

Transboundary Conservation in the Detroit River-Western Lake Erie Region

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Background

The watersheds of the Detroit River and western Lake Erie are home to a rich diversity of flora and fauna. For example, Essex County is located within the extreme southwest quadrant of the Carolinian Canada forest zone (Lebedyk et al., 2013). Its unique habitats and relatively moderate temperatures create the conditions for one of the most unique biodiversities in Canada, with an estimated 2,200 herbaceous plants species as well as over 400 bird species (Lebedyk et al., 2013). It is also well recognized for more than 240 federally or provincially classified rare species (Essex Region Conservation, 2019). Moreover, the Detroit River is designated as both an American Heritage and Canadian Heritage River and remains the only river is the only river system in North America to achieve such dual designations (Citywindsor.ca, 2019). The region is also home to the only international wildlife refuge in North America – Detroit River International Wildlife Refuge (DRIWR).

After initial settlement of Detroit in 1701, this region slowly developed into an industrial hub; principally after the growth of the automobile sector in Detroit (Lebedyk et al., 2013). As a result, both Essex County and the city of Detroit have undergone substantial industrialization and urbanization in the past few decades. According to Statistics Canada, the population of the county has continued to rise significantly from 1987 and it remains one of the fastest growing counties in the country (Statistics Canada, 2019). However, this development has negatively impacted the environment of the region, causing significant loss of wetlands and natural habitats and undermining water quality (Lebedyk et al., 2013). It is estimated that there has been an overall loss of approximately 97% of the original wetland area and 95% of the original forest area (Lebedyk et al., 2013). As a result, habitat conservation has become a top priority. Environmental stressors in this region do not respect national boundaries and they affect both sides of the border. This indicator outlines transboundary actions/initiatives taken to rehabilitate and conserve habitats to protect fish and wildlife and options to expand and improve transboundary conservation efforts.

Status and Trends

Transboundary conservation initiatives require highly complex arrangements as these areas include and affect a wide variety of stakeholders, ranging from governmental agencies, nongovernmental organizations, local communities, the private sector, and Indigenous peoples. Shared governance, often called cooperative management, is “a partnership in which government agencies, local communities and resource users, nongovernmental organizations, and other stakeholders negotiate, as appropriate to each context, the authority and responsibility for management of a specific area or set of resources” (International Union for Conservation of Nature, World Commission on Protected Areas, 1997). One useful way of looking at the level of cooperation on transboundary conservation is to utilize a numerical scale first developed by Zbicz (1999) and adapted by Sandwith et al. (2001), that ranks the level of conservation cooperation from none (Level 0) to full cooperation (Level 5; Table 1).

Table 1. Levels of cooperation between internationally adjoining conservation areas (Zbicz, 1999; Sandwith et al., 2001).

Level of Cooperation	Characteristics
Level 0 – No Cooperation	Staff from two conservation areas never communicate or meet There is no sharing of information or cooperation on any specific issues
Level 1 – Communication	There is some two-way communication between conservation areas Meetings/communication takes place at least once a year Information is sometimes shared Notification of actions which may affect the other conservation area will sometimes take place
Level 2 – Consultation	Communication is more frequent (at least two times per year) Cooperation occurs on at least two different activities The two sides usually share information Notification of actions affecting the adjoining conservation area usually occurs
Level 3 – Collaboration	Communication is frequent (at least every two months) Meetings occur at least three times per year The two conservation areas actively cooperate on at least four activities, sometimes coordinating their planning and consulting with the other conservation area before taking action
Level 4 – Coordination of planning	The two conservation areas communicate often and coordinate actions in some areas, especially planning The two conservation areas work together on at least five activities, holding regular meetings and notifying each other in case of emergency Conservation areas usually coordinate their planning, often treating the whole area as a single ecological unit
Level 5 – Full cooperation	Planning for the two conservation areas is fully integrated, and, if appropriate, ecosystem-based, with implied joint decision-making and common goals Joint planning occurs, and, if the two share an ecosystem, this planning usually treats the two conservations areas as a whole Joint management sometimes occurs, with cooperation on at least six activities A joint committee exists for advising on transboundary cooperation

Using this numerical scale, the current state of transboundary cooperation for the DRIWR is estimated to be Level 4 (coordination of planning). U.S. and Canadian stakeholders have cooperated on more than ten projects/activities that involve convening regular meetings, sharing information, coordinating planning, setting priorities, notification of emergencies, and, in some cases, undertaking shared projects from an ecosystem perspective (Table 2).

Table 2. Examples of transboundary conservation activities carried out under the Detroit River International Wildlife Refuge, 2000-2019.

Date	Transboundary Conservation Activity
2000	Conservation Vision workshop in Windsor, Ontario
2001	Conservation Vision signed on behalf of Canada by then Canadian Deputy Prime Minister Herb Gray and then Canadian Member of Parliament Susan Whelan, and on behalf of the United States by Congressman John Dingell and then Greater Detroit American Heritage River Initiative Chairman Peter Stroh
2001	Detroit River International Wildlife Refuge Establishment Act signed into law in the U.S. (Public Law 107-91)
2002	Canada responded to the U.S. Establishment Act by using a number of existing Canadian laws to work in a similar fashion
2004	Canada-U.S. State of the Strait Conference convened that focused on monitoring for sound management
2005	U.S. Fish and Wildlife Service drafts the U.S. Comprehensive Conservation Plan and Environmental Assessment for the Detroit River International Wildlife Refuge with input from Environment and Climate Change Canada
2006	Canada-U.S. State of the Strait Conference convened that focused on status and trends of key indicators of ecosystem health in the Detroit River and western Lake Erie
2007	U.S. and Canada develop ByWay to FlyWays Bird Driving Tour Map that highlights 27 exceptional birding locations in southeast Michigan and southwest Ontario
2007	Canada and the U.S. celebrate International Migratory Bird Day
2008	Sturgeon spawning reef constructed of Fighting Island that represented the first fish habitat restoration project in the Great Lakes funded by both Canada and the U.S.
2009	Canada-U.S. State of the Strait Conference convened that focused on ecological benefits of habitat modification
2011	Common tern roundtable convened to set a quantitative restoration target and coordinate monitoring and management actions
2011	Canada-U.S. State of the Strait Conference convened that focused on use of remote sensing and GIS to better manage the Huron-Erie Corridor
2012	Memorandum of Collaboration Agreement for the Western Lake Erie Watersheds Priority Natural Area signed that provided the mechanism for federal, provincial, and local partners to work with U.S. partners on the Detroit River International Wildlife Refuge (expired after five years)
2013	Essex Region Conservation Authority, serving as the lead organization for the Priority Natural Area, signed a Memorandum of Understanding with U.S. Fish and Wildlife Service to work collaboratively on transboundary conservation and outdoor recreational initiatives in the spirit of the international wildlife refuge
2013	Canada-U.S. State of the Strait Conference convened that focused on setting ecological endpoints and restoration targets
2014	Fighting Island fish spawning reef expanded
2015	Canada-U.S. State of the Strait Conference convened that focused on coordinating conservation in the St. Clair-Detroit River system
2016	U.S.-Canada Greenways Vision Map developed
2017	Canada-U.S. State of the Strait Conference and SEMI WILD co-sponsor an Urban Bird Summit
2019	Canada-U.S. State of the Strait Conference convened that focused on status and trends of key indicators of ecosystem health

One of the initial collaborative activities between Canada and the United States which remains relevant today is the Canada-U.S. Conservation Vision for the Lower Detroit River Ecosystem that was laid out in 2001. Its objectives included ensuring (Fws.gov, 2019):

- Clean and safe environment for all wildlife and other biota including humans
- Fish and wildlife communities are healthy diverse and self-sustaining
- Levels of toxic substances do not threaten wildlife, fish or human health
- Remaining marshes, coastal wetlands, islands and natural shorelines be protected in perpetuity
- Degraded marshes, wetland, island and shoreline habitats be rehabilitated when possible and be protected in perpetuity

To address these objectives the U.S. Fish and Wildlife Service developed a Comprehensive Conservation Plan for the DRIWR, with input from Canada (Hartig, Robinson and Zarull, 2010). The refuge was established in 2001 and covered an area of only 49.1 ha at the time. It has grown rapidly since then and now occupies 2306.7 ha on the U.S. side. Pollution prevention and control efforts, and enhancements of habitats, have resulted in ecological recovery over the past few decades including “an increase in the populations of sentinel indicator species like bald eagles, peregrine falcons, osprey, lake sturgeon, lake whitefish, walleye, and burrowing mayflies.” (Hartig, Robinson and Zarull, 2010).

In September 2012, the Western Lake Erie Watersheds Priority Natural Area (PNA) was established in Canada to coordinate efforts among different levels of government and the nongovernmental and private sectors, and to foster transboundary conservation in the spirit and intent of the 2001 Conservation Vision (Figure 1)(U.S. Fish and Wildlife Service, 2019). The Canadian partners involved in this effort included Environment and Climate Change Canada, Fisheries and Oceans Canada, the Ontario Ministry of Natural Resources, the Nature Conservancy of Canada, Ducks Unlimited Canada and the Essex Region Conservation Authority (ERCA) (U.S. Fish and Wildlife Service, 2019). The aim was to provide these organizations with a mechanism to increase wildlife protection and to “work more closely with our U.S. neighbors and to complement progress being made in the U.S. on the Detroit River International Wildlife Refuge, and other related initiatives” (Hill, 2019). The PNA initiative aims to involve the local community through education and outreach projects. It also promotes research and more stringent monitoring of the wildlife in the area to build a community which “recognises the relationships between healthy environment, healthy people and healthy economy” (U.S. Fish and Wildlife Service, 2019). This was followed by a signing of a Memorandum of Understanding between ERCA and U.S. Fish and Wildlife Services in August 2013 to clarify the collaborative relationship between them regarding cooperative conservation and ecosystem-based management (Citywindsor.ca, 2019).

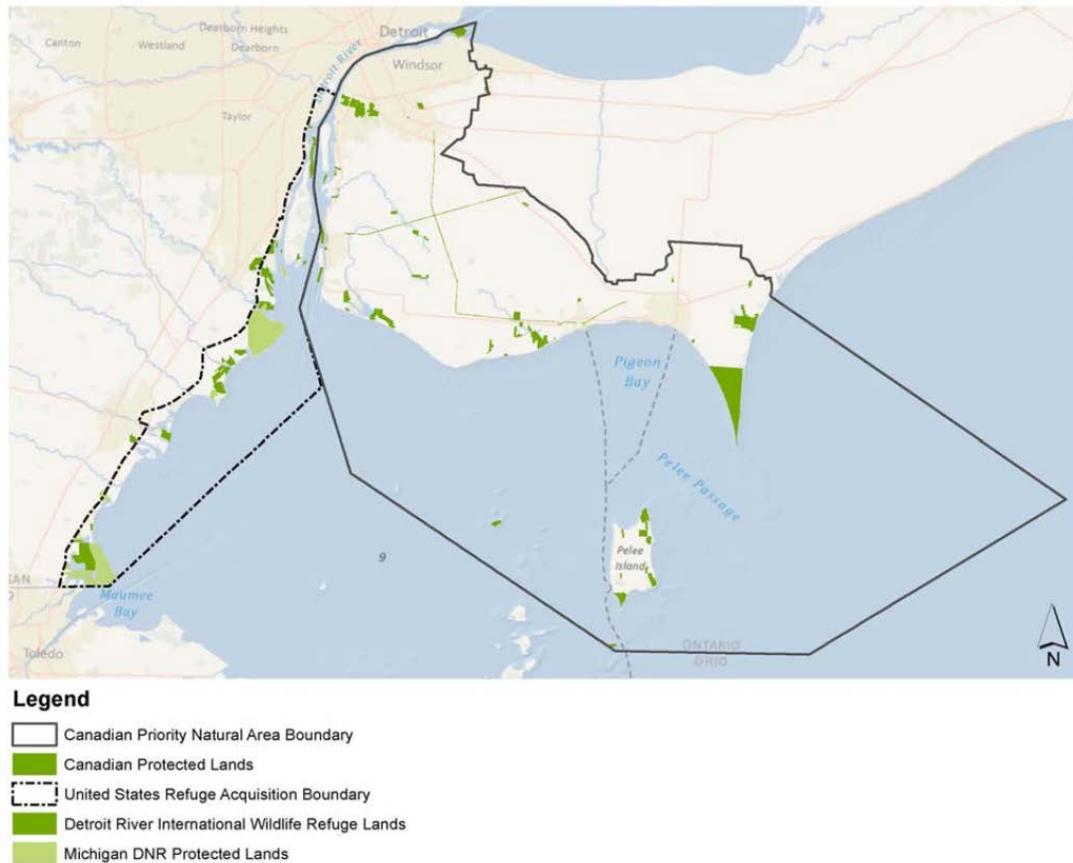


Figure 1. Map of the Canadian Priority Natural Area Boundary and the U.S. Refuge Acquisition Boundary.

ERCA estimates that only about 3% of the land in the Windsor-Essex region is set aside for conservation and parks and that this is the lowest proportion of any region in Ontario (Figure 2) (Lebedyk et al., 2013). The natural cover of the county is 6.89 % of which 4.92% is terrestrial and 1.97% is wetlands (Table 3). According to the standards of Lake Erie Biodiversity Conservation Strategy, the shoreline of the Lake Erie connecting channels on the Canadian side is of fair quality (with approximately 61% soft shoreline).

In Canada, environmental issues do not decisively fall under any federal or provincial head of power since it was not a matter considered during the formulation of the constitution (Jung, 2019). This has resulted in fragmented legislation between the provinces and federal government regarding the environment (Jung, 2019). Many environmental statutes come with enforcement mechanisms, but enforcement is not always a priority of governmental agencies. There is a strong reliance on voluntary initiatives and non-binding policies (Jung, 2019). Habitat conservation falls under this area of law and is also subject to a “patchwork framework of environmental protection” (Jung, 2019).



Figure 2. Land Use Plan for the County of Essex (Countyofessex.ca, 2019).

Table 3. Existing Land Use in Essex County (Lebedyk et al., 2013).

Land Use	Ha	%
Terrestrial Habitat	8,223.0	4.92
Wetland Habitat	3,287.6	1.97
Total Natural Area	11,555.2	6.89
Total Anthropogenic	155,614.8	93.11
Total Land Area	167,170.0	100.00

Federal legislation that directly relates to conservation of wildlife in the Essex County is the Species at Risk Act 2002 (SARA). The purpose of the Act is “to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened.” This Act relies on a “stewardship first” approach which only provides mandatory protection of endangered species in federal lands and allows discretionary protection in private lands (Olive, 2011). It does not provide any regulatory power in non-federal land (Olive, 2011).

Ontario passed the Ontario Endangered Species Act (OESA) in 2007. This statute also applies to private property and works in tandem with SARA to protect species at risk (Olive, 2011). However, this Act assumes compliance by private landowners and is rarely enforced by the Ontario Ministry of Natural Resources (OMNR). The law assumes that these landowners are aware of which species at risk are present on their properties, as well as the appropriate steps needed to protect them (Olive, 2011). Further, the government often expects landowners to bear

the costs of conservation and the majority do not have the requisite knowledge to apply for stewardship funds (Olive, 2011). A case study in Pelee Island within western Lake Erie found that the OESA was not being complied with and that there was no enforcement by the OMNR (Olive, 2011). Additionally, though both SARA and OESA rely on stewardship, neither Act defines the meaning of this word (Olive, 2011).

Ojibway Park

The Ojibway Prairie complex is one of the major conservation areas on the Canadian side of the border and provides habitat for several endangered species on the OESA list. The complex consists of five natural areas (i.e., Black Oak Park, Tall grass Prairie Heritage Park, Spring Garden natural area, Ojibway park and Ojibway Prairie Provincial Reserve (Figure 3)(Ojibway.ca, 2019a). It covers approximately 350.1 ha and fosters conservation of the savanna ecosystem which was present before settlement in the region (Ojibway.ca, 2019a). Examples of threatened species include the Butler’s Garter snake, Eastern Fox snake, Red-headed woodpecker and the Eastern Meadowlark (Ojibway.ca, 2019b). The complex has a relatively high biodiversity and provides a habitat for several species not found in other parks or conservation centers in Ontario (Ojibway.ca, 2019b).

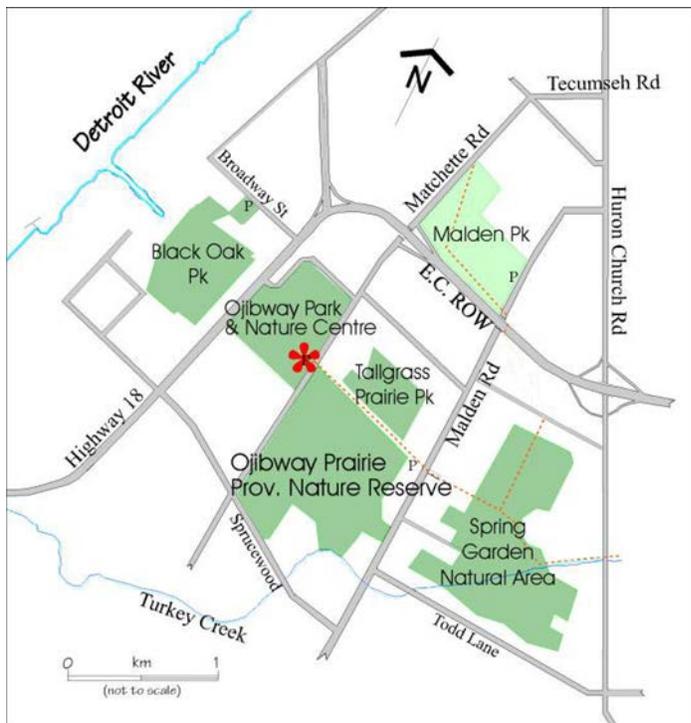


Figure 3. Map of Ojibway Prairie Complex (Ojibway.ca, 2019a).

Targeted conservation is especially important in the Windsor-Essex region due to the fragmented landscape. The ERCA has followed the Natural Heritage System Approach that identifies core natural areas which provide habitats for a wide variety of animals and plants (Lebedyk et al., 2013). The system lays out 10 principles for evaluating the ecological importance of location (Lebedyk et al., 2013). The Ojibway Shores tract has been identified as a

possible addition to the Ojibway Complex and it meets 9 out of 10 of these principles (Gardner-Costa et al., 2019). Addition of this land to the park would create a corridor with the Detroit River and connect to the DRIWR. Such corridors are essential to allow migration of wildlife and to foster biodiversity of natural communities and genetic pools. Further, ecosystems existing in isolation are much more vulnerable to adverse natural events or human activities than those connected to other natural areas (Lebedyk et al., 2013).

Options to Improve Transboundary Conservation

Options to improve transboundary conservation include:

- Re-energize the PNA under ERCA and ensure participation of all key stakeholders, especially federal and provincial partners. Ensure that U.S. Fish and Wildlife Service is invited to at least one meeting per year to foster transboundary conservation.
- Designate either Parks Canada, Bird Studies Canada, or Environment and Climate Change Canada to be the lead agency for working with the U.S. Fish and Wildlife Service on the DRIWR. These Canadian and U.S. federal agencies could then meet at least once per year with the other conservation partners to review progress, set priorities, and agree to cooperative conservation actions/initiatives. One advantage of this option would be that the lead responsibilities would fall to Canadian and U.S. federal agencies.
- Through existing or new legislation establish a National Wildlife Area in Canada to work closely with the U.S. Fish and Wildlife Service on the DRIWR. As part of this option, either Parks Canada, Bird Studies Canada, or Environment and Climate Change Canada should be designated as the lead federal agency in working with the U.S. Fish and Wildlife Service on the DRIWR. These two Canadian and U.S. federal agencies could then meet with the other conservation partners at least once per year to review progress, set priorities, and agree to cooperative conservation actions/initiatives. This option would also have the advantage of assigning the lead responsibility to Canadian and U.S. federal agencies and would charge them with working with other conservation partners.
- Work with local interests to establish Ojibway Urban National Park in Canada with an emphasis on bringing conservation to cities. This would be a comparable mission of that of the U.S. Fish and Wildlife Service for the DRIWR. The two federal parties (i.e., Parks Canada and U.S. Fish and Wildlife Service) could then meet at least once per year to review progress, set priorities, and agree to cooperative conservation actions/initiatives. This too would have the advantage of assigning the lead responsibility to Canadian and U.S. federal agencies and would charge them with working with other conservation partners.

Establishing Ojibway Urban National Park, similar to the Rouge National Park in Toronto, is an exciting potential development. The Rouge Urban Park was established by the Rouge National Urban Park Act in 2015 and is currently operated by Parks Canada to conserve wildlife and reclaim lost habitats. This legislation outlined the lands the park occupied, made it compulsory for the government to protect wildlife in the park, and also allowed the appointment of wardens to patrol it.

Member of Parliament Brian Masse of Windsor-West held a townhall meeting in August 2019 regarding the addition of Ojibway shores and the potential establishment of an urban

national park (Charlton, 2019). Some of the benefits of creating Ojibway Urban National Park include greater recognition and awareness, access to federal funds, easier land acquisition, and the expertise of federal organizations such as Parks Canada (Charlton, 2019). Being under federal jurisdiction would also subject the area to the laws under SARA to protect endangered species. An important role of the national park could be to coordinate transboundary conservation activities with U.S. efforts under the DRIWR. Such a federal mandate and input from federal agencies like the Canadian Wildlife Service and Parks Canada could elevate the priority of transboundary conservation initiatives. Although the area of the proposed park is relatively small (3.64 km²) compared to Rouge National Park (50 km²) in Toronto, its ecological impact could be great through a partnership with the U.S. and the DRIWR.

With an urban national park designation, conservation mechanisms currently in place could be utilized to a greater extent, including collaboration with OMNR for stricter enforcement of the OESA and SARA. It should be noted that the PNA designation is still in effect in the western Lake Erie watersheds and provides a mechanism for federal and local organizations to connect and direct conservation activities in synchrony with the DRIWR.

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