, individual and the province, to act together to conserve wetlands for waterfowl. By signing a Stewardship Agreement, communities, corporations and individuals become an important link in a continental chain of conservation areas. To date nearly 40 municipalities have signed Habitat Stewardship Agreements, including the Town of Labrador City (for agreement, please see Appendix 1). Corporate Stewardship Agreements have also been signed by the Iron Ore Company of Canada and Corner Brook Pulp and Paper Limited. Private landowners in several of the communities surrounding the Grand Codroy Estuary (an estuary of international significance) as

well as Burgeo have also been involved with the signing of Landowner “Good Steward” Agreements, demonstrating individual commitment to local wetlands and waterfowl habitat. Coastal Stewardship Agreements have also been signed by a number of communities including St. Anthony, Burgeo, Red Bay, Mary’s Harbour, St. Lewis and Cartwright. The Town of Flower’s Cove and Port au Choix also signed Agreements associated with species at risk found in their community (Figure 1).

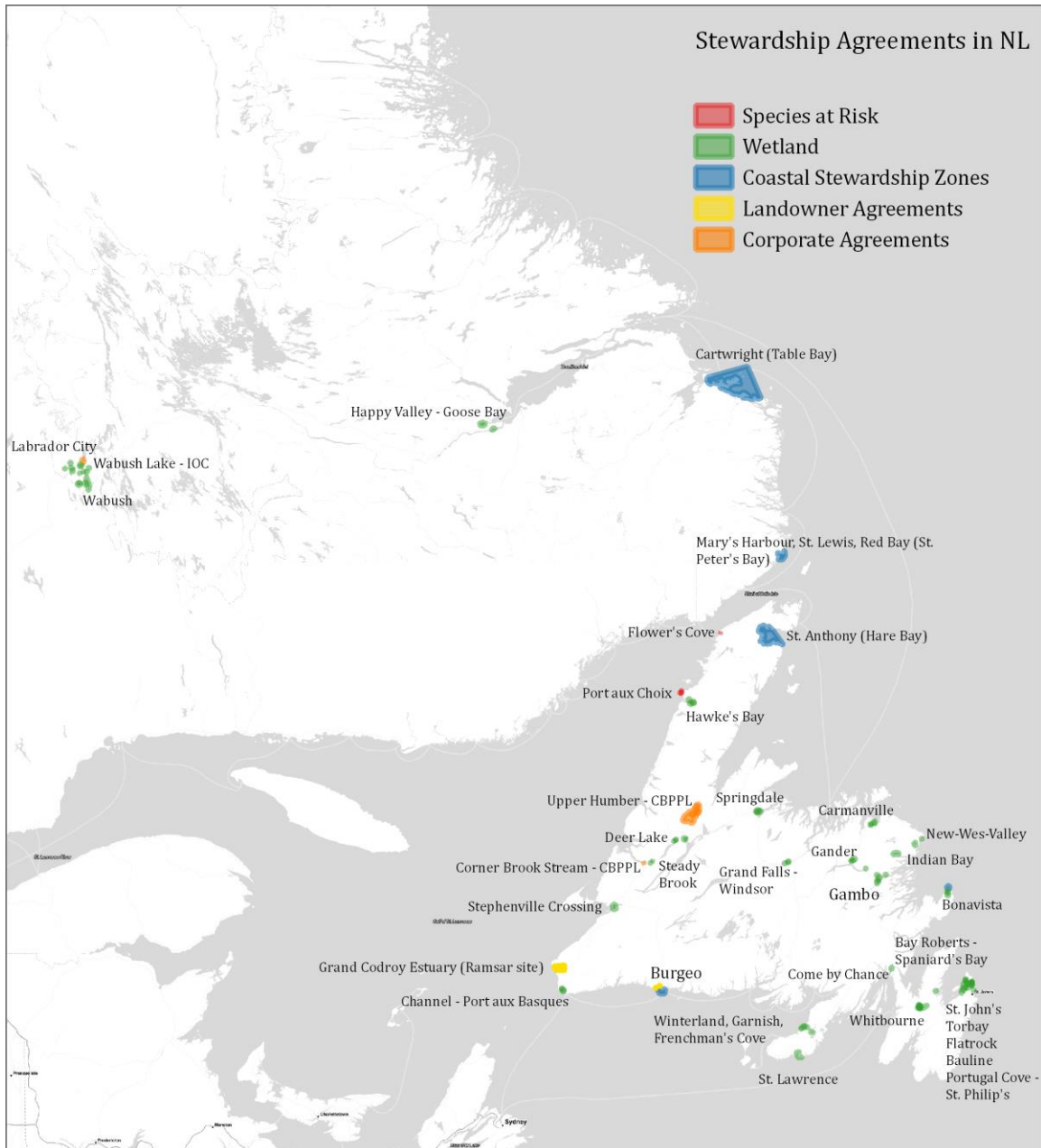


Figure 1. Map of Habitat Stewardship Agreements signed in Newfoundland and Labrador

The Stewardship Agreement Process

Initial contacts are generally sought by both Wildlife Division staff and local community leaders who wish to take action to conserve coastal, wetland and/or upland habitat. A determination is made between the parties of whether there exists mutual interest in pursuing a Stewardship Agreement (Labrador City agreement shown in Appendix 1). Surveys within a certain area of interest are carried out by the Wildlife Division to confirm that a significant relationship exists between coastal, wetland or upland habitat and local wildlife using those areas (For lists of these species, see Appendices 2 and 3).

Following these positive assessments, more intensive field investigations will be carried out to determine and agree on formal boundaries for "Management Units". Management Units are significant habitat areas that have been identified as important to wildlife. Management Units are intended to be incorporated as environmentally "sensitive areas", "conservation areas" or "protected areas" within municipal planning documents as governed by the Urban and Rural Planning Act (2000). These areas are, consequently, set aside by a community, individual or corporation in an effort to prevent habitat alteration and diminished ecological function or degradation that might be caused by development.

When sufficient information has been gathered, a proposal is presented to a community, individual or corporation for review, with suggested boundaries for Management Units clearly indicated. After the Management Units have been agreed upon by all parties, a formal Stewardship Agreement will be signed between the presiding body (town, corporation, or landowner) and the province. Under this agreement, the town, corporation or landowner maintains ultimate control over all areas under its jurisdiction, but are asked to abide by the details of the Stewardship Agreement.

After the signing of a formal agreement, Wildlife Division staff will assist the community, corporation or individual in preparing an area specific Habitat Conservation Plan. This plan offers best management practices, recommendations, and advice for conserving, enhancing and/or managing the wildlife habitat within in the body's area of authority. In the case of a municipal agreement, once the Habitat Conservation Plan has been accepted by council it is intended that it will be then incorporated into the town's existing or future municipal plan, operating plan or master plan for use during future development decisions. More generally, a Stewardship Agreement is signed with the idea that when land use decisions are made, the value of wildlife habitat will not be forgotten and that future land-use activities will not have a negative impact upon these values.

Roles of Stewardship Agreement Signatories

“The Province” - The Minister of Environment and Conservation is generally the designated signatory on behalf of the province. The Wildlife Division administers the Eastern Habitat Joint Venture in Newfoundland and Labrador in partnership with the Stewardship Association of Municipalities (SAM).

As a result of signing a Stewardship Agreement, staff of the Wildlife Division and/or SAM are expected to:

- Provide the agreement signatory with technical advice and assist in the development of a Habitat Conservation Plan.
- Review proposed developments within the Management Units that have the potential to impact that wildlife habitat.
- Assist in carrying out, where appropriate, education and information initiatives to raise awareness of wildlife, wetland and coastal related issues, and
- Support community conservation groups in implementing the Stewardship Agreement and Habitat Conservation Plan.

As a result of signing a Municipal Habitat Stewardship Agreement, the Town of Labrador City and its designated Mayor and Council are expected to:

- Ensure that significant wildlife habitat areas designated as Management Units are protected from destruction or degradation and to contact the Wildlife Division in a timely manner when activities are proposed that may impact that habitat.
- Incorporate the Stewardship Agreement and Habitat Conservation Plan into the next Municipal Plan draft or revision with the assistance of the Wildlife Division and/or SAM.
- Educate residents and development planners about the stewardship program and their responsibilities, with the assistance of the EHJV partners.
- Implement, over time, the Habitat Conservation Plan recommendations in the community at large, with the assistance of the EHJV partners.
- Participate in the Stewardship Association of Municipalities Inc. (SAM), a province-wide organization made up of municipalities which have signed Stewardship Agreements.

Section 3: Wildlife and Wildlife Habitat in Labrador City

The Town of Labrador City

Labrador City has a population of approximately 9000 and is located 17 kilometres east of the Quebec - Labrador border, immediately adjacent to the town of Wabush. The future of the region, including both towns, depends largely on the mining industry and its relevance as a service provider to those companies. Labrador West is also home to a small tourism industry.

Opportunities for expansion and investment in new technologies are ongoing in Labrador West. The development of new mineral deposits and the construction of the Trans Labrador Highway provide opportunities for industrial suppliers, which increases the number of new establishments in the area. Increased global demand for iron ore products can generate growth in the local economy. In recent years demand for residential housing and commercial/industrial property has reached levels unseen since the 1970's. Information technology, forestry, tourism and the transportation sector all provide employment opportunities and opportunities in the region.

The Town of Labrador City contains numerous wetlands throughout the town's municipal planning area, including a number within the currently developed town footprint. The Iron Ore Company of Canada (IOC) also operates within the municipal planning area of the Town of Labrador City. IOC and their wetland restoration projects, namely the *Tailings to Biodiversity* program, are outlined separately in a Corporate Stewardship Agreement with the province, via the Eastern Habitat Joint Venture. Wetlands within the municipality form individual links of waterfowl migration routes for a wide variety of both wetland and upland bird species. There is also ideal habitat for a large number of songbirds, mammals, and fish within the town's planning area. This diversity of wildlife and wildlife habitat has allowed for the creation of nine separate Management Units (Figure 2) within the municipal planning area of Labrador City which will act to maintain and enhance existing waterfowl and wildlife populations. Pike Lake South Management Unit was replaced by Strawberry Lake Management Unit via an agreement amendment started in 2013 (see further details on page 26), thus the total number of management units has remained at nine.

Description of the Management Units

Management Units are wetland or upland areas of significance to waterfowl and generally provide habitat for nesting, brood rearing and/or staging. In the case of Labrador City, the Management Units, in some cases, also represent the first and last seasonally ice-free water sites of the migratory season, thereby recognizing the importance of Labrador West as a link in the inland migratory flyway. The Management Units encompass a substantial land area which could incorporate education and interpretation projects, particularly in the areas close to the Town. They together support a diversity of bird species and other wildlife (please see Appendices 2 and 3 for full lists of wildlife species found in these areas)

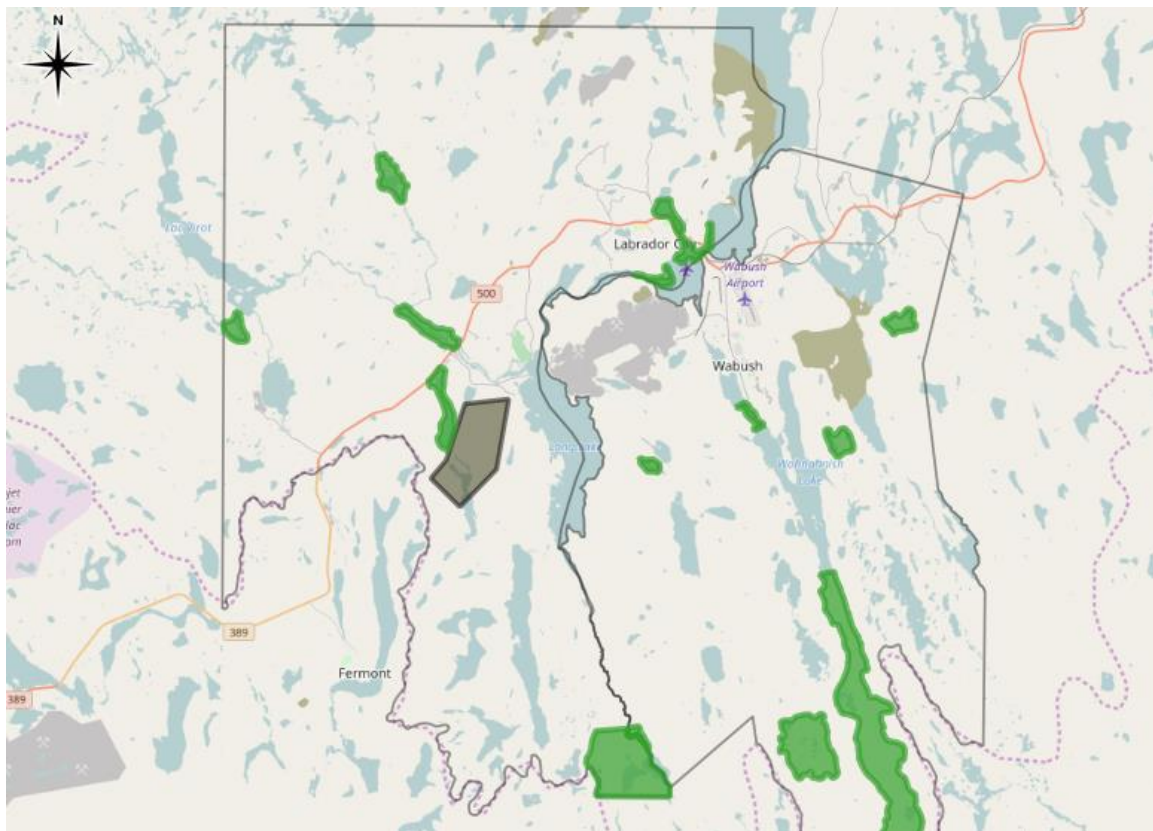


Figure 2. Management Units within the Town of Labrador City. Management units are represented by in dark green areas, and Duley Lake Provincial Park in transparent dark brown. Management Units in the adjacent Town of Wabush are also visible. Grey boundaries represent municipal planning areas.

Description of the Stewardship Zone

The Labrador City Stewardship Zone (Figure 3) makes up the majority of the Town's Municipal Planning Boundary. It contains most of the major wetlands and waterfowl habitat regardless of the actual level of waterfowl use. The zone does exclude some existing commercial and industrial developments, including areas occupied by mining companies, on the north-eastern portion of the planning boundary (Appendix 2). When the Stewardship Agreement was signed in 2005, the Town of Labrador City became stewards of the wetlands within this Stewardship Zone and committed to wise use of this area, implementing a stewardship ethic in relation to proposed developments to minimize or even eliminate the effects of development on wetlands. Specifically, in this area, the town shall exercise its discretion in relation to proposed developments as to how they impact wetlands and waterfowl populations. Wildlife Division staff are available to assist council should they wish it in assessing development applications as to how the impact to wildlife habitat can be minimized.

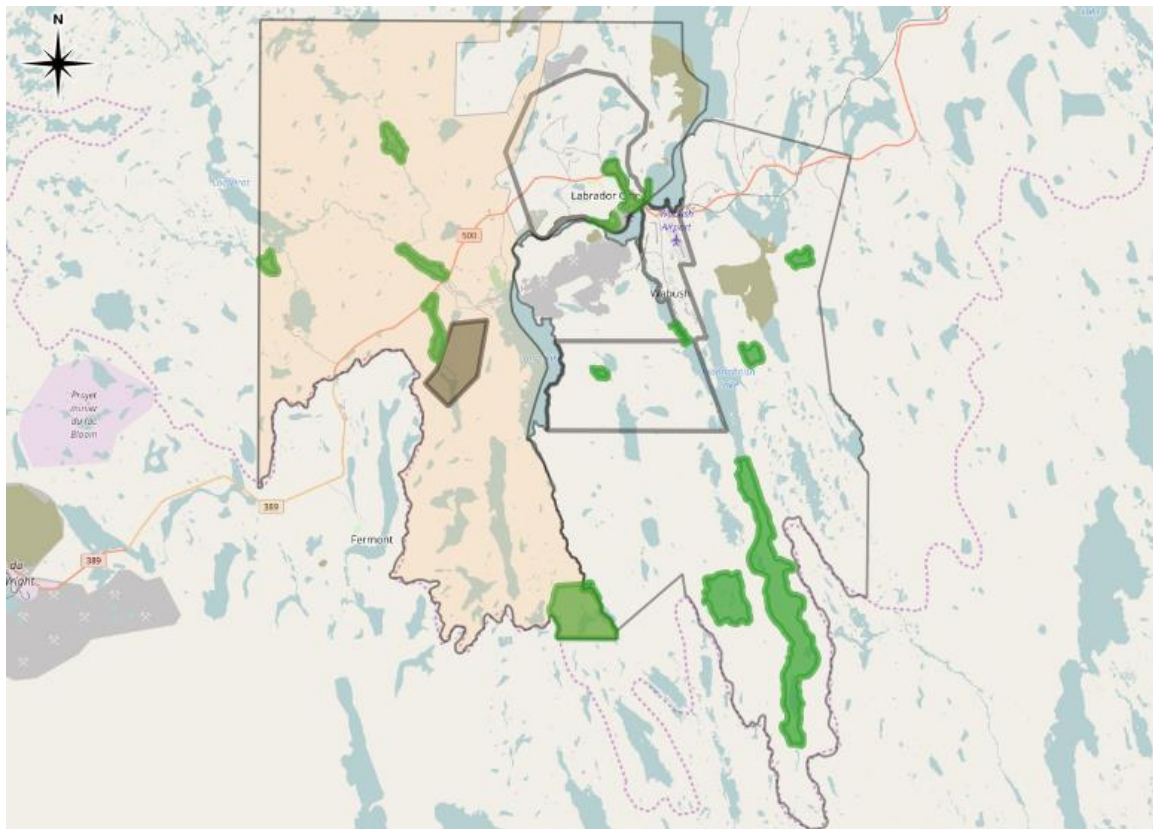


Figure 3. Labrador City Stewardship Zone. Stewardship Zone is shown in transparent orange, with Management Units in dark green. Thinner grey boundaries represent municipal planning areas of the two towns of Labrador City and Wabush, while thicker grey boundaries represent municipal boundaries.

Ironstone River Management Unit (288 acres, 117 hectares)

The Ironstone River Management Unit (Figure 4, 5, & 6) is a small steady and associated bogs and uplands located in the Ironstone River. The area is noteworthy for waterfowl species including Common Goldeneye, Red-breasted Merganser and Common Merganser.

Lac Virot Management Unit (158 acres, 63 hectares)

On the western edge of the municipal planning area, where Lac Virot dips into the planning area, there exists a rich, active breeding area. Wetlands in the northern section of this Management Unit (Figure 4) are known for waterfowl. This area is excellent for feeding and nesting American Black Ducks and Scoters. Canada Geese were also observed nesting and staging in the southern portion of the Management Unit. Other wildlife observed in the area includes Common Goldeneye, Boreal Chickadee, Dark-eyed Junco, Gray Jay, Red-tailed Hawk, Spruce Grouse, Herring Gull, Snowshoe Hare and Black Bear.

Walsh River Management Unit (289 acres, 117 hectares)

The Walsh River Management Unit (Figures 4,7) is immediately northwest of the Walsh River bridge. The river and adjacent ponds and streams provide excellent nesting and breeding habitat for birds such as Common Goldeneye, Red-Breasted Merganser, Gray Jay and Red-Tailed Hawk. This Management Unit is also northwest of the privatized portion of Duley Park. This portion of the former Provincial Park was privatized in 1997. The Management Unit does not include the existing road on the northern side of the river.

Pike Lake North Management Unit (318 acres, 129 hectares)

A major breeding area exists through the Pike Lake system which now includes only one Management Unit, Pike Lake North (Figure 4). This lake is located on the eastern side of Route 500 just south of the entrance to Duley Lake Provincial Park. This management unit borders a section of the Provincial Park and include ponds, bogs and streams. Pike Lake North Management Unit is an ideal area for nesting, breeding and staging waterfowl.

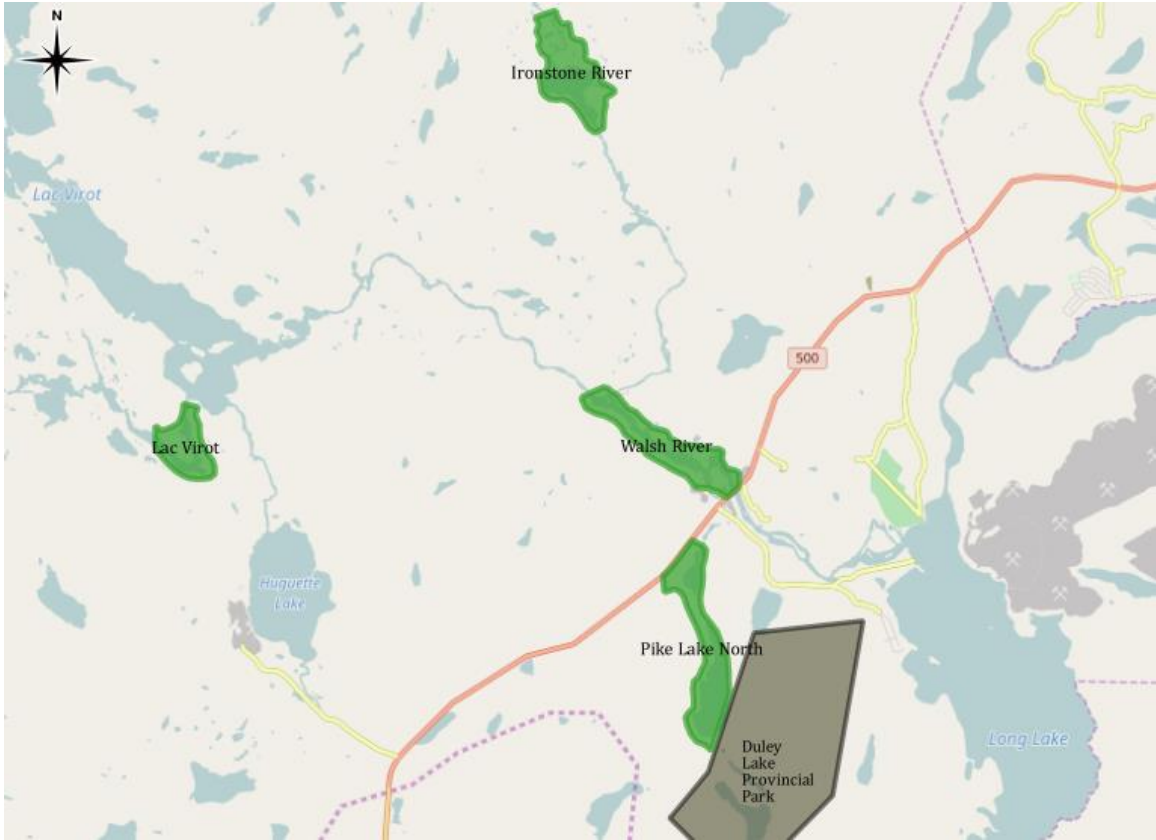


Figure 4. Map of the Lac Viot, Ironstone River, Walsh River, and Pike Lake North Management Units.



**Figure 5. Northern portion of Ironstone River Management Unit.
Photo by Wildlife Division**



**Figure 6. Aerial view of Ironstone River Management Unit.
Photo by Wildlife Division**



**Figure 7. Walsh River Management Unit.
Photo by Wildlife Division**

Town Site Management Units (433 acres, 175 hectares)

There are four management units within the town site (municipal boundary), making them more easily accessible to residents. These Management Units are important bird watching areas and, in some cases, represent the first and last seasonally ice-free water sites used by a variety of species. Some of these areas have been identified for enhancement, education, and interpretation projects. These Management Units are Beverly Lake, Tamarack Creek, Wabush Narrows and a portion of Little Wabush Lake (Figure 8).

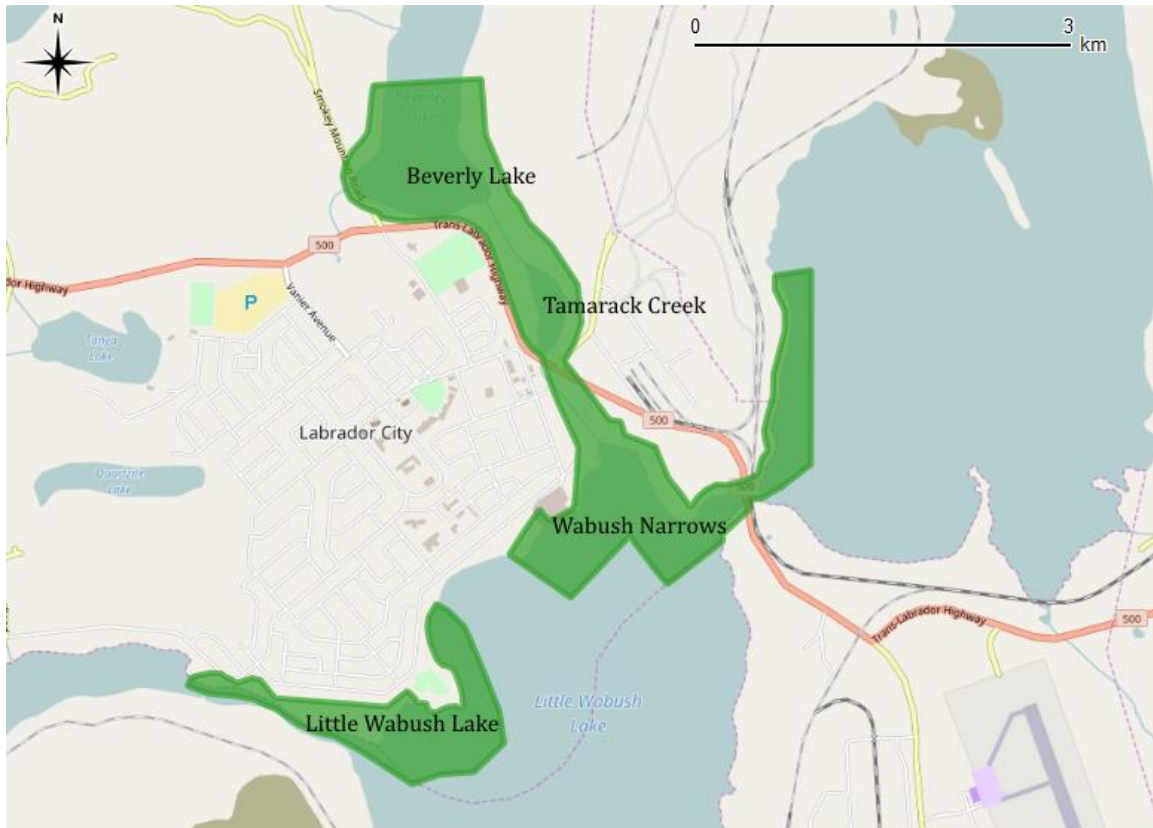


Figure 8. Map of Town site Management Units – Beverly Lake, Tamarack Creek, Wabush Narrows and Little Wabush Lake.

Beverly Lake Management Unit

Within the Town site, the eastern shoreline of Beverly Lake provides one of the few habitats in the area known to support Kingfishers (Figures 9, 10). The northern portion of the Management Unit was delineated using the Town’s previous Municipal Boundary while the west side extends south along route 500, the Trans Labrador Highway, and then ends at Tamarack Creek. This Management Unit is an important area for waterfowl such as Common Loons, Canada Geese, and Mergansers.



Figure 9. Looking south at Beverly Lake Management Unit
Photo by Wildlife Division



Figure 10. Looking north at Beverly Lake Management Unit
Photo by Wildlife Division

Tamarack Creek Management Unit

The Tamarack Creek Management Unit extends from the outlet of Beverly Lake to the inlet of Wabush Lake (Figure 8). Within this Management Unit is the Labrador West Agricultural Society's Alex Duffett Community Garden (Figure 11). This addition to a Management Unit helps to increase a sense of community ownership and stewardship. The area has considerable development, including two mid-sized hotels and restaurants. Although less than a kilometre in length, it is a major feeding area for numerous waterfowl species (Figures 12, 13) and has consistently provided two nesting and feeding areas to approximately eight adult osprey and their seasonal fledglings.

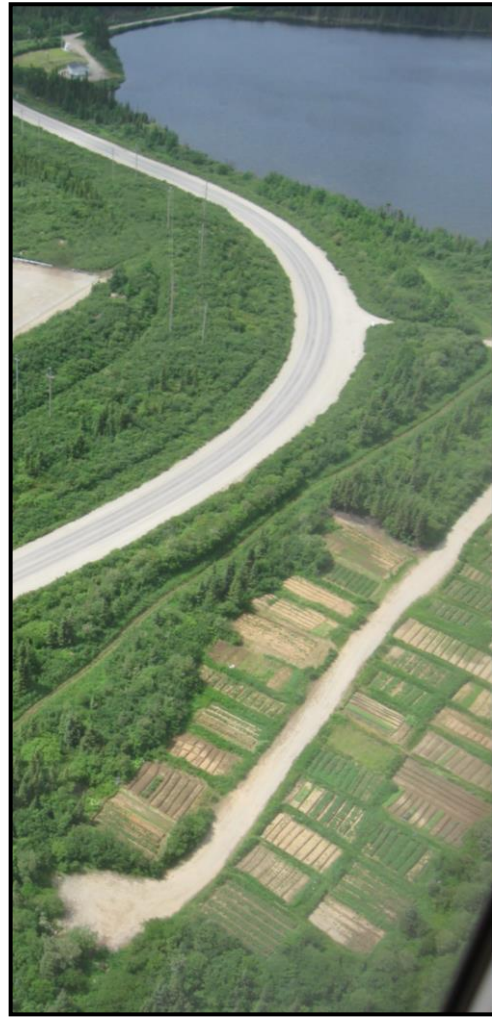
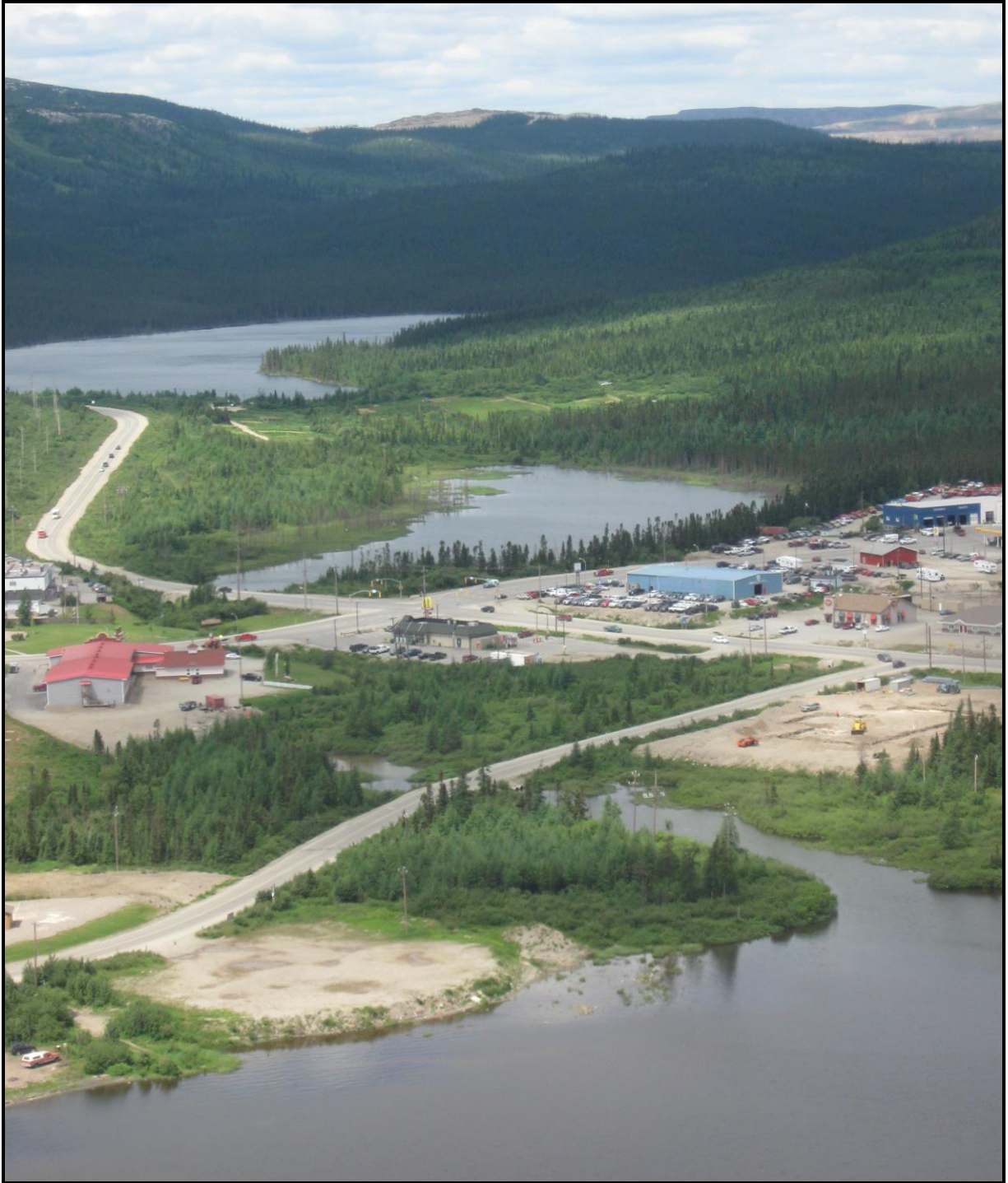


Figure 11. Labrador West Agricultural Society's Alex Duffett Community Garden.



**Figure 12. The southern portion of the Tamarack Creek Management Unit.
Photo by Wildlife Division**



**Figure 13. Aerial view of Tamarack Creek Management Unit extending into Beverly Lake.
Photo by Wildlife Division**

Wabush Narrows Management Unit

The Wabush Narrows Management Unit extends from the southern end of Tamarack Creek Management Unit to Wabush Narrows (Figure 14). This area regularly sees upwards of four hundred birds availing of the open water and shoreline grasses for feeding during migration in late April. The sandy shoreline near a floatplane dock is unique within the municipal planning area for its number of species and terrain.



**Figure 14. Looking east at the Wabush Narrows.
Photo by Wildlife Division**

Little Wabush Lake Management Unit (96 acres, 39 hectares)

The entire north shore of Little Wabush Lake Management Unit (Figures 15, 16), which has already undergone significant development, includes areas that appear to have significant habitat for migratory waterfowl and shorebirds. The Management Unit extends south to meet the municipal planning boundary and west toward Harrie Lake. The inlet from Harrie Lake River at Indian Point supports American Black Ducks year-round. Common Loons, Canada Geese and Mergansers show a marked preference for this region as well. This area has already been designated for use as a recreational park, a use which should be complementary to continued sustainable waterfowl populations.



**Figure 15. Aerial view of Little Wabush Lake Management Unit, looking north.
Photo by Wildlife Division**



**Figure 16. Aerial view of the western portion of Little Wabush Lake Management Unit.
Photo by Wildlife Division**

Strawberry Lake Management Unit (1514 acres, 612 hectares)

Strawberry Lake Management Unit (Figure 17) is the newest Management Unit which was designated as a result of a mutual agreement amendment signed/gazetted in 2014. The unit seeks to compensate at a 1:1 ratio of area for the anticipated development of the former “Pike Lake South Management Unit” as a result of the anticipated Alderon Kami Iron Ore Mine. The Strawberry Lake area was chosen as the compensatory Management Unit as it was determined to be similar in habitat composition to the Pike Lake South area, containing 12 of the 16 habitat composition classes identified there. Indeed, the area formed a component of a compensation agreement signed between the town and the company relating to this and larger project impacts. An added bonus is that it directly buffers the Waldorf River Steady Management Unit under the Town of Wabush’s Municipal Stewardship Agreement, also signed in 2005.

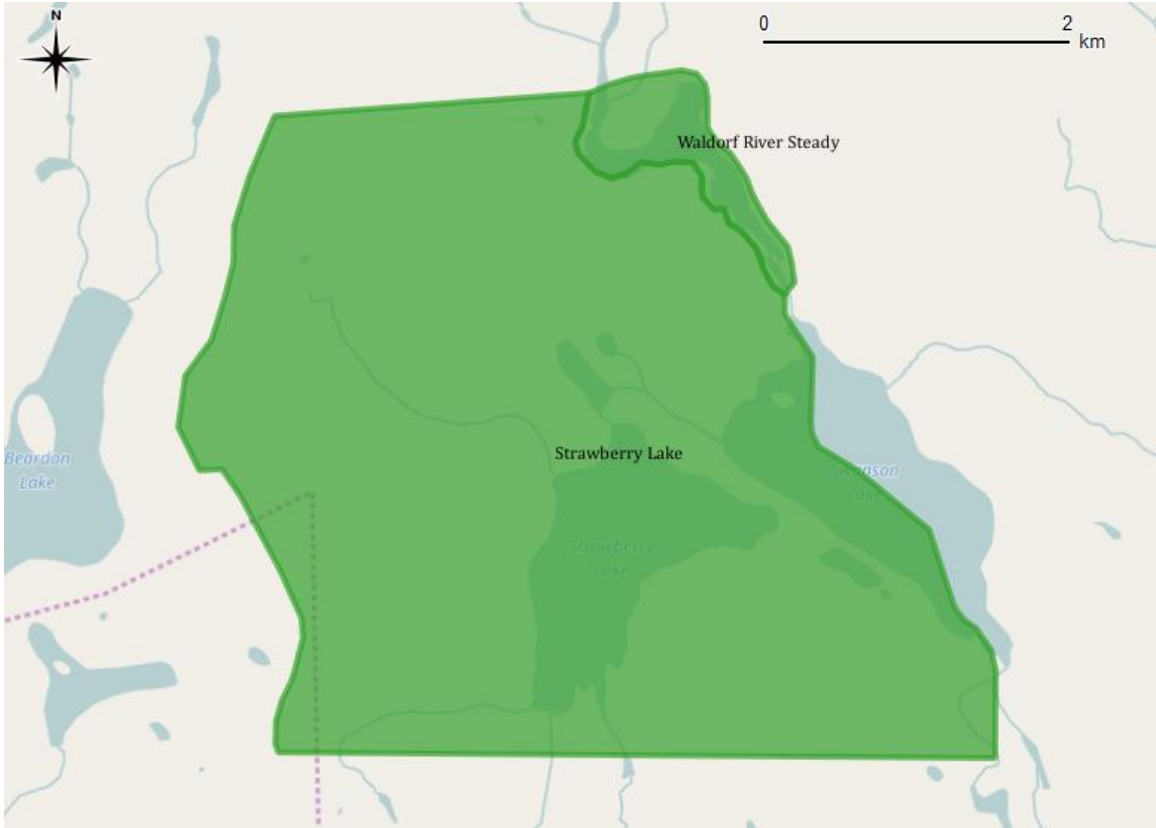


Figure 17. Strawberry Lake Management Unit
On the northeastern edge, the adjacent Waldorf River Steady Management Unit in the Town of Wabush is also visible.

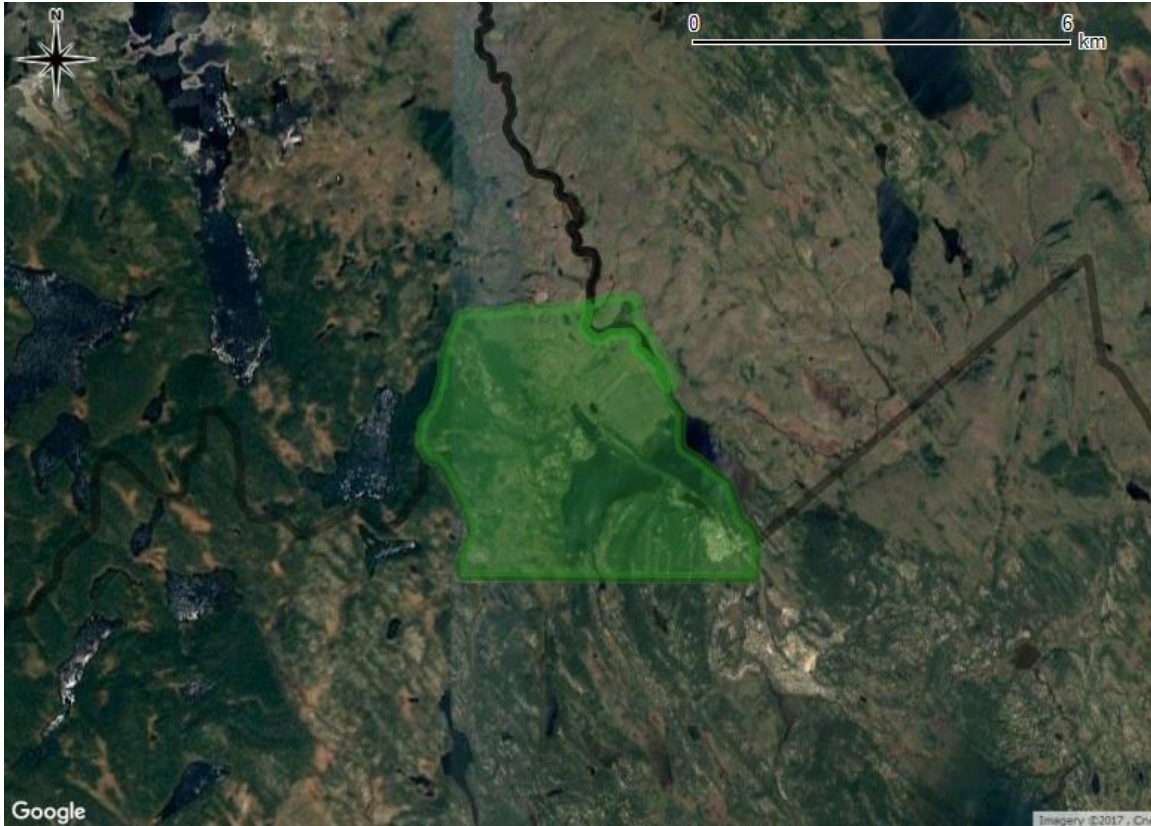


Figure 18. Aerial view of Strawberry Lake Management Unit
On the northeastern edge, the adjacent Waldorf River Steady Management Unit is also visible. Grey boundaries represent municipal planning boundaries.

Existing Land Use and Its Potential Impact on Wetlands and Waterfowl

Residential/Commercial Development

For the most part, residential development is confined to areas outside the Stewardship Zone. Development along areas, specifically the town site Management Units which are known to support waterfowl and shorebirds, should be treated with caution to reduce the impact on these species and to limit the amount of habitat loss associated with this development.

Development of New Mineral Deposits

Mineral exploration and mine development is a major part of the region's economic viability. The Management Units within Labrador City as mapped sought originally to avoid important areas for mineral exploration as to avoid future conflicts. Generally, mineral exploration activities should avoid critical breeding periods for waterfowl (May-mid-June), during which time they are very sensitive to disturbance. Fuel caches should be closely monitored to prevent contamination of any wetland or water body. Travel through wetlands should be avoided. If necessary, care should be taken to ensure that habitat disturbance is minimal, and that adequate treed buffers around sensitive waterbodies are maintained. Iron ore

dust from mines should be controlled and monitored. Extreme quantities of accumulated dust may have negative impacts on waterfowl and their habitats.

Fishing

Many lakes and rivers in and around Labrador City support healthy populations of trout, pike, ouananiche, and whitefish. No restrictions to the current fishing practices are deemed necessary within the Stewardship Zone, however, anglers should be reminded that waterfowl are easily disturbed during the nesting and brood rearing period (May to mid-June). If anglers encounter waterfowl during this period, it is recommended they use discretion so as not to disturb the birds. Broods are very susceptible to predation when left unattended and during the nesting period adult waterfowl will often abandon the nest if disturbed.

Tourism/Recreation

There exists an increasing number of recreational and tourism opportunities in Labrador City and surrounding areas, for example recreational canoeing and kayaking activities. The current use of waterbodies within the Town's Management Units appears to be moderate and is of no great concern. This increase in recreational use does provide ample opportunity for the implementation of educational programs and habitat enhancement projects. This also provides a great opportunity to raise awareness and educate visitors and residents about waterfowl within the community and the importance of wetlands.

Recreational activities, such as hiking and walking, are also very popular activities for many residents and visitors of Labrador City. The Crystal Falls hiking trail provides people with a scenic view of wetlands and songbirds, and an opportunity to observe many waterfowl, such as the Harlequin Duck in their natural habitat.

All-Terrain Vehicle (ATV) Use

ATV use which conforms to the terms of the All-Terrain Vehicle Use Regulations (1994), namely keeping to approved trails/areas, will help to keep these important habitats intact, healthy, and productive. This includes not crossing over wetlands and bogs unnecessarily, and crossing streams at designated points. Due to the limited access, ATV use does not currently appear to be a major issue in most Management Units. In the case of ATV use which is damaging habitat, provincial Conservation Officers can enforce the Motorized Snow Vehicles and All-Terrain Vehicles Act/Regulations and charge ATV users for habitat damage under this Act. For more information, the Labrador Regional Office can be contacted at 709-896-3405. Provincial Fish and Wildlife Enforcement Officers can also enforce these regulations and can be contacted 24/7 at 1 877 820 0999.

Labrador Railway/Trains

The railway does not currently appear to have a major impact on waterfowl and wetlands within the Conservation Area, however, ongoing noise would affect the

reproductive performance of waterfowl in the breeding stage. If additional railways are to be constructed that sensitive wetland areas should be avoided.

Litter

The illegal dumping of garbage is not a common activity within the Labrador City Stewardship Zone and Management Unit. Although to be avoided in the first place, if areas do become polluted, projects involving local community groups, such as the Conservation Corps Green Team, could be initiated. These groups can assist the community in a clean-up of the area affected and remove any foreign materials. Additionally, to help prevent this problem from occurring, signs could be posted at access points to wetlands within the community.

Currently snow dumping in the town is thought to have no major impact on waterfowl populations, however, debris build up can occur and could eventually impact waterfowl populations around the area. Snow dumping areas and amounts should be monitored but most importantly they should be located in non-sensitive areas.

Section 4: General Policies for Habitat Conservation

The Town's Commitment to Stewardship

In signing a Municipal Habitat Stewardship Agreement, the Town of Labrador City has made a public commitment to join an international network of important wetland habitat areas contributing to waterfowl presence and abundance in North America. Further, the Town of Labrador City has committed to using this Habitat Conservation Plan as a guide to best management practices in and around wetlands, and associated uplands, significantly within the Town's Management Units. Perhaps most significantly, it is hoped that a stewardship ethic will be fostered within the community since the conservation of wildlife habitat depends not wholly on Habitat Conservation Plans or regulations, but on the conservation and stewardship ethic of Town residents and of visitors.

The Stewardship Zone and Management Units will be managed to ensure the maintenance and possibly the enhancement of wetland habitat and waterfowl populations. Managing bodies include the Town Council and the provincial Wildlife Division.

Benefits for Residents

The strategies outlined in this Habitat Conservation Plan can provide many long term recreational and quality-of-life benefits for residents. Wetland habitats are often ideally suited to a variety of consumptive and non-consumptive recreational activities, including fishing, hiking, canoeing, photography and bird-watching. The Town may wish to use these opportunities to increase tourism to the region. In developing employment, recreational and tourism opportunities, careful consideration for wildlife populations must be included in the planning process. Otherwise, human activities may result in negative impacts to the very resource that is providing the attraction.

One important benefit that people receive from stewardship is the opportunity to increase their knowledge of wetlands and nature in general. Programs such as the Canadian Wildlife Federation's *Project Wild* foster an increased environmental ethic in youth and adults alike. Many of the enhancement and restoration strategies outlined in this plan can be easily conducted by local community interest groups, thereby allowing hands-on involvement in conservation efforts.

Management of the Stewardship Zone

Land use activities within the Stewardship Zone will be managed on a “sustainable use” or “wise use” basis, whereby permitted activities are sought to be implemented so as to minimize impacts on wetlands, waterfowl, or wildlife. Development proposals which may impact wetland habitat, waterfowl, or wildlife within the area can, at the discretion of council, be forwarded to staff of the Wildlife Division for comment with a thirty (30) day notice period.

Activities in Management Units

Activities within the Management Units will be managed whereby permitted activities do not result in the loss of wildlife habitat or wildlife populations. As such, wildlife will be at the forefront of management decisions. Should they be necessary, efforts will be made to reduce pre-existing habitat degradation within Management Units. Only activities that have no negative or adverse impact upon wetland and associated upland habitat, and on the associated wildlife using those habitats, should be permitted in these areas. Development proposals which impact habitat or wildlife within the Management Units must be forwarded to staff of the Wildlife Division for comment with a thirty (30) day notice period.

Incorporation of Management Units in the Municipal Plans

During the preparation of a draft Municipal Plan, or during the process of Municipal Plan Review, the Town Council shall incorporate the Stewardship Agreement into any resulting Municipal Plan or related Master Plan. Specifically, the Management Units, and any future Management Units as may be desirable, shall be zoned Conservation, Open Space Conservation, Environmental Conservation, or some similar consistent zoning designation. If such areas are outside Municipal Planning Boundaries, the town could seek to have them designated “Protected Areas” under subsection 31 of the Urban and Rural Planning Act, 2000.

In approving permits, regulations or by-laws related to the area’s designation within a Municipal Plan, or any amendments to a future Municipal Plan which could affect the Management Units, the Town Council will consult with staff of the Wildlife Division providing a thirty (30) day window of notice for comment.

Riparian Buffers in the Management Units

Riparian buffers are generally strips of untouched vegetation occurring between upland areas and wetlands, lakes, rivers, ponds and streams. They are composed of trees, shrubs, grasses, cattails and sedges and often possess a high level of wildlife use, generally as corridors for travel, for protection from predators and against inclement weather. These areas filter and reduce surface water runoff from upland areas, trapping sediment and filtering out excess nutrients, pesticides and bacteria. Vegetation in riparian areas also affects how readily water enters soil and has a positive effect over the replenishing of local groundwater. They also serve to anchor soil with its roots, helping to build stream banks and prevent erosion. They are often important in controlling flood levels and are critical to a variety of plants and animals. Fish habitat quality is also influenced by the amount of riparian edge left along shorelines. Treed buffers provide shade and serve to keep water temperatures down, also impact water quality; they provide spawning and rearing areas for fish species, and nesting areas for waterfowl. They also serve as a food source for a variety of wildlife when leaves and insects/insect larvae drop into the water body off surrounding trees and shrubs. Restoration projects can seek to rebuild riparian areas; Appendix 4 provides suggestions for possible plant species to be used.

The province, via the provincial Lands Act – Section 7(1), requires a crown land reserve or easement of 15 metres along all water bodies greater than 1 metre in width and the maintenance of permanent riparian areas next to watercourses within the province. It is important that the town seeks to ensure awareness of this crown land reserve designation by all residents and in monitoring approved adjacent developments. The vegetated (untouched) buffer exists as the minimum protection around all waterbodies and marsh areas and is critical within the designated Management Units. Agriculture and cabin development seem like the two most likely disturbances to riparian vegetation.

Management by Committee

It is recommended that the Town of Labrador City seek to manage their Stewardship Zone, Management Units, and Habitat Conservation Plan via a formal committee of council. This may take the form of an “Environment Committee” or “Habitat Committee” chaired by a member of council with volunteers from the local community making up the remainder of its membership. It has been our experience that such, often dedicated and dynamic, committees often have greater success in raising the profile of the environment and the wetland protected areas within the larger community thereby increasing public understanding and support over the long-term. Many of these types of groups have found benefits in reserving spots in the group for a younger person, a high school student, or both. By involving local individuals, a greater sense of ownership is fostered which can strengthen conservation commitments.

Stewardship Association of Municipalities (SAM)

When a municipality signs a Municipal Habitat Stewardship Agreement, it becomes a member of the Stewardship Association of Municipalities Inc., also known as SAM (samnl.org). SAM is an incorporated, non-profit organization comprised of nearly 40 Newfoundland and Labrador municipalities. Each member municipality has made a formal commitment to the conservation of habitat and biodiversity within their municipal planning boundaries by signing a Municipal Habitat Stewardship Agreement with the provincial government through the province’s Wildlife Division.

SAM member municipalities together seek to secure, enhance and restore important wildlife habitat in the province while balancing municipal development with conservation. SAM also represents its members on issues of common concern related to provincial wildlife habitat conservation. Additionally, as part of the implementation of their individual Municipal Plans, Stewardship Agreements and associated Habitat Conservation Plans, member municipalities seek to educate and engage residents, particularly youth, in environmental stewardship and conservation. This is in recognition that the involvement and support of local people can and has, had a significant positive impact on a wide variety of conservation issues.

SAM meets each spring and fall with meetings rotating among member communities. We encourage you to become an active member of SAM by identifying a representative of your town to attend at least one of these meetings each year. This will serve as a significant connection for your town to provincially like-minded municipalities and link you to resources and training related to ongoing provincial conservation initiatives.

Section 5: Habitat Conservation and Education Strategies

The following section presents some ideas for community education, engagement, and habitat enhancement that could be implemented over time in and around Management Units. They are not requirements of being involved but we encourage council to engage its Habitat or Environment Committee or local conservation organizations such as the Stewardship Association of Municipalities (SAM) in the implementation of activities which meet your needs and interests. Indeed community engagement and partnerships are the true strength of any stewardship agreement.

Many communities across the province who have signed stewardship agreements have had great success becoming involved in exactly these types of projects and will also be resources for you to connect with, especially at SAM meetings. Many of these activities and programs are free or can be funded through small community grants and via partnerships. SAM provides a listing of many relevant grants at samnl.org/funding-opportunities

Trails and geocaches

Many communities, including SAM members, have found that trails increase recreation and health for residents and improve tourism possibilities. Trails in Management Units, when planned and constructed carefully, can increase a sense of stewardship by allowing people to discover new areas. They can also help residents and visitors strengthen their connection to nature, especially where interpretive signage is used to help point out interesting landscape and wildlife features. Geocaches (small containers found via GPS) can be added alongside trails as well to provide a fun inexpensive activity for walkers, hikers, and groups. Both an interpretive sign and geocache have been placed near Jean Lake in Wabush, for example.

Bird Monitoring

Local community interest groups and interested volunteers can watch and monitor waterfowl within all areas of the Town but, particularly, within Management Units. Data collection can provide information on changes that are occurring within a wetland or other area and can indicate problems or progress towards a desired goal of waterfowl and other bird populations. By involving residents, the profile of the area is enhanced to the long-term benefit of conservation.

ebird.org is a free, easy-to-use website to record your sightings and provide valuable information to help us gain a better understanding about our birds. In Newfoundland and Labrador in 2016, over 280 species of bird were recorded on eBird and over 11,000 individual lists were submitted!

Adding your bird and other animal sightings to ebird.org helps bird conservation and simplifies record keeping. It provides a great opportunity for beginners and experts alike to improve their identifications and provides data in a format that can be easily used.

Explore all bird sightings in Newfoundland and Labrador (click map to zoom to your area):

ebird.org/ebird/canada/subnational1/CA-NL?yr=all

Start contributing to ebird.org here:

secure.birds.cornell.edu/cassso/account/create

Tools for successful bird monitoring:

- A keen eye
- Field notebook & pencil
- Bird field guide
- Binoculars and/or a spotting scope
- Appropriate outdoor clothing
- Phone (for safety and for recording your start and end times)

When entering data into ebird, do not guess the species - it is entirely acceptable to record a species as unknown. Birding workshops and lots of practice in your local area will make you proficient at identifying species common to your area. As years go by, you will become more and more skilled at identification.

Be mindful of tides and wetland (damp, soft, slippery) habitat, making personal safety your top priority. Common sense is important; aim to cause as little disturbance as possible to the birds, considering that a high level of disturbance could impact foraging.

Conservation Corps Green Teams

Conservation Corps Newfoundland and Labrador (ccnl.ca) annually sponsors summer Green Teams and Interns, generally post-secondary and high school students, to work on local environmental projects. Such teams have been placed in many communities with Stewardship Agreements. Examples of potential projects could include constructing and installing waterfowl nest boxes and nesting platforms (for geese) followed by subsequent monitoring throughout waterfowl

breeding/brood-rearing seasons ('Bird Monitoring', above). Green Team members could train local high school students or community members in monitoring and could develop educational material designed to raise awareness for conservation and stewardship initiatives. This project could be extended to bird houses and would serve to provide data on birds using various habitats.

Artificial Nesting and Loafing Structures

Ospreys

Ospreys (*Pandion haliaetus*) are fish-eating raptors that are frequently observed hunting in wetland habitats, particularly areas along the coast. Unfortunately, populations of these birds plummeted in North America during the 1950's and 1960's due to the wide spread use of pesticides and other pollutants which bioaccumulate in birds of prey, like the osprey. For many osprey populations, bioaccumulation results in frequent reproductive failures. With the banning of many pesticides in the early 1970's, many osprey populations have made a comeback.

Osprey prefer to nest on tall, often dead, trees on the shoreline of lakes and bays that are at least 2 meters deep but make nests in a multitude of locations (e.g. telephone poles, communication towers, etc.) as long as the area is wide open with an adequate food supply. Preferred natural sites are scarce due to timber harvesting and shoreline developments.

In many parts of Canada, the installation of artificial nest structures (Figure 19) by concerned citizens and community groups have facilitated the comeback of the osprey. Osprey nest structures have been installed at several sites in Newfoundland, including many municipal stewardship communities such as Stephenville Crossing. Many people take great pleasure in watching these majestic birds raise their family and fish the shallow waters of nearby lakes and bays.



*Figure 19. Osprey nesting platform in Stephenville Crossing.
Photo by: Wildlife Division*

It may be advisable to install a single osprey platform at a carefully chosen location to determine whether the ecosystem can sustain a single, monogamous, breeding pair of osprey, with subsequent platforms planned accordingly. In conjunction with an observation tower, area residents could potentially enjoy a “bird’s eye view” of osprey daily life high atop an artificial nesting structure. Artificial nesting platforms should be located in areas with minimal human use and where human impact would be least. Involvement of schools, youth groups and community organizations in the construction/maintenance/observation of the nesting structure could instill a sense of pride and awareness that would go far in fostering a community stewardship ethic.

Excellent tips, ideas, and guides for design and placement of Osprey nesting platforms can be found here:

Government of Ontario

www.lrconline.com/Extension_Notes_English/pdf/ospry.pdf

The International Osprey Foundation

www.ospreys.com/downloads-2/files/OspreyNestPlan.pdf

New Jersey Division of Fish and Wildlife

www.state.nj.us/dep/fgw/ensp/pdf/osprey_platform_planandmaterials.pdf

Osprey Watch

www.osprey-watch.org/learn-about-osprey/build-an-osprey-nest

SAM may be able to connect you with individuals experienced in building osprey platforms, and/or those who may be able to help; please contact us if interested.

Island Construction

Many wildlife species, such as terns and waterfowl, nest and loaf on islands due to a reduced risk of predation from land-based predators. Many species in wetlands would benefit from the construction of artificial islands. These structures can be constructed simply from wooden cribs (Tamarack Larch would be an appropriate choice for building material), measuring approximately 4 m² that have been filled with rock and soil. The islands must be positioned so that they are higher than the highest water mark. Hardy shrubs and herbaceous plants (e.g. alder, willow) must be planted on the islands to provide cover and to prevent occupancy from gulls. Care must be taken to prevent the use of toxic construction materials (e.g. treated wood, contaminated soils) and disturbance to plant and animal communities. One must also consider the potential for increased predation on certain avian species that may use the islands. Annual removal and reinstallation of islands may be necessary in response to ice conditions in tidal influenced areas.

Other forms of artificial islands involve planting native marine plant species into landscaping fabric, which is then fixed to floating structures made of plastic piping or empty gabion baskets. This type of floating island requires careful placement in areas that do not have widely fluctuating salinity levels and require placement such that disturbance would be minimal when roots are establishing. Floating islands may be beneficial in terms of oxygenating the water column, as algal blooms would not smother the highly perched plants. The floating plants should, ideally, continue photosynthesizing despite the presence of algae, and may be of benefit in absorbing excess nutrients to deter algae growth. These islands would also likely require annual removal and reinstallation.

Cavity Nesting Waterfowl

Cavity nesters such as the Common Goldeneye (also known as pie duck or whistler, *Bucephala clangula*) use abandoned woodpecker holes or natural tree cavities caused by disease, fire or lightning. In the absence of these natural cavities, they will also use constructed nest boxes (Figure 16). These shelters need to be installed and placed correctly to increase the success of nest box usage. In partnership with Conservation Officers and Scouts in the region, Labrador West is already home to many of these boxes.

When installing nest boxes, there are important guidelines (see Appendix 5) which will help increase nest box usage. When nest boxes are to be installed, the Wildlife Division staff often includes a map where the nest boxes should be placed to encourage use by target duck species. It will also help ensure that the placement of nest boxes will enhance wetlands that are included in the Stewardship Agreement signed by the community.

Please mark the location of the nest boxes using GPS on your phone or with a GPS unit; for assistance, contact the Wildlife Division or a local conservation officer. It is important that we receive coordinates for nest boxes for reporting and maintenance purposes. Nest boxes can be mounted on tree trunks (preferably dead but solid trees) that extend slightly over the water's surface. Nest boxes may be placed on metal poles close to the edge of a pond, but we advise extreme caution in this situation so that snowmobilers do not run into your poles during winter months.

Nest boxes can be mounted on tree trunks (preferably dead but solid trees) that extend slightly over the water's surface. Nest boxes may be placed on metal poles close to the edge of a pond, but we advise extreme caution in this situation so that snowmobilers do not run into your poles during winter months. If there is even a slim chance that someone could run into the metal pole, we suggest that you find another way to install your nest box.

Good placement would involve a dead tree standing along a shore. Better placement would be on a solid tree standing in water. Suitable placement would also be on a metal pole in a safe area (with no danger of being hit by motorized vehicles), on a



Figure 20. Cavity Nest Box in Cobb's Pond, Gander. Photo by Wildlife Division

shoreline next to a dead or flooded tree, firmly planted into the pond or marsh bottom. Boxes can be placed on live spruce or larch, but may loosen as the tree continues to grow. If using a live tree, remember to clear away limbs from just on top of the box so that squirrels and marten don't end up jeopardizing the lives of your ducklings. Keep in mind that beaver may chew live hardwoods like birch, so placement on these trees should be avoided, as you will soon be wondering where your nest box went!

Boxes should be placed above typical high water levels at a height that still allows you to clean (annually) and monitor the boxes. Ideally, boxes will be placed as high as possible, but at least 4 to 6 feet (1.2-1.8 m) above the water's surface. Boxes should be placed on trees that bend slightly over the water's surface. When ducklings are ready, the adult will force them out of the entrance of the nest box and it is important that the box be positioned appropriately or the duckling may not fledge successfully. Badly placed boxes have been known to jeopardize lives of ducklings.

Place your nest box close to water and clear a path (of any small branches, etc.) so that ducks have a direct line of access from the water. The entrance hole should face the water. Do not place boxes so close together that competition will occur. As a rule, boxes should be placed no closer than 50 meters (164 feet) apart (one nest box per acre is considered acceptable) and shouldn't be placed where ducks can see each other from neighboring boxes.

Boxes must be maintained every year (with winter months being the preferred time for maintenance) by scraping out old planar shavings and replacing with new, clean, planar shavings. It is very important not to use sawdust as the pieces are too small and can suffocate ducklings. A garden store or sawmill would be an easy source for planar shavings or mulched wood. Eight to ten centimeters of clean wood shavings should be placed in the bottom of the box before breeding season. Hens will reject nest boxes that do not have shavings, and eggs could freeze if there are not enough shavings in the bottom of the box.

Common Goldeneye can raise multiple broods in a well-maintained and suitably placed nest box. If you are lucky, you will see ducklings leaving the box (although you should avoid checking the during important times like hatching and fledging), but mostly you will find signs left in the box when you prepare for its annual maintenance. You should look for light coloured duck down, bits of egg shell or shell-membrane (like a piece of paper) left behind when duckling hatch and mixed up wood shavings. Ducklings in the area indicate there are breeding adults nearby and it is quite possible that they have used the nest boxes provided. It is also a great idea to keep in mind that other birds and small mammals may have used the nest boxes as well.

Installing nest boxes is a very exciting activity to help enhance waterfowl in the conservation areas around your community. It does, however, take time, commitment and maintenance and if any technical advice or help is needed it is advised to contact the staff of the Wildlife Division. See Appendix 5 for the design and maintenance of a variety of cavity nest boxes and bat boxes.

Roosting and nesting structures for other species

There are a variety of roosting and nest structures (Appendix 5) which can be built, installed and monitored/maintained for other bird species such as Tree Swallows (*Tachycineta bicolor*), Northern Flicker (*Colaptes auratus*), Great Horned Owl (*Bubo virginianus*) and for bats (Figure 20). This could prove beneficial to local farmers in that many bird species (as well as bats) feed on insects and may serve as natural pest control. In addition, providing nests for certain birds may also help reduce (or keep in check) populations of birds that may not be desirable to farmers [e.g. American Crow (*Corvus brachyrhynchos*), European Starling (*Sturnus vulgaris*)] and rodents such as mice while increasing biodiversity on the agricultural landscape.



Figure 21. Bat Roosting Box in Salmonier Nature Park.
Photo by Wildlife Division

Educational Programs

Public education can help foster a greater sense of habitat stewardship among town residents. Even interpretive signs (including the ones provided by SAM, Appendix 4) can contribute to an increased understanding and appreciation of local wildlife. There are several well developed wetland education programs that span every season and age group including *Wetlands in Winter* (Tantramar Wetlands Centre, weted.com), *Marsh Bingo* and *Creatures of the Night* (Oak Hammock Marsh Interpretive Centre, oakhammockmarsh.ca), *Junior Naturalists* (Wye Marsh Wildlife Centre, wyemarsh.com), *Project Webfoot* (Ducks Unlimited Canada, ducks.ca). Several night programs also exist that would be appropriate for guide and scout troupes.

Project Wild

Project Wild is an educational program conducted by the Newfoundland and Labrador Wildlife Division and is aimed at youth from kindergarten to grade six. Its goal is to develop awareness, knowledge, skills and commitment resulting in informed decisions, responsible behavior and constructive actions concerning wildlife and the environment upon which all life depends. Project Wild is not just "wildlife" education. It is a broad environmental education program focusing on wildlife. Wildlife is used as a tool that naturally captures student interest and as a symbol for the fragility of the environment providing a means to also educate youth about the value of wetlands for waterfowl.

Backyard Habitat for Canada's Wildlife

This habitat awareness initiative by the Canadian Wildlife Federation is administered in conjunction with the Wildlife Division's Salmonier Nature Park. This program enables you to become an active participant in helping wildlife and in enhancing habitat for wildlife use. *Backyard Habitat for Canada's Wildlife* is a program that offers immediate, specific and inexpensive suggestions on how to make life better for wildlife in a particular habitat.

Nature and Art

Some stewardship communities have used the wetlands and associated wildlife as opportunities to also serve as a natural location to bring together nature and art. This can be simpler if a central building or interpretation area is present on site. Local art classes and drama groups use the freedom afforded by an outdoor theatre for educational exercises. This could involve field trips whereby students could interpret natural beauty through various mediums (chalk, paint, etc.) or a day of sketching to the sound of nature or music. Being innovative in efforts to assemble art supplies might include visiting sites like crayola.com which offer special resource grants to educators.

Similarly, drama classes could develop a play or a series of dramatic readings based upon wetlands or nature with evening delivery within a lighted amphitheatre. Several amphitheatres in Eastern Canada utilize the open-air concept to show nature-related videos or videos with an environmental message outdoors in the

evenings. Videos could be tailored to various ages and could include nature-related craft projects within the Eco-museum shelter as a follow up. Good starting points for videos and educational nature-oriented projects for children include hookedonnature.org, planetpals.com, and hctfeducation.ca/resource-room

Hunter Skills Workshops

A municipality may be able to partner with a local rod and gun club, the Wildlife Division (Conservation Services), and other partners to participate in hosting a *Youth Hunter Skills Workshop*. These events are sponsored by the Wildlife Division and require significant volunteer commitment, organization, and expertise. However, they can be very rewarding for participants and foster a sense of stewardship among youth and teenagers. These workshops have taken place in communities such as Goose Bay, Gander, Lewisporte, and St. John's which have active rod and gun clubs or hunting associations nearby. Similarly, the *Becoming an Outdoorswoman* program can help introduce women in the community to sustainable, legal hunting and fishing and is offered yearly through the Wildlife Division in various communities.

Ducks Unlimited Canada's Youth Programs

Project Webfoot

Educating youth about wetlands and waterfowl is a major part of Ducks Unlimited Canada's mission. The award-winning *Project Webfoot Wetland Education Program* is a comprehensive program linked to the senior elementary curriculum in grades 4 to 6 (habitats & communities, biodiversity, food webs and adaptations). Learning resources and field trips to a local wetland are available to sponsored classes. There are also many teacher and student resources for Grade 4 through high school at ducks.ca which provide great links with the school curriculum.

Wetland Heroes

Another program offered through Ducks Unlimited Canada includes Wetland Heroes which act to protect wetlands for wildlife and people in their local community. Whether you're one person, a group of friends, a class, club or school there are many ways you can make a difference from letter writing to fundraising and habitat enhancement projects and more. To become an official Wetland Hero one can register at ducks.ca and describe the great conservation work that is being done to help protect wetlands. Wetland Heroes receive a certificate and a special token of appreciation from Ducks Unlimited Canada. With permission, selected Wetland Heroes may be featured online or in publications.

Habitat Enhancement

In some wetland areas, the surrounding habitat has already been degraded or lost and could benefit from the planting of wetland and waterfowl “friendly” plants. Many aquatic plant species can remove large quantities of pollutants from water. These plants improve water condition by absorbing excessive amounts of nitrogen, phosphorous, and carbon – substances associated with the occurrence of algal blooms. Many beneficial plant species have limited distribution in Newfoundland, and should not be introduced to the sensitive ecosystem of the estuary without consideration of the potential consequences, including the possibility of invasive plants out-competing native plant species. Appendix 6 provides a guide to many potentially useful plant species which may be helpful for planting or restoration projects. The closest Ducks Unlimited Chapter to Labrador City is in Churchill Falls and could perhaps act as a partner on some future projects as well; they could be contacted through du_newfoundland@ducks.ca.

Often, the natural balance within an ecosystem can be changed when new species are introduced. The relationships that develop between plants and animals may also change within a particular habitat. Introduced species are referred to as *exotic species* if they are not native to an area. Competition naturally exists between organisms within an ecosystem but the introduction of exotic, or non-native, species can alter the balance within the ecosystem and have negative effects upon the natural populations within the region and the whole ecosystem.

Eelgrass (*Zostera marina*) is an aquatic grass is known to have significant value for waterfowl and providing habitat for many aquatic species such as juvenile salmon and trout. It is possible to encourage the growth of eelgrass beds through an inexpensive project of habitat management and shoot transplantation from a nearby donor site. A thorough site evaluation would have to be initiated in consultation with staff of the Wildlife Division to assess the topography of the coastal area, water salinity and substrate suitability before proceeding with the project. However, projects encouraging eelgrass bed establishments have been successfully completed in areas across Canada.

Some species of Willow (*Salix* sp.) and Alder (e.g. Green Alder, *Alnus viridis crispa*) are native to the island of Newfoundland, found on the Avalon Peninsula, and are renowned for their hardiness, ability to withstand tidal inundation, and extensive root networks. Their ability to uptake excess nutrients from the water column would make these native species an important addition to coastal shorelines. In addition to bank stabilizing properties and nutrient uptake characteristics, willow and alder buds and shoots are an important food source for small mammals like Muskrat (*Ondatra zibethicus*) and Snowshoe Hare (*Lepus americanus*), and bird species like Ruffed Grouse (*Bonasa umbellus*) and Evening Grosbeaks (*Coccothraustes vespertinus*).

Three-Square Bulrush (*Scirpus americanus*), Salt Water Cord Grass (*Spartina alterniflora*), Wild Rye (*Elymus virginicus*) and Blue-joint Grass (*Calamagrostis canadensis*) are all native to the island portion of Newfoundland and would all

supply food to estuary inhabitants including waterfowl. Tall stands of established Cord Grass and Wild Rye also offer a great deal of shade and cover to waterfowl and may lower water temperature to prevent algal blooms.

Blue-joint Grass (*C. canadensis*) and Dune Grass (*Ammophila breviligulata*) can stabilize banks and shorelines. Once established these grasses provide a great deal of cover and concealment to waterfowl. Low growing native shrubs may be interspersed with either grass species to enhance the desired effect of seclusion.

Various retailers throughout the province may have expertise in selecting, planting, and caring for native plants or experience with restoration projects. Timothy Murray, a landscape architect at Murray's Garden Centre and Horticultural Services in Portugal Cove is knowledgeable about ecological restoration and can be contacted at timothymurray@murraysgardens.com for any potential projects.

Litter Removal

Community interest groups and individual residents can work cooperatively to remove the large quantity of litter in and around all portions of the community on a regular basis. It is important to avoid times or locations when waterfowl may be disturbed during breeding, staging or brood rearing periods (generally May to August). Programs such as the Marine Institute's Ocean Net (mi.mun.ca) and the Great Canadian Shoreline Cleanup (shorelinecleanup.ca) assist communities in organizing litter cleanups, and a comprehensive guide to how to host your first litter cleanup can be found here:

shorelinecleanup.ca/sites/default/files/gcscstaff/SC_Guide_EN.pdf

Conclusion

We hope the ideas in this guide have started you thinking about possible ways your committee and your community could become involved in protecting and enhancing wildlife habitat in your area. Keep an eye on samnl.org, where additional resources are added regularly. Remember, involving local people is the true strength of a Stewardship Agreement!

Appendix 1: Labrador City Municipal Stewardship Agreement

MUNICIPAL STEWARDSHIP AGREEMENT

THIS AGREEMENT made at the Town of Labrador City, in the province of Newfoundland and Labrador, this 7 day of March 2005.

BETWEEN: **HER MAJESTY THE QUEEN IN RIGHT OF NEWFOUNDLAND AND LABRADOR**, as represented by the Honourable the Minister of Environment and Conservation

(hereinafter called the "Minister")

-of the one part-

AND: THE TOWN COUNCIL OF THE TOWN OF LABRADOR CITY, a corporation pursuant to Section 15 of the *Municipalities Act, 1999*

(hereinafter called the "Town")

-of the other part -

WHEREAS the Government of Newfoundland and Labrador has entered into an Agreement with others for the implementation of the North American Waterfowl Management Plan through the Eastern Habitat Joint Venture;

AND WHEREAS the parties hereto recognize that the proper protection and management of both wetland and upland habitats are fundamental tools in maintaining and enhancing waterfowl populations in the province;

AND WHEREAS the Minister proposes that certain important wetlands and associated wildlife habitat within the Town be protected and enhanced through and with the cooperation of the Town in accordance with this Agreement and the Habitat Management Plan developed hereafter;

AND WHEREAS the Town has agreed to enter into the Agreement for the purpose of protecting and enhancing those areas of important wetland habitat within its jurisdiction.

NOW THEREFORE IT IS AGREED BY THE PARTIES AS FOLLOWS:

1. The lands herein delineated and designated as a Stewardship Zone (being the lands outlined on a certain Schedule annexed hereto and marked "A") shall be managed in accordance with the terms and conditions of this agreement including any Habitat Management Plan developed hereunder for better protection of the wetlands for waterfowl and other wildlife.
2. Within the Stewardship Zone, the Parties will establish the Management Units identified in Schedule "A" and other Management Units as may be desirable from time to time which shall be subject to the terms and conditions of a Habitat Management Plan designated to enhance and protect wetland habitats, the waterfowl and other wildlife which use those habitats.
3. The Habitat Management Plan shall be developed in cooperation with the Town and the Minister agrees to provide such advice and expertise necessary or advisable for the development of the Habitat Management Plan.
4. The Town agrees that in the preparation of a Municipal Plan for the Town or any amendments to any existing Municipal Plan, the areas designated as Management Units shall be recommended by the Town to be appropriately declared protected areas under subsection 13(3) of the *Urban and Rural Planning Act, 2000* (or such other legislation in amendment or substitution thereof as may be brought into effect from time to time). The Town in passing regulations or by-laws related to the protected areas so designated under the Municipal Plan or amendments thereto and which may affect the Stewardship Zone shall do so in consultation with the Minister and in keeping with the principals of this Agreement.
5. The parties to this agreement, their consultants, servants, or agents, shall have and exercise reasonable rights of access to the Stewardship Zone for all purposes necessary or incidental to this Agreement and in particular, but without limiting the generality of the foregoing, for the purpose of developing and carrying out the Habitat Management Plan.
6. Each of the parties hereto agrees that they will exercise their best efforts to further develop management measures for the more effectively carrying out of their mutual intentions as expressed in this Agreement.

OFFICE OF THE REGISTRAR OF DEEDS AND MORTGAGES

IN WITNESS WHEREOF the parties have caused these presents to be executed in accordance with their respective rules and regulations the day and year first before written.

SIGNED SEALED AND DELIVERED

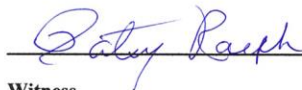
by the Honourable the Minister
of Environment and Conservation
in the presence of:



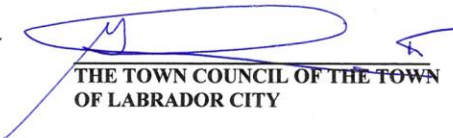
Witness

**THE HONOURABLE THE MINISTER
OF ENVIRONMENT AND
CONSERVATION**

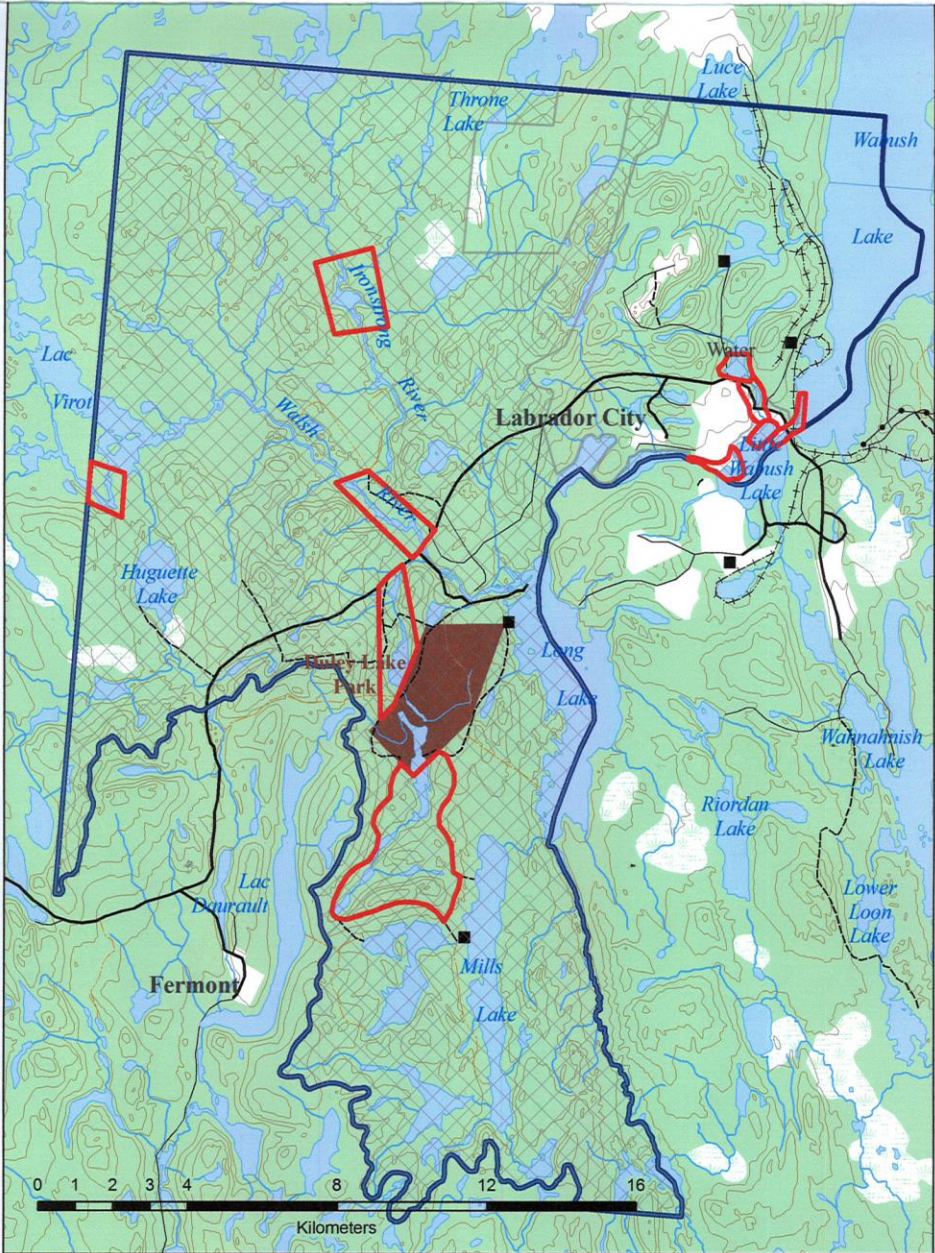
THE SEAL OF the Town Council of
the Town of Labrador City
hereunto affixed in the
presence of:



Witness



**THE TOWN COUNCIL OF THE TOWN
OF LABRADOR CITY**



LEGEND

Labrador City Management Units	Buildings
Labrador City Stewardship Zone	Provincial Park
Labrador City Municipal Planning Boundary	Vegetation
road	Water
aband. railway	Wetlands
gravel < 2 lanes	Barren
misc. gravel	Woodland
trail	
powerline	
Contour Index	
Streams	



NL Gazette 89/1- March 14, 2014

NOTICE OF REGISTRATION
TOWN OF LABRADOR CITY
MUNICIPAL PLAN
AMENDMENT No. 7, 2013, and
DEVELOPMENT REGULATIONS
AMENDMENT No. 20, 2013

TAKE NOTICE that the TOWN OF LABRADOR CITY Municipal Plan Amendment No. 7, 2013, and Development Regulations Amendment No. 20, 2013, as adopted by Council on the 22nd day of October, 2013, has been registered by the Minister of Municipal and Intergovernmental Affairs.

In general terms, Municipal Plan Amendment No. 7, 2013, will amend Municipal Plan Policy 3.1.12, Habitat Management Plan and re-designate a large area of land bound on the west by the Town's Planning Area Boundary, surrounding the northern section of Mills Lake and bound on the east by the Waldorf River at the eastern Planning Area Boundary, from Mining Reserve-Rural to Mineral Extraction. The Amendment will also delete the southern section of the Pike Lake South Habitat Management Unit (2). A new habitat unit shall be designated as Strawberry Lake Habitat Management Unit (10), located at the southeast section of the Town's Planning Area Boundary.

Development Regulations Amendment No. 20, 2013, will re-zone the same area of land as described above from Mining Reserve-Rural (MRR) to Mineral Extraction (ME). The Amendment will also delete the southern section of the Pike Lake South Habitat Management Unit (2). A new habitat unit shall be established as Strawberry Lake Habitat Management Unit (10), located at the southeast section of the Town's Planning Area Boundary.

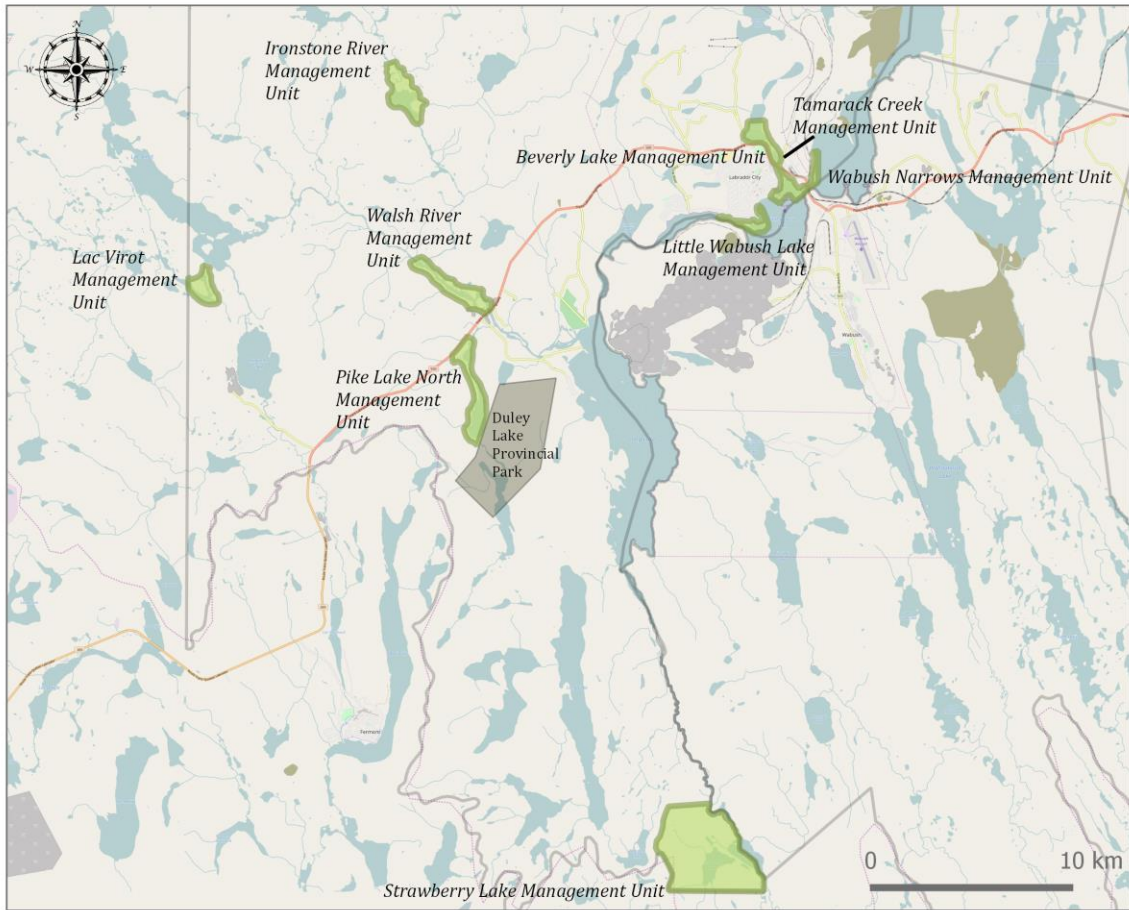
The TOWN OF LABRADOR City Municipal Plan Amendment No. 7, 2013, and Development Regulations Amendment No. 20, 2013, comes into effect on the day that this notice is published in The Newfoundland and Labrador Gazette. Anyone who wishes to inspect a copy of the Town of Labrador City Municipal Plan Amendment No. 7, 2013, and Development Regulations Amendment No. 20, 2013, THE NEWFOUNDLAND AND LABRADOR GAZETTE may do so at the Town Office, Labrador City during normal working hours.

TOWN OF LABRADOR CITY
Diane Gear, Town Manager
Mar 14

Overview of Management Units

Municipal Habitat Stewardship Agreement

Town of Labrador City, Newfoundland and Labrador, Canada



Legend



- Management Units
- Planning area boundaries
- Provincial protected areas
- Public Water Supplies
- Major roads
- Minor roads
- Water bodies



Projection Information
 WGS 84 EPSG: 3857
 November 25th 2016

Appendix 2: Bird Species found in the Town of Labrador City

The 75 species of birds noted in Wildlife Division surveys in 2006 are listed here; however, a full 165 species of birds have been sighted in the Town of Labrador City and the complete list can be found here: ebird.org/ebird/hotspot/L1175793

Waterfowl and Gulls:

American Black Duck	<i>Anas rubripes</i>
American Wigeon	<i>Anas americana</i>
Black Scoter	<i>Melanitta nigra</i>
Canada Goose	<i>Branta canadensis</i>
Common Goldeneye	<i>Bucephala clangula</i>
Common Loon	<i>Gavia immer</i>
Common Merganser	<i>Mergus merganser</i>
Greater Scaup	<i>Aythya marila</i>
Green-winged Teal	<i>Anas crecca</i>
Harlequin Duck	<i>Histrionicus histrionicus</i>
Hooded Merganser	<i>Lophodytes cucullatus</i>
Lesser Scaup	<i>Aythya affinis</i>
Long-tailed Duck	<i>Clangula hyemalis</i>
Mallard	<i>Anas platyrhynchos</i>
Northern Pintail	<i>Anas acuta</i>
Red-breasted Merganser	<i>Mergus serrator</i>
Ring-necked Duck	<i>Aythya collaris</i>
Surf Scoter	<i>Melanitta perspicillata</i>
White-winged Scoter	<i>Melanitta nigra</i>
Wood Duck	<i>Aix sponsa</i>
Great Black-backed Gull	<i>Larus marinus</i>
Herring Gull	<i>Larus argentatus</i>
Glaucous Gull	<i>Larus hyperboreus</i>
Ring-billed Gull	<i>Larus delawarensis</i>
Common Tern	<i>Sterna hirundo</i>
Lesser Black-backed Gull	<i>Larus fuscus</i>

Birds of Prey:

Northern Harrier	<i>Circus cyaneus</i>
Osprey	<i>Pandion haliaetus</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Golden Eagle	<i>Aquila chrysaetos</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Rough-legged Hawk	<i>Buteo lagopus</i>
Boreal Owl	<i>Aegolius funereus</i>

Wading Birds:

Semipalmated Plover
Killdeer
Lesser Yellowlegs
Semipalmated Sandpiper
Least Sandpiper
Wilson's Snipe
American Bittern
American Pipit
Greater Yellowlegs

Charadrius semipalmatus
Charadrius vociferus
Tringa flavipes
Calidris pusilla
Calidris minutilla
Gallinago delicata
Botaurus lentiginosus
Anthus rubescens
Tringa melanoleuca

Passerine (Perching) Birds:

American Robin
Black-capped Chickadee
Blue Jay
Ruby-crowned Kinglet
White-winged Crossbill
Yellow-rumped Warbler
Evening Grosbeak
Fox Sparrow
Rusty Blackbird
Snow Bunting
Tree Swallow
White-throated Sparrow
Yellow-rumped Warbler
Mourning Dove
Pine Grosbeak
Bohemian Waxwing
Common Redpoll
White-crowned Sparrow
Dark-eyed Junco
Purple Finch
Red-breasted Nuthatch
Boreal Chickadee
Belted Kingfisher
Chipping Sparrow
Red-wing Blackbird
Hoary Redpoll

Turdus migratorius
Parus atricapillus
Cyanocitta cristata
Regulus calendula
Loxia leucoptera
Dendroica coronata
Coccothraustes vespertinus
Passerella iliaca
Euphagus carolinus
Plectrophenax nivalis
Iridoprocne bicolor
Zonotrichia albicollis
Dendroica coronate
Zenaida macroura
Pinicola enucleator
Bombycilla garrulus
Carduelis flammea
Zonotrichia leucophrys
Junco hyemalis
Carpodacus purpureus
Sitta canadensis
Poecile hudsonicus
Megaceryle alcyon
Spizella passerina
Agelaius phoeniceus
Carduelis hornemanni

Nonpasserine Birds:

Grey Jay
Common Raven
American Crow
Northern Flicker
Willow Ptarmigan
Spruce Grouse

Perisoreus canadensis
Corvus corax
Corvus brachyrhynchos
Colaptes auratus
Lagopus lagopus
Falciennnis canadensis

Appendix 3: Other Wildlife Species found in Labrador City's Stewardship Zone

Fish

Longnose Sucker	<i>Catostomus castostomus</i>
White Sucker	<i>Castostomus commersonii</i>
Lake Whitefish	<i>Coregonus clupeaformis</i>
Mottled Sculpin	<i>Cottus bairdii</i>
Slimy Sculpin	<i>Cottus cognatus</i>
Northern Pike	<i>Esox lucius</i>
Burbot	<i>Lota lota</i>
Round Whitefish	<i>Prosopium cylindraceum</i>
Atlantic Salmon (ouananiche)	<i>Salmo salar</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Lake Trout	<i>Salvelinus namaycush</i>

Mammals


Wolf	<i>Canis lupus</i>
Beaver	<i>Castor canadensis</i>
Porcupine	<i>Erethizon dorsatum</i>
Snowshoe Hare	<i>Lepus americanus</i>
Canada Lynx	<i>Lynx canadensis</i>
Muskrat	<i>Ondatra zibethicus</i>
Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Red Fox	<i>Vulpes vulpes</i>
Moose	<i>Alces alces</i>
Black Bear	<i>Ursus americanus</i>

Appendix 4: Example of a Trail Interpretive Sign


WELCOME TO STEADY BROOK'S MUNICIPAL HABITAT Stewardship Areas

The Town of Steady Brook and the Government of Newfoundland and Labrador signed a Municipal Habitat Stewardship Agreement in July 2011, committing to the conservation and enhancement of wildlife habitat within the town's planning boundaries.

Two Management Units within the Town of Steady Brook cover approximately 27 acres of wetland habitat and include the mouth of Steady Brook and its adjacent cattail marsh, as well as a small marsh near the eastern end of the town's boundaries.




The Town of Steady Brook is a leader in wildlife conservation in a chain of committed partners across North America. In eastern Canada, this partnership is known as the Eastern Habitat Joint Venture (EHJV).



Mouth of Steady Brook and Adjacent Cattail Marsh:
Located where Steady Brook joins with the Humber River and is comprised of shallow channels of open water surrounded by overhanging shrubs, primarily Sweet Gale (*Myrica gale*).

The adjacent marsh contains a large quantity of shallow, open water separated by a patchwork of emergent vegetation such as Cattail (*Typha latifolia*), which dominates the area.

Grasses, such as Reed Canary Grass (*Phalaris arundinaceae*) and Rushes (*Juncus sp.*), provide suitable feeding and nesting habitat for many waterfowl species.




Marsh at the Eastern Boundary of Steady Brook:
Located along the edge of the Humber River at the eastern end of the town and also contains habitat suitable for nesting and staging waterfowl and other wildlife species. This area is located on private property and is not accessible by land.


The marsh is partially inundated and dominated by tall emergent grasses, rushes, sedges and other herbs and shrubs such as Blue Flag Iris (*Iris versicolor*), Horsetail (*Equisetum sp.*) and Sweet Gale (*Myrica gale*). Adjacent upland habitat surrounding this wetland consists primarily of mixed boreal forest.

Explore Steady Brook's wildlife diversity

<p>Waterfowl</p> <ul style="list-style-type: none"> American Black Duck (<i>Anas rubripes</i>) Common Goldeneye (<i>Bucephala clangula</i>) Common Merganser (<i>Mergus merganser</i>) Ring-necked Duck (<i>Aythya collaris</i>) Common Loon (<i>Gavia immer</i>) 	<p>Songbirds</p> <ul style="list-style-type: none"> American Goldfinch (<i>Carduelis tristis</i>) Cedar Waxwing (<i>Bombycilla cedrorum</i>) Song Sparrow (<i>Melospiza melodia</i>) Tree Swallow (<i>Ichthyophaga bicolor</i>) Pine Siskin (<i>Carduelis pinus</i>) Dark-eyed Junco (<i>Junco hyemalis</i>) Black and White Warbler (<i>Mniotilta varia</i>) Blue Jay (<i>Cyanocitta cristata</i>) American Robins (<i>Turdus migratorius</i>) 	<p>Other bird species:</p> <ul style="list-style-type: none"> Belted Kingfisher (<i>Megasceryle alcyon</i>) Red-winged Blackbird (<i>Agelaius phoeniceus</i>) Common Grackle (<i>Quiscalus quiscula</i>) Common Ravens (<i>Corvus corax</i>) Osprey (<i>Pandion haliaetus</i>) American Bittern (<i>Botaurus lentiginosus</i>) 	<p>Other wildlife species:</p> <ul style="list-style-type: none"> Beaver (<i>Castor canadensis</i>) Muskrat (<i>Ondatra zibethicus</i>) Mink (<i>Mustela vison</i>) Snowshoe Hare (<i>Lepus americanus</i>) Atlantic Salmon (<i>Salmo salar</i>) Brook Trout (<i>Salvelinus fontinalis</i>) American Eel (<i>Anguilla rostrata</i>)
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CREDITS:
 Photography: Rick Stoltz, American Wetlands Society, Conservation Canada, Scott Grant, Dan MacPherson, Donna Reid, Steady Brook Marsh, Ash Arney, Pencil Design, Linda Siskin
 Produced by Wildlife Stewardship, Stewardship Institute





Appendix 5: Bird House Dimension and Placement (Ohio Division of Wildlife – Wildlife Diversity and Endangered Species Program)

Species	Specifications					
	Inches				Feet Above Ground	Preferred Habitat
	Entrance		Floor Dimensions	House Depth		
	Diameter	Above Floor				
Bluebird	1 ½	6-7	5 x 5	8-9	5-10	Open field with perches
Chickadee, black capped	1 ½	6-8	4 x 4	8-10	5-15	Woodland with perches
" Carolina	1 ½	6-8	4 x 4	8-10	6-15	Woodland
Flicker	2 ½	14-16	7 x 7	16-18	6-20	Woodland
Fly catcher, great crested	2	6-8	6 x 6	8-10	8-20	Woodland
Kestrel	3	9-12	8 x 8	12-15	10-30	Open field
Martin, purple	2 ½*	18	6 X 6*	6*	15-20	Open fields AWAY from trees & near water
Nuthatch, white-breasted	1 ¼	6-8	4 x 4	8-10	12-20	Woodland
Owl, barred	7 x 7 arch	12	12 x 12	23	20-23	Woodland
" screech-	3	9-12	8 x 8	12-15	10-30	
" barn	6 x 6	6	12 x 36	15-18	20-25	
Phoebe	Open front & sides		7 x 7	8	8-12	Backyard
Robin	Open front & sides		7 x 7	8	8-12	Backyard
Swallow, tree	1 ½	1-5	5 x 5	6	6-10	Open field near water
Titmouse, tufted	1 ¼	6-8	4 x 4	8-10	6-15	Woodland edge & interior
Warbler, prothonotary	1 ½	6	5 x 5	8	5-10	Over and near water
Woodpecker, downy	1 ¼	6-8	4 x 4	8-10	6-20	Woodland interior
" hairy	1 ½	9-12	6 x 6	12-15	12-20	
" red-bellied	2 ½	10-12	6 x 6	12-14	12-20	
" red-headed	2	9-12	6 x 6	12-15	12-20	
Wren, Carolina	1 ½	4-6	4 x 4	6-8	5-10	Near brushy areas & backyards
" house	1 ¼	4-6	4 x 4	6-8	5-10	

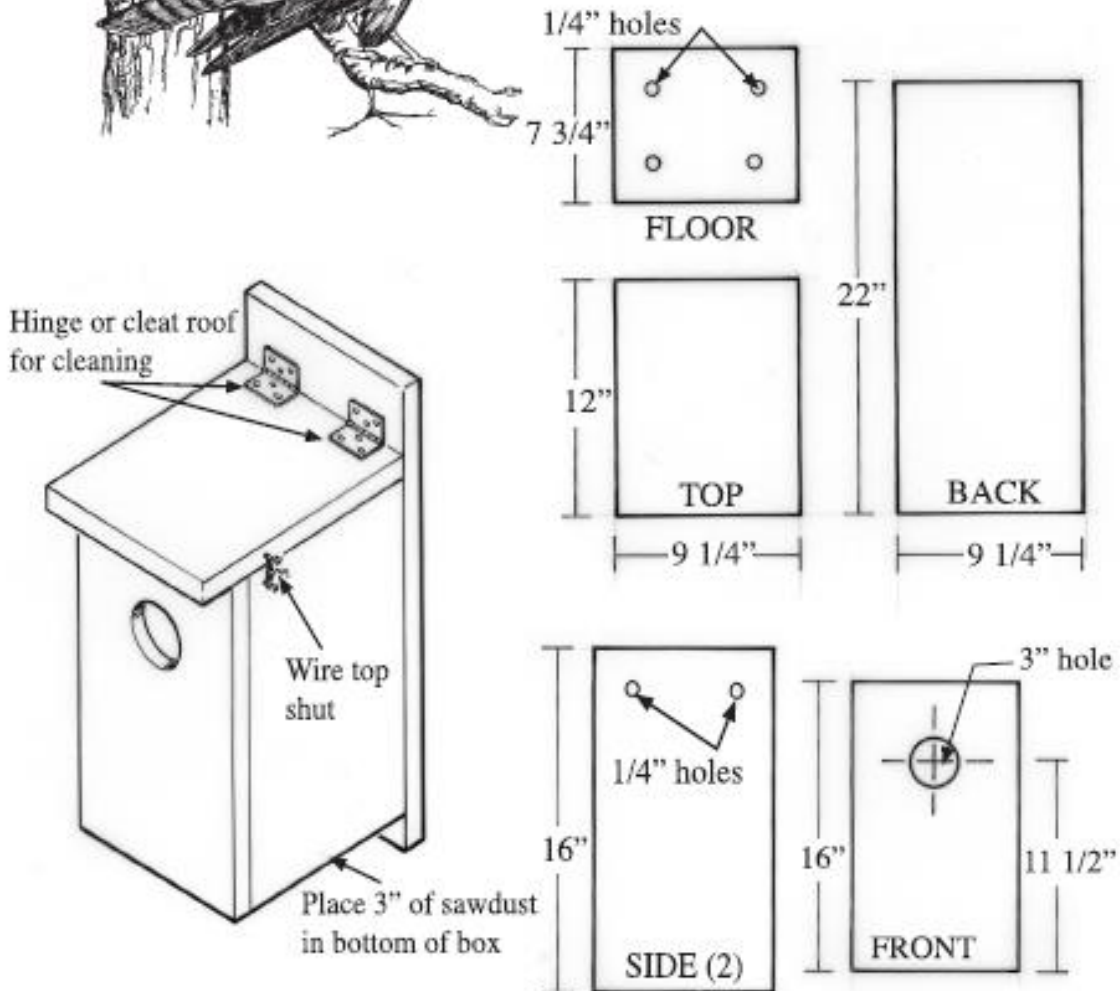
*These are the dimensions for one compartment. Martins nest in colonies; therefore, martin houses should have a minimum of six self-contained apartments.

Removing unwanted species such as starlings and house sparrows will increase your chances for nesting success.

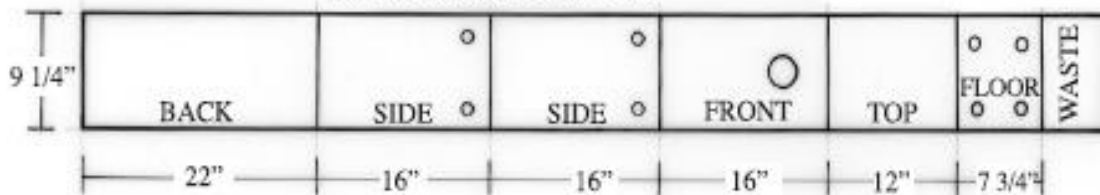
AMERICAN KESTREL, EASTERN SCREECH-OWL NEST BOX



Preferred habitat for owls includes mixed stands of deciduous forest on the edge of woods adjacent to fields or wetlands. Kestrels prefer more open country. To prevent use by squirrels, the box for owls can be placed on a pole with a predator guard. Boxes should be placed at least 10 feet high for owls, and 10 to 30 feet high for kestrels



LUMBER: One 1" x 10" x 8'0"

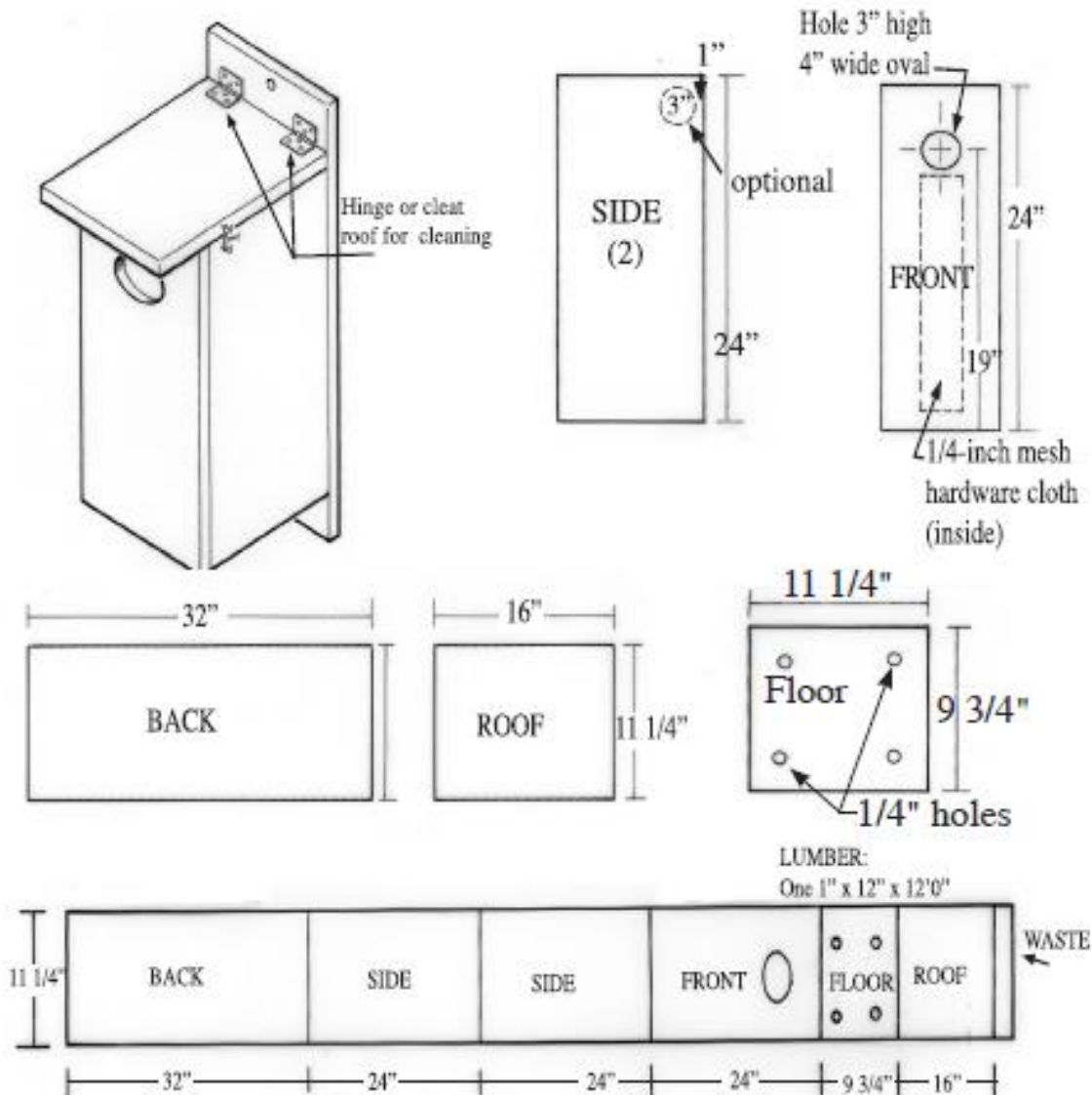


WOOD DUCK NEST BOX



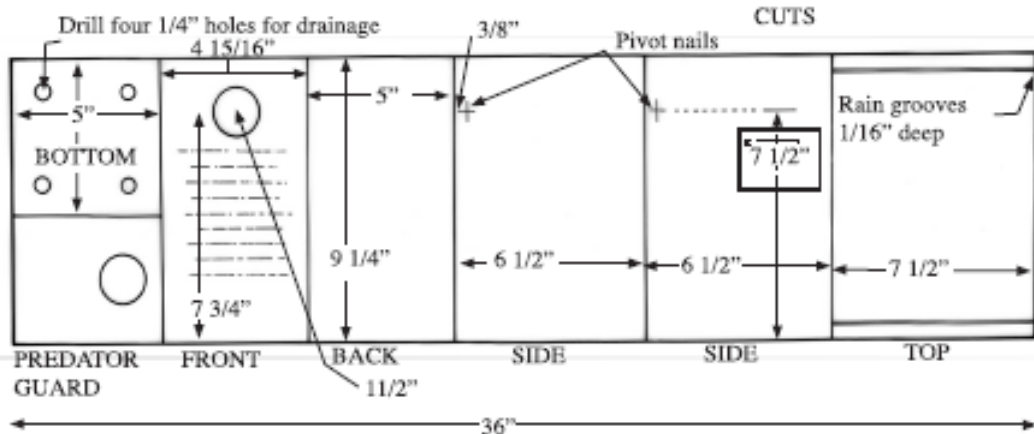
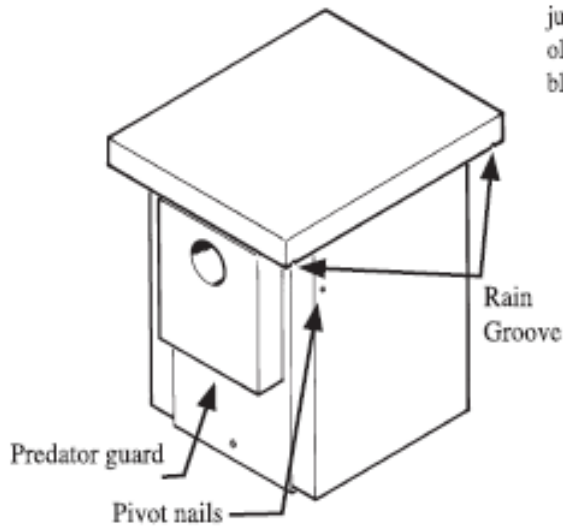
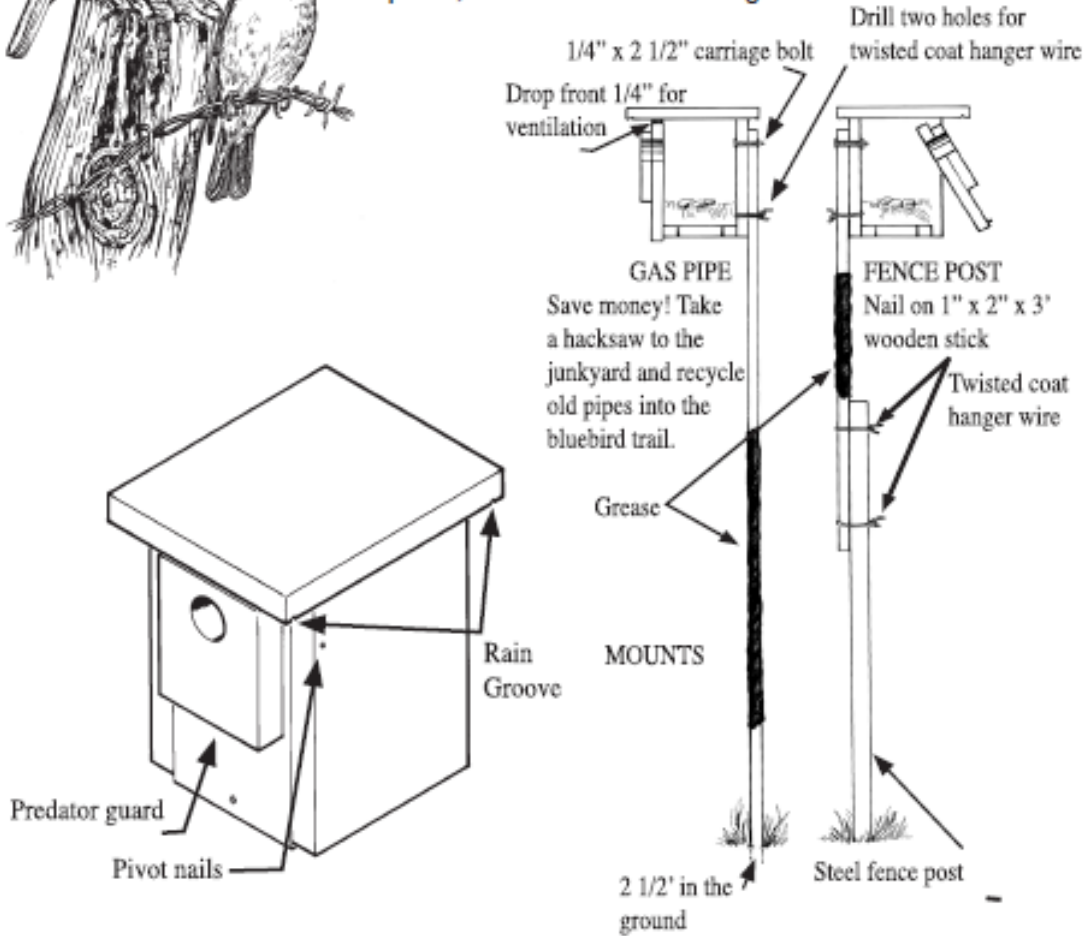
Boxes placed on posts in water should be six to eight feet above the water. Wood duck boxes can also be placed in woodland habitat up to a half mile from lakes, ponds, marshes, and rivers. Since the hen must lead her ducklings to water after they hatch, the habitat between the house location and the water's edge should be free of major obstacles, such as fences, highways, mesh wire, or curbing.

Cavity nesting ducks do not carry nesting materials. It is important to help them out by placing 2-4 inches of wood shavings (not sawdust) in the bottom of the box. Also, some type of predator guard should be used.

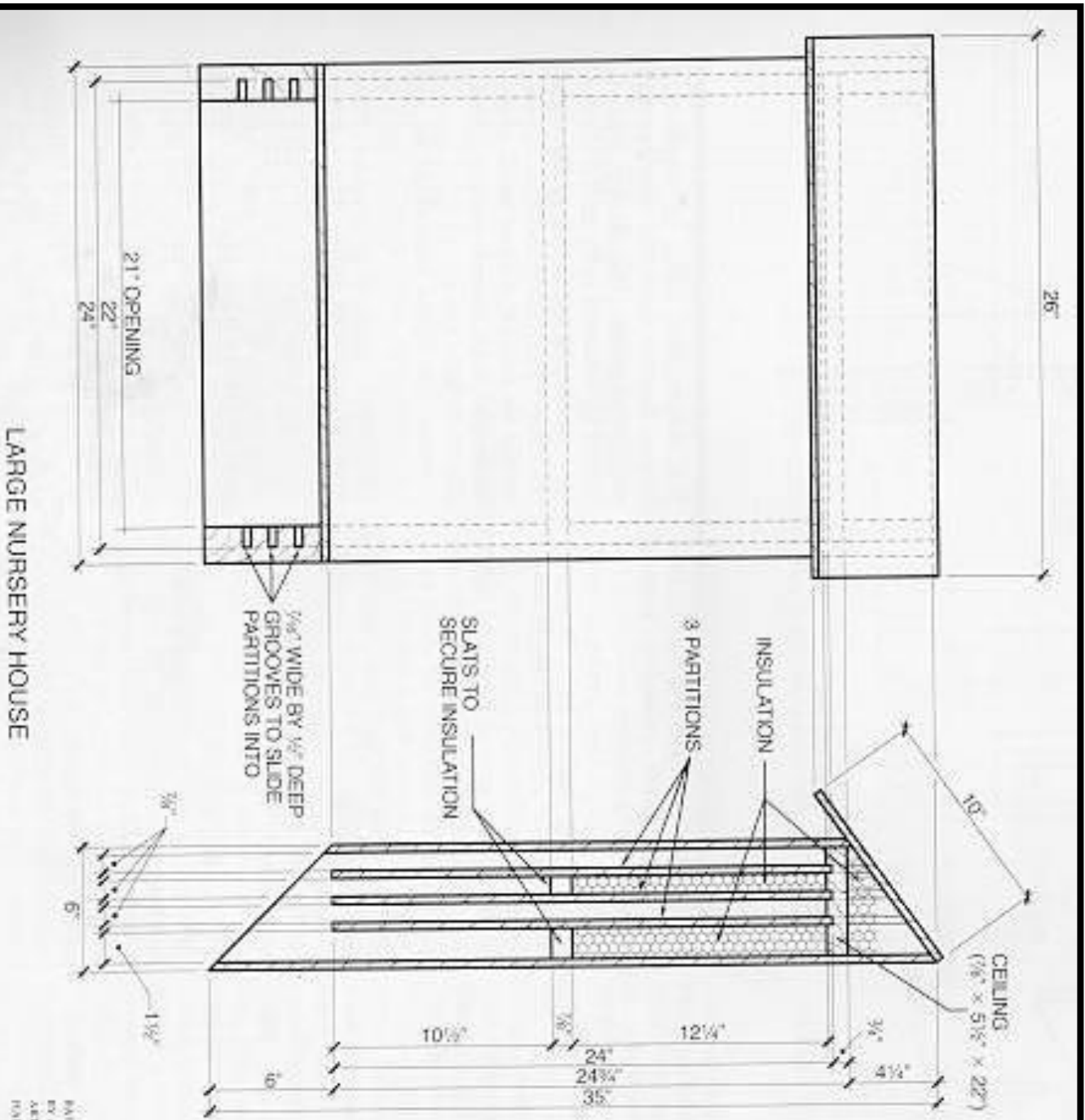


EASTERN BLUEBIRD, TREE SWALLOW NEST BOX

Ideal bluebird habitat is mixed hardwood forest and grasslands. The grassy areas may be meadows, pastures, yards, cemeteries, highway rights-of-way, or prairies. The most desirable grass for bluebirds and tree swallows is short or sparse, mowed or grazed. The area must also provide enough feeding perches. There can be power lines, fence posts, or scattered trees. Boxes should be mounted on posts, about five feet above ground.



Bat Roosting Boxes



- Materials needed:**
- One 6' piece of 4" x 6" lumber (sides)
 - One 22" piece of 1" x 6" lumber (ceiling)
 - One 4' x 8' piece 3/8" T-111 no-groove exterior plywood (front, back, three partitions, roof)
 - One 4' piece of 1" x 4" lumber (to cut slats to secure insulation; one 1 1/2" x 7/8" x 22" piece)
 - one 3/8" x 7/8" x 22" piece)
 - Two 24 1/2" x 21" pieces Reflexix insulation, folded double (upper chambers)
 - One 21" x 11 1/2" piece Reflexix insulation, folded double (attic)
 - Four 22" x 24" pieces hardware cloth (one piece each on one side of four chambers)

THE HOUSE PLANS AND DRAWINGS WERE DESIGNED BY A CERTAIN INDIVIDUAL FROM MICHIGAN, INC. ARTWORK BY TALK SCHINDLER AND PATRICIA HARTLEY.

Bat Box in Pynn's Brook, Western Newfoundland.



Photo by: Wildlife Division Staff

Appendix 6: Plants for ecological restoration

Species	Range	Site Requirements	Conservation Value
Grasses			
Clovers	Coast to coast	Full sun; wet soils bordering on streams, lakes, and wetlands	Food and cover for upland birds and mammals; nectar source for pollinating insects
Rough fescue	YT, NWT, BC, AB, SK, MB, ON, QC, NL	Full sun; dry to moist soils bordering on streams, lakes, and wetlands	Erosion control; vegetation buffer; food and cover for upland birds, mammals, and insects
Shrubs & small trees			
American mountain ash	Coast to coast	Full sun; wide range of soils	Vegetation buffer; wildlife food, cover, and nesting sites
Balsam-poplar	Coast to coast	Full sun to partial shade; prefers moist soils on shorelines	Erosion control; vegetation buffer; wildlife food, cover, and nesting sites
Blackberry	Coast to coast	Moist, well-drained soils	Vegetation buffer; fence row; food and cover for birds and mammals; butterfly nectar source
Elderberry	Coast to coast	Full sun to full shade; rich, moist soils	Food and cover for shoreline birds and mammals; butterfly nectar source
Highbush cranberry	AB, SK, MB, ON, QC, NB, NS, PEI, NL	Stream banks and lake shores; wide range of soils; shade tolerant	Erosion control; vegetation buffer; fence row; food for birds and mammals
Pussy-willow	Coast to coast	Full sun; deep, rich shoreline soils; moist to wet conditions	Vegetation buffer; fence row; nectar source for

			pollinators
Raspberry	YT, NWT, BC, ON, QC, NB, NS, PEI, NL	Wide range of soils; shade tolerant; flood tolerant; stream banks and lake shores	Erosion control; vegetation buffer; fence row; food and shelter for birds and mammals
Red-osier dogwood	Coast to coast	Full sun to partial shade in moist to wet soils; stream banks; lake shores; wetlands	Vegetation buffer; fence row; food, cover, and nesting sites for birds and mammals
Wild black currant	YT, NWT, AB, SK, MB, ON, QC, NB, NS, PEI, NL	Wide range of soils; moist to wet shorelines	Erosion control; vegetation buffer; fence row; wildlife food and cover; butterfly nectar source

Trees

Ash	Coast to coast	Alongside stream banks and lake shores; wet sites alongside wetlands; full sun to partial shade	Erosion control; vegetation buffer; fence row; wildlife food, cover, and nesting sites
Balsam-fir	YT, AB, SK, MB, ON, QC, NB, NS, PEI, NL	Wide range of moist, rich soils; drought resistant	Vegetation buffer; wildlife food, shelter, and nesting sites
Cedar	Coast to coast	Alongside stream banks and lake shores; wet sites alongside wetlands	Food and cover for marsh birds, songbirds, and mammals
Paper-birch	Coast to coast	Full sun to partial shade; wide range of moist soils	Erosion control; vegetation buffer; wildlife food and cover
Red maple	MB, ON, QC, NB, NS, PEI, NL	Wide range of shoreline soils; flood tolerant	Erosion control; vegetation buffer; wildlife food and cover
Shining Willow	SK, MB, ON, QC, NB, PEI, NS, NL	Moist to wet conditions	Erosion control; vegetation buffer; wildlife cover
Spruce	Coast to coast	Wet sites alongside lakes, streams, and	Vegetation buffer; wildlife food, cover, and nesting

		wetlands	sites
Tamarack	YT, NWT, ON, QC, NB, NS, PEI, NL	Alongside stream banks and lake shores; wet sites alongside wetlands	Vegetation buffer; food and cover for shoreline birds and mammals
Trembling aspen	MB, ON, QC, NB, NS, PEI, NL	Full sun to partial shade; wide range of shoreline soils	Erosion control; vegetation buffer; food and cover for shoreline birds and mammals
White pine	YT, NWT, BC, AB, SK, MB, ON, QC, NB, NS, PEI, NL	Wide range of soils; dry sites alongside wetlands	Food and cover for shoreline birds and mammals
Yellow birch	ON, QC, NB, NS, PEI, NL	Full sun to partial shade; moist shoreline soils	Erosion control; vegetation buffer; wildlife food and cover

Appendix 7: Bird viewing towers, blinds, and lookouts



Viewing Tower in Hankasalmi, Finland.
Photo: Wikipedia



**Enclosed bird blind with mural in Winterland.
Photo by Wildlife Division**



**Bird Blind in Grand Falls - Windsor, NL
Photo by Corduroy Brook Enhancement Association, corduroybrook.org**



**Image of viewing deck in Winterland, NL
Photo by Wildlife Division**