

City of Brantford Waterfront Master Plan

Bald Eagle Habitat Management Recommendations

*Round Table Working Session on Bald Eagles on the Grand River
December 16, 2009*

The Planning Partnership + PLAN B Natural Heritage

Organization of Meeting

Work program

Provincial Policy to protect Bald Eagles

Bald Eagles in the Region and Brantford

Sensitivity of Habitat

Management Recommendations

Part 1. Council Direction

Council directed the team to advance the work on habitat protection from the other components of the Environmental Management Plan to be prepared as part of the Waterfront Master Plan:

prepare a report providing **research around the issue of habitat protection and monitoring**

make recommendations to council concerning **appropriate safeguards and management practices to protect endangered species habitat**

Part 1. Team of Environmental Scientists

Brad Bricker

BA (Honours with Distinction) – Biophysical Geography/Environmental Studies

M.Sc. - Ecology

22 years of research and consulting experience

Certified Senior Ecologist (ESA)

Former 9 year member and Co-Chair of Halton Region EEAC

Tyler Hoar

BSc – Ecology

10+ years experience conducting bird research, including assignments with Bird Studies Canada and Canadian Wildlife Service.

Dr. Ross James

former curator of Ornithology at the Royal Ontario Museum and raptor expert.

Part 1. Species at risk

Bald Eagle is one of the species to be assessed in the habitat protection component of the Environmental Management Plan. Other species to be assessed are:

Endangered species: **Threatened species:**

American Badger

Chimney Swift

Butternut

Eastern Sand Darter

Snapping Turtle

Birdsfoot Violet

Part 1. Information Used

Field reconnaissance

Discussions with local residents, bald eagle project volunteers, and GRCA/MNR/City staff

National Bald Eagle Management Guidelines (U.S. Fish and Wildlife Service, 2007);

Bald Eagle Habitat Management Guidelines (Ontario Ministry of Natural Resources 1987)

Habitat management guidelines for Ontario's forest nesting accipiters, buteos and eagles (Ontario Ministry of Natural Resources - James, Ross D. 1984).

Best Management Practices for Raptor Conservation During Urban and Rural Land Development in British Columbia (LGL Limited 2005);

Forest Management Guide for Conserving Bio-Diversity at the Stand and Site Specific Scales (OMNR, Draft 2009);

New York City Parks and Recreation Department Bald Eagle Release Program – Inwood Park, Manhattan Island (NYCPRD 2007).

Part 1. Residents

A number of residents have provided valuable information including:

Adam Fernley

Mary Ellen Kaye

Ilse Kraemer

Bill Lasalle

Larry Mellors

Lou Nechtal

Vic Pendergast

Bob Scott

Lizette Sywyk

Tim Sywyk

Part 1. To clarify some assumptions

1. The data on bald eagles is American and not relevant to Canadian situations.

No. The data used by the US Fish and Wildlife Service is based on sound science and peer reviewed research. The guidelines are based on research conducted throughout North America including research conducted in urban areas. The guidelines suggested for Brantford are consistent with Ministry of Natural Resources protocol, as well as the guidelines used by the British Columbia Ministry of Environment for rural and urban development.

Part 1. To clarify some assumptions

- 2. The numbers of bald eagles are increasing because people are taking actions to restrict access at critical times.*

Bald eagles are increasing in number due to a number of environmental factors, most importantly a reduction in DDT and other contaminants within the food chain as well as improved water quality and fish stock in river and lake environments (main food source in addition to waterfowl). Bald eagles have a moderate to high tolerance to human activity and will utilize appropriate habitat in urban centres where they have a fidelity or tolerance to current conditions.

Part 1. To clarify some assumptions

3. The bald eagles will abandon their nest, stop brooding and stop laying eggs if people walk on the trail across the river.

Given that the eagles have selected this nest site and are fully aware of human presence in the immediate area, it is unlikely that the current level of activity (low level) should disrupt the life-cycle process. There are many environmental factors including climate and predation that can affect nesting success.

Part 1. To clarify some assumptions

4. *Bald eagles selected this nest site because the food sources were inadequate elsewhere along the Grand River.*

Adequate sources of food for eagles occur at different locations along the Grand River. The stretch of river in the northwest sector of Brantford is particularly noteworthy in that it remains ice-free for the majority of time which in turn supports wintering waterfowl, a staple food source of eagles during the winter. The stretch of river below Wilkes Dam also provides good fishing habitat for eagles. The protection of groundwater inputs to this section of the river is important both from a fisheries and bird habitat perspective (i.e. waterfowl and eagles).

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1. Work program
2. Provincial Policy to protect Bald Eagles
3. Bald Eagles in the Region and Brantford
4. Sensitivity of Habitat
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Part 2. Provincial Policy

Legislation protects Bald Eagles

The status of bald eagle in Southern Ontario was recently **changed from endangered to special concern**. Species listed as threatened, endangered and extirpated on the Ontario Species at Risk List are protected under the **Endangered Species Act (ESA) 2007**.

Although species listed as special concern are not afforded any specific protection under the ESA and related habitat regulations, their habitat may be considered as “significant” wildlife habitat under the **Natural Heritage policies of the Provincial Policy Statement (2005)**.

Part 2. Provincial Policy

The bald eagle is protected under the **Fish and Wildlife Conservation Act** (FWCA). The FWCA:

prohibits the hunting, trapping, and collecting of birds without the proper license or scientific permit.

the use of poison to kill birds is strictly prohibited.

the Act prohibits the taking or possession of eggs and nests of those species protected by the Act without a permit from the MNR.

Enforcement of the FWCA is done mainly by **Conservation Officers** employed by the MNR. The general penalty is a fine of not more than \$25,000, to imprisonment for a term of not more than one year, or both.

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Part 3. Bald Eagles in the Region

In 2009, there were 5 active bald eagle nests in the Grand River watershed (i.e. Dunnville Marshes, Caledonia, Brantford, and Luther Marsh).

Bald eagles have consistently wintered in the area since 2005/2006.

For the last several years, MNR has been compiling data from various sources (including a volunteer network) to develop an understanding of the abundance, distribution, behaviour patterns, and habitat requirements of bald eagles along a large length of the Grand River corridor between Kitchener and Brantford.

Part 3. Bald Eagles in Brantford

In December 2008, a pair of bald eagles (*Haliaeetus leucocephalus*) attempted to nest in a large Cottonwood tree, adjacent to the Grand River in the Brant Conservation Area, City of Brantford, Ontario.

This nesting attempt failed and may be attributed to this pair being inexperienced bald eagles attempting their first nest.

With proper protection of sustainable nesting, roosting and wintering habitats, another nesting attempt within the City of Brantford is highly probable.

A wintering population of bald eagles is considered rare in the province of Ontario (S1/S2N). This species is also considered rare within the City of Brantford within the breeding and non-breeding seasons. Accordingly, Bald Eagle may be regarded as "a species of conservation concern" under the Provincial Policy Statement.

Part 3. Bald Eagles in Brantford - winter

With open water (waterfowl habitat) during the winter, mature riparian forests, suitable perching trees adjacent to open water areas, robust fish populations, islands, secluded valleys, and an active nearby landfill site, the Grand River is quite attractive for bald eagles to spend the winter. Wintering bald eagles prefer secluded areas with mature trees and protection from inclement weather for their winter roosts.

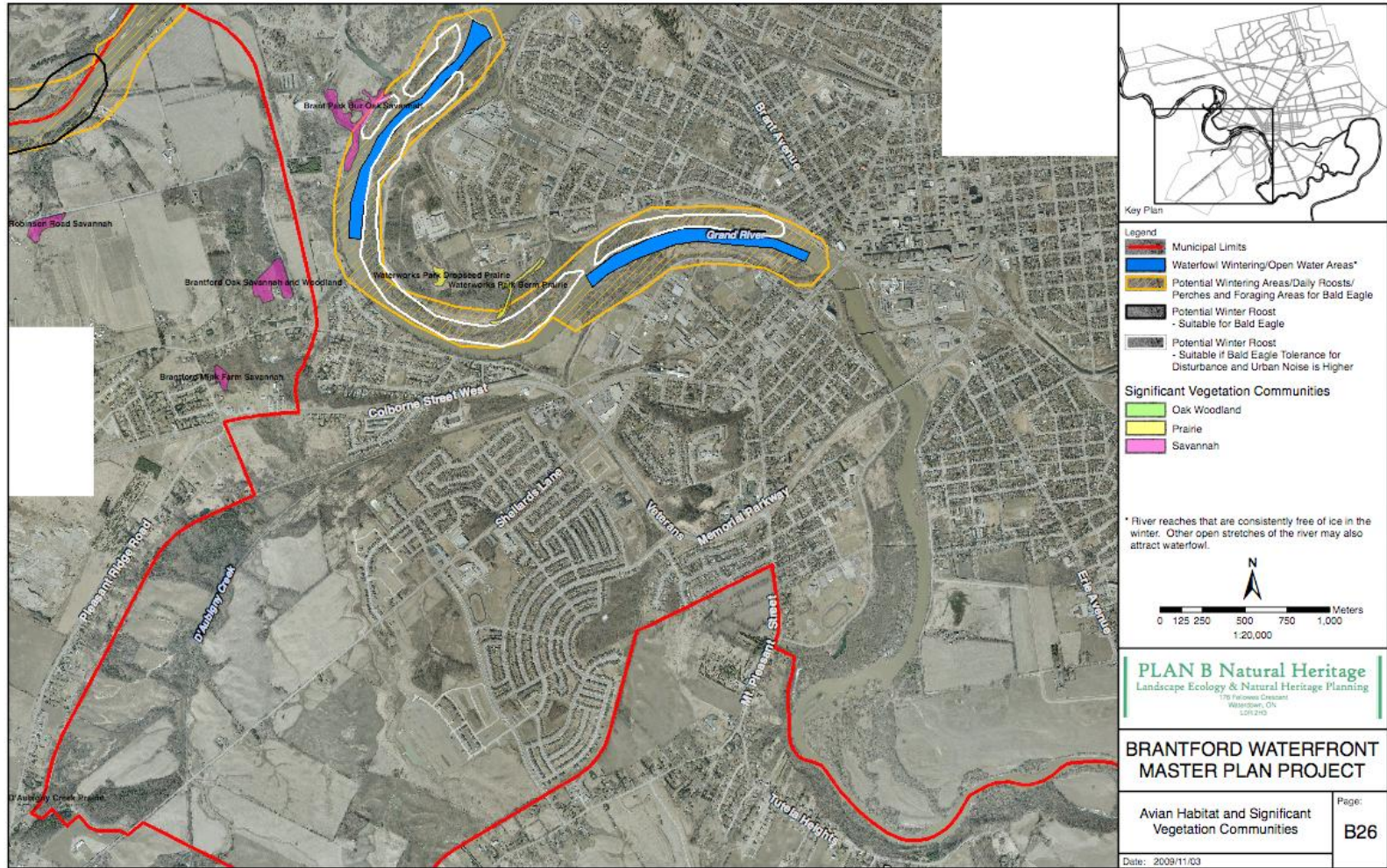
Within Brantford, the northwest area along the Grand River and adjacent forest blocks may have some significance for roosting eagles during the winter to early spring. Confirmed winter roosts are located outside of the study area. Areas of mature riparian forests in Waterworks Park west of the dyke and nearby islands, may also provide a roosting location during the winter if human disturbance is low and the eagles present have a higher tolerance of urban areas.

Potential wintering areas, daily roosts, perches, and foraging areas within the study area have been mapped based on an evaluation of habitat suitability and actual sightings of bald eagles using these areas.

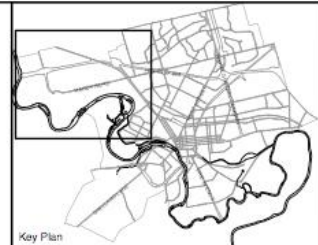
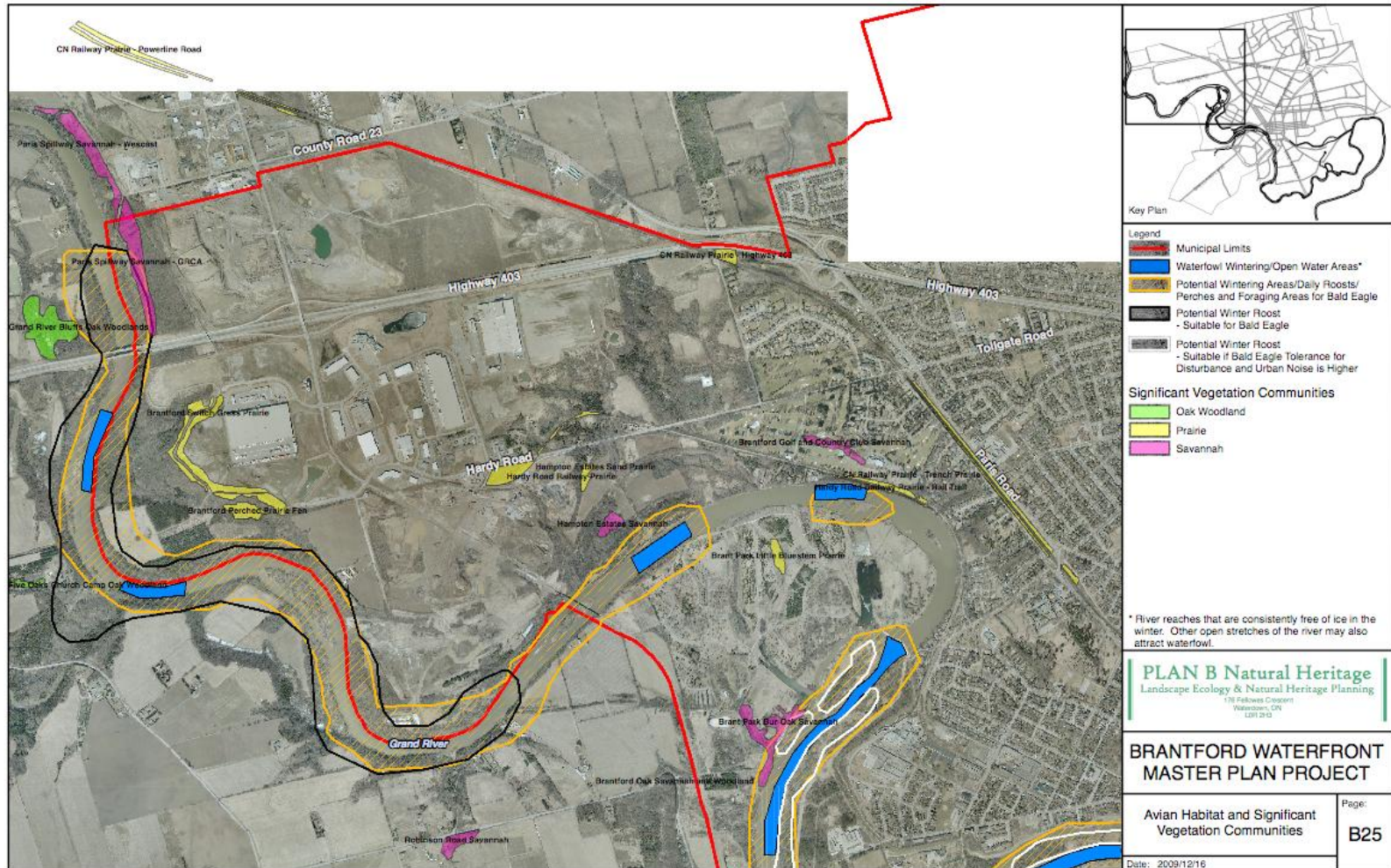
Part 3. Bald Eagles in Brantford - winter



Part 3. Bald Eagles in Brantford - winter



Part 3. Bald Eagles in Brantford - winter



- Legend**
- Municipal Limits
 - Waterfowl Wintering/Open Water Areas*
 - Potential Wintering Areas/Daily Roosts/Perches and Foraging Areas for Bald Eagle
 - Potential Winter Roost - Suitable for Bald Eagle
 - Potential Winter Roost - Suitable if Bald Eagle Tolerance for Disturbance and Urban Noise is Higher
- Significant Vegetation Communities**
- Oak Woodland
 - Prairie
 - Savannah

* River reaches that are consistently free of ice in the winter. Other open stretches of the river may also attract waterfowl.

PLAN B Natural Heritage
Landscape Ecology & Natural Heritage Planning
176 Fellows Crescent
Waterloo, ON
N2L 2Y3

BRANTFORD WATERFRONT MASTER PLAN PROJECT

Avian Habitat and Significant Vegetation Communities
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Part 4. Sensitivity of Habitat

Breeding

Sensitivity of nesting bald eagles can vary greatly between each pair. Some pairs nest within urban environments close to significant human activities, while others will abandon their nest with very little human interactions.

Until there have been a few years of successful nesting within the City of Brantford, it would be prudent to view these nest(s) as quite sensitive to most activities.

Once a pair of bald eagles successfully breed, they have an increased site fidelity and may accommodate more passive occasional traffic (i.e. hikers, birdwatchers, canoeists, anglers) passing near (i.e. <100m) of their nest

Existing roads, homes, and other routinely used facilities, such as trails, **which predate the bald eagle** nesting attempts are quite unlikely to disturb nesting at their current intensities.

Irregular and occasional uses (e.g. disruptive and noisy activities such as land development, infrastructure projects, outdoor concerts and fireworks displays) that occur **after the start of nest building** may disturb bald eagles enough to impact the success of the nest.

Part 4. Sensitivity of Habitat

Bald Eagle Nesting Chronology for Southern Ontario

Courtship and Nest building: December to March

This the most sensitive period: a time when birds tend to respond negatively to human disturbance. Nest abandonment is common during this period, especially for pairs with newly established nests/territories.

Egg Laying & Incubation: February to May

Also a critical sensitive period, human disturbance can lead to the disturbed birds being away from the nest too long and the death of the egg(s) and nest abandonment.

Hatching & Raising Young: March to July

Abandonment is less likely by adults however disturbances that cause adults to leave the nest could lead to cooling/death of the eggs or loss of young during early nestling period. After 4-8 weeks, the potential of abandonment decreases significantly as the young within the nest become visible to the observer. Too much disturbance could discourage the adults from returning to the nest with food and therefore miss feeding the young.

Fledging Young: May to August

Can be a very sensitive time as disturbance may cause the young to leave the nest prematurely and die.

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Part 5. Management Recommendations

Each situation should be reviewed on a case by case basis to determine the most appropriate action. The U.S. Fish and Wildlife Service guidelines for bald eagles indicate:

that the minimum buffer/setback to a particular human activity should be based on documented examples within the study area setting.

The Guidelines also acknowledge that when birds choose a nesting site within an existing urban area that it is not always possible to provide large setbacks, shut down an activity or close off an area.

Bald eagle has a moderate-high tolerance to human activities and urban areas and will develop site fidelity over time.

Part 5. Management Recommendations

The key to maximizing bald eagle presence in urban areas is to:

- protect existing habitat,

- enhance/restore habitat where feasible,

- manage for long-term sustainability of feeding, nesting and roosting

- encourage public stewardship and education.

The New York City Parks and Recreation Department has recently initiated a bald eagle release program within Inwood Park (Manhattan Island) along the Hudson River and Harlem Ship Canal.

The eagles have been released into an urban waterfront environment similar to Brantford but on a much larger scale in terms of the potential interaction with humans and urban land use.

Part 5. Management Recommendations

1. If a nesting attempt is occurring, close the area and provide signage/fencing to prevent/discourage human entry to within 100m of the nest.
2. In the current nesting situation the Grand River (a navigable waterway) is located between the nest tree and an existing trail, and acts as a buffer. In this scenario, a trail closure or re-route is not recommended.
3. Should a future nesting site occur in a location with inadequate buffering trail closure should be considered during the nest building/incubation period from December to May. Proper signage discouraging use should also be installed. In future years after a successful nesting, bald eagles will have increased site fidelity and their tolerance of passive activities should increase, eliminating the need for trail closure or re-routing.

Part 5. Management Recommendations

4. With the trail elevated on the dyke through Waterworks Park any nest adjacent to the Grand River in the park area would be well setback and could be safely seen from that trail, thus not needing onlookers to enter the area and disturb the nest.

5. Construction or trail maintenance should not be permitted to within 200 m - 300 m from a nest tree until after the nesting attempt is complete. Only emergency trail maintenance should be completed within the buffer zone, and if possible on good weather days.

6. Construction or trail maintenance should not be permitted to within 200 m – 300 m from wintering areas between Nov. 15 and March 31. Only emergency trail maintenance should be completed within the buffer zone.

Part 5. Management Recommendations

7. Any trail construction/maintenance during the breeding season should only be done between August 1 and November 15 thus avoiding disruption of most breeding birds in the vicinity of the trail. All works should be completed or ceased by December 1ST.

8. Continue to survey the Grand River within the City of Brantford to locate wintering roosts and potential roosts using consistent routes with trained volunteers 1-2 times per month (December through March).

9. Fully map suitable wintering roosts and nesting habitat. Areas mapped meeting the criteria should be considered for protection within the Waterfront Master Plan, if not already included.

Part 5. Management Recommendations

10. Locate and map eagle foraging areas (done by qualified observers and records from volunteers).
11. Educate the Public. Use interpretative materials such as signs and brochures to make the public aware of the need to protect bald eagle habitat and to prevent disturbances to nesting and roosting sites. Promote the ownership and pride in having the eagles chose the City of Brantford.
12. Provide signage at canoe in/out points advising people to stay on the opposite of the river channel from an active nest tree. Inform local outfitters of potential eagle activity along the Grand River and appropriate protocol around nest trees and at portages.

Part 5. Management Recommendations

13. Any larger scale maintenance or construction projects (e.g. road/bridge construction, housing developments) within site of the nest or winter roosting areas or less than 400 m should be undertaken post- fledging and pre-wintering period (August to December).
14. Provide a central location from which the public can readily see wintering eagles from a distance to avoid disturbing the birds, while providing an enjoyable experience. This location can then be promoted and could increase visitation of non residents to the City. This could be undertaken once a clearer picture of the movements of wintering bald eagles and the locations of nest(s) are known.
15. Any outdoor events planned within 200 m of the nest or 300 m of the line of sight of the nest should be moved to avoid possible nest abandonment.

Part 5. Management Recommendations

16. Plant and enhance riparian areas along the Grand River in Brant Conservation Area, Waterworks Park and the area south of Birkett Lane. Species similar to those found in the riparian area of Waterworks Park should be planted (e.g. cottonwood, willow, bur oak, and silver maple). In time these trees will provide additional nesting and winter roosting locations.

17. Forest management plans for City owned natural areas should be reviewed by a qualified ecologist/ornithologist to ensure that bald eagle habitat protection and enhancement are accounted for in the implementation of the plan. The City should endeavor to maintain regular recruitment of mature trees in the forest canopy, particularly in floodplain areas along the Grand River. In particular, efforts should be made to retain and protect large trees within 30m of the river.

