



#### 4.2.1 SCOPE OF INVESTIGATION

Literature reviews of natural heritage databases for the Riverside Drive VIP EA commenced in February 2005, upon which a more focused field investigation plan was developed and implemented starting in May 2005. Field work conducted by LGL Limited was optimized to prevent duplication of study components where there was overlap between other ongoing EA investigations and studies undertaken by the City of Windsor, ERCA, Ontario Ministry of Transportation, and Transport Canada, including the **Riverfront Shoreline EA** and **Lets Get Windsor-Essex Moving Phase 1** initiatives and studies associated with the border.

Because the Riverside Drive EA study area is situated along the City's riverfront where very little natural areas remain, it was determined during the onset of the study that a greater emphasis would be placed on the assessment of impacts to parkland, green spaces and street trees within the study area. Furthermore, street tree assessments were directed east of Strabane Avenue where planning alternatives to address traffic problems and improve roadway deficiencies were expected.

In June 2005, specimen trees were inventoried along Riverside Drive between Strabane Avenue and the east City boundary near Lakeview Avenue. As noted above, trees located between Rosedale Avenue at the western edge of the study area and Strabane Avenue were not inventoried because improvements to this section of Riverside Drive had been previously made, and no significant additional roadway widening was anticipated in this section that would impact street trees. Trees with a diameter at breast height (dbh) (i.e. 1.4 m above ground) greater than 10 cm and located within 5.0 m of the road were recorded on field sheets and assigned a number. The location of the trees was identified on plans prepared previously by a surveyor. The resulting street tree inventory east of Strabane Avenue is provided in **Technical Appendix Volume 1** of this ESR document. For each of the 225 trees inventoried, the following information was recorded:

- offset distance from the outer edge of the travel lane in rural sections or curb in urban sections (m);
- species;
- dbh (cm);
- tree form; and,
- tree condition.

This inventory information was used in the EA to evaluate the degree of street tree impact from Riverside Drive improvement alternatives.

#### 4.2.2 NATURAL HERITAGE FINDINGS

Riverside Drive is predominantly an urban transportation corridor and is bordered by manicured parklands, lawns and hedgerow trees. The following provides a summary of the natural heritage systems and their sensitivity to impacts:

## VEGETATION AND VEGETATION COMMUNITIES

Land use in the study area is urban residential, comprising residential dwellings and associated manicured grasslands and landscape plantings. Active development is occurring in a number of locations to the south of Riverside Drive at the east end of the study area.

Natural/semi-natural vegetation communities in the study area include Dry-Fresh Deciduous Forests (FOD4) dominated by white elm, Manitoba maple, eastern cottonwood, white pine, Freeman's maple, Norway spruce, horsechestnut and black walnut and Open Aquatic (OAO) communities where the Detroit River comes within close proximity of the Riverside Drive right-of-way. Cultural vegetation communities in the study area include Dry-Moist Old Field Meadows (CUM1-1) dominated by grasses and herbs, Mineral Cultural Thickets (CUT1) dominated by staghorn sumac and landscape plantings along the Detroit River and Mineral Cultural Woodlands (CUW1) dominated by black locust.

These vegetation communities identified within the study area are considered common and widespread throughout Ontario and secure globally.

A total of 225 trees were inventoried within 5 m of the Riverside Drive edge of pavement between Strabane Avenue and the Tecumseh border. A summary of the findings of the tree survey is provided in **Technical Appendix Volume 1** to this ESR. Based on this inventory, the majority of trees within this area would be considered ornamental trees, with large diameter specimen trees located in most areas.


## AQUATIC HABITAT

The study area encompasses the south shore of the Detroit River and the inflowing tributary of Little River. Although the Detroit River is not expected to be directly affected by Riverside Drive improvements, the riparian lands between the roadway corridor and actual roadway contribute to the sustainability of the river ecosystem by providing a buffer function. Land uses and transportation corridors have the potential to negatively impact the buffer functions and thereby indirectly affect the aquatic habitat of the Detroit River. Activities which promote or maintain buffer functions such as filtration/attenuation of stormwater runoff, provision of littoral zone habitat, and erosion control are important considerations in road corridor design.

The aquatic habitat of Detroit River and Little River is considered to be sensitive in this EA study because of their function as fish habitat. Past studies indicate that the Detroit River and Little River have been heavily impacted by urban development which includes physical changes such as channelization and shoreline hardening as well as chemical contamination (URS 2005; MDNR and MOE 1991). Despite these impacts, the fish communities in these subwatersheds are considered relatively diverse and most stations sampled historically were found to contain fish (URS 2005). These fish communities are discussed below.

### Detroit River

- Previous reports indicate that at least 65 species of fish inhabit the Detroit River (Manny et al. 1988 in MDNR and MOE 1991). These species include many sportfish as well as migratory species that use the river to move between Lakes Erie and St. Clair. Diverse habitat exists within the river, especially in the wetlands which are used by warmwater species for many of their life functions (spawning, nursery, foraging, etc.).
- Several provincially significant wetlands exist within the river or are associated with tributary rivermouths.



These wetlands cover an area of 462.5 ha (URS 2005) but are NOT located in the study area of this Environmental Assessment.

- As reported in MDNR and MOE (1991), 41 fish species have been reported to spawn within the Detroit River and an additional seven species are suspected of spawning. Manny et al. (1988 in MDNR and MOE 1991) reported that 25 species use the river as nursery habitat, including both warm and coldwater species.
- Fish communities in the subwatersheds of the Detroit River have been sampled historically by the OMNR (1978; 1979; 1980; 1984), the ERCA (1999; 2000; 2001) and others (Gartner Lee 2001). Fish occurrence records for the five inland watersheds and one municipal drain were provided by the Essex Region Conservation Authority (ERCA).
- An additional five species of fish historically reported from the Detroit River are considered to be at risk in Ontario.

The Detroit River and the inland subwatersheds within the study area fall under the jurisdiction of the ERCA and the Ontario Ministry of Natural Resources (OMNR) Aylmer District.

#### Little River

- The Little River flows in a northerly direction and discharges into the upstream end of the Detroit River near Peche Island. Much of the watercourse is heavily channelized with few areas in a natural state. The upper portion of the watershed consists of channelized ditches that parallel the concession roads to the southeast of the Windsor Airport.
- This watershed was sampled for fish 19 times at 14 locations by ERCA, and no fish were captured at six locations. These locations at which no fish were collected were all in the upper portion of the watershed at crossings of Highway 401. Despite the apparently poor habitat conditions in the upper part of the watershed, the Little River supports 25 species of fish, including several sportfish. Fish species were well distributed within the Little River watershed with the number of species captured at each station ranging from two to 15.
- Sportfish were collected from seven of the eight stations at which fish were collected, indicating that fairly good habitat conditions exist within the lower portions of the watershed.

A search of Natural Heritage Information Centre (NHIC) records was made regarding the aquatic habitat adjacent to the study area, and these results are shown in Table 2 of the Existing Natural Conditions Inventory in **Technical Appendix Volume 1** of this ESR. Database records indicate that two fish species, the Northern and Brindled Madtom were found within the study area. These fish species are considered “Not at Risk” by the Committee of the Status of Endangered Wildlife in Canada (COSEWIC).

It was also determined by this ESR that if any widening of the Little River bridge was needed to facilitate Riverside Drive improvements (sidewalks, curbs, bike lanes, etc.), the bridge would remain a clear span structure. As a result, the Federal Department of Fisheries and Oceans (DFO) confirmed that in this case, “*A bridge expansion as proposed with no direct impact on the water below would not necessitate the issuance of a Fisheries Act authorization (hence to CEAA trigger).*”<sup>1</sup>

<sup>1</sup> E-mail correspondence from Cathy Hainsworth, CEAA dated May 19, 2006, and Norm Smith, DFO dated May 23, 2006

Because Little River is a navigable waterway, Transport Canada has confirmed that a permit under the Navigable Waters Protection Act (NWPA) would likely be required if the Little River bridge was widened, and this would trigger CEAA. The permit and CEAA requirements would not be identified until the detailed design stage.<sup>2</sup>

## WILDLIFE HABITAT

The study area does not include large expanses of natural areas that would be likely to support area-sensitive or interior species. Wildlife inhabiting the area would be expected to be species tolerant of human presence and disturbance. The Detroit River and Lake St. Clair shoreline, as do most shorelines, may act as a corridor for animal movement, however semi-natural areas may provide temporary stop-over habitat for sensitive species as well as common and human tolerant species. Wildlife observations are presented in Table 3 of the Existing Natural Conditions Inventory in **Technical Appendix Volume 1**, with a summary provided as follows:

- Wildlife habitat in the study area includes cultural meadows, cultural thickets, riverine areas and one forest. Most of the wildlife habitat is associated with areas adjacent to the Detroit River and much of it is fragmented.
- A total of 45 wildlife species, including 41 species of birds and four species of mammals were recorded during the June 2005 field investigations. Most of the wildlife species in these areas are habituated to human activity.
- None of the species recorded in the study area are considered to be of conservation concern by COSEWIC or OMNR/COSSARO.
- The Fish and Wildlife Conservation Act regulates all four of the mammal species recorded plus one of the bird species. The Migratory Birds Convention Act regulates 30 of the bird species recorded in the study area, and six of those species are priority species for conservation in the County of Essex according to Bird Studies Canada.

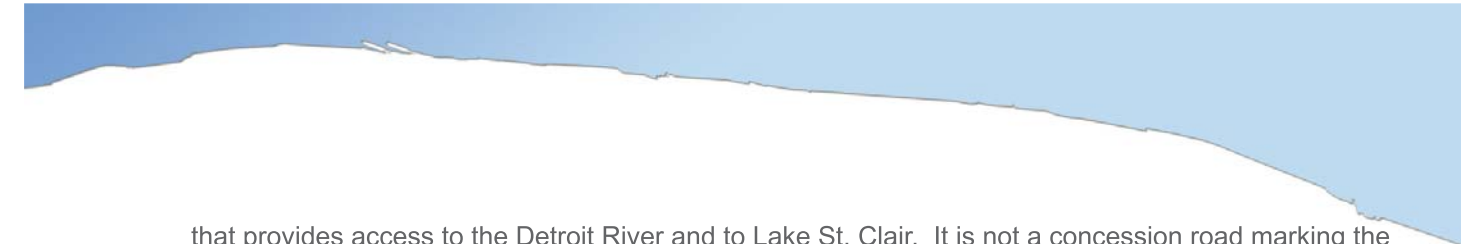
Available NHIC records from the Ontario Ministry of Natural Resources lists aquatic species and one species identified as sensitive. No terrestrial wildlife species documented as Vulnerable, Threatened or Endangered by the Committee on the Status of Endangered Wildlife in Canada or Special Concern, Threatened or Endangered by the MNR are recorded by the NHIC.

### 4.3 Socio/Cultural Heritage Conditions

In response to the Class EA requirement to consider impacts of a proposed undertaking on the socio-cultural environment, a Heritage Impact Assessment was conducted in the Riverside Drive study area as part of this project. This study was conducted during the months of April, May, and June of 2005 by Mayer Heritage Consultants Inc. It was done to determine what landscapes, sites, structures or facilities exist along the corridor that might be impacted by Riverside Drive improvements. The full report of the Heritage Impact Assessment dated October 2005 is available in the project record as a separate Appendix. The main findings and conclusions of the Assessment are summarized as follows:

- Early Riverside Drive, including the later extension beyond St. Rose Avenue, is a road of convenience

<sup>2</sup> E-mail correspondence from Cathy Hainsworth, CEAA dated May 19, 2006



that provides access to the Detroit River and to Lake St. Clair. It is not a concession road marking the individual surveyed land concessions, and so it freely follows the configuration of the shoreline.

- This alignment along the riverfront forms one important elements of the cultural landscape on the Riverside Drive area.
- The dynamic character of the Riverside Drive streetscape also means that it and its adjoining properties have undergone very dramatic and drastic changes over the past century. As is the case with any Heritage Impact Assessment, this dynamic character has to be appreciated. To keep every aspect of the street in its original or early state would impose a museum like condition on the area, and inhibit the dynamism so often considered necessary to the continued community life of an area. Consideration also needs to be given to the prominent vistas along Riverside Drive, what vistas can be improved in this project, and for whom. At every parkland or public property “opening” along the north side of Riverside Drive, a vista is created to a significant view. These vistas also form part of Riverside Drive’s cultural landscape. From a purely transportation perspective, these vistas can impact motorist, cyclist and pedestrian behaviour by either slowing and calming the pace of travel, or distracting the driver.
- The concept of vistas also implies that public, the “clientele” for this project, will want to enjoy the vista, whatever it might include. Because of the length of Riverside Drive, it is to be expected that some of this “clientele” will traverse the road by motor vehicle, while others will use bicycles and walk. This being the case, it is important from a cultural heritage perspective that all users of Riverside Drive be considered in this project. This includes the consideration of providing sidewalks on both sides and extended bicycle lanes for those modes of transportation. While some have opposed the provision of these facilities, it must be determined if the road is to be improved primarily for those who live along Riverside Drive, or for the benefit of a wider “clientele”.
- There is much to see in the cultural landscape along Riverside Drive, but the lack of continuous facilities (sidewalks, bicycle lanes, and cross-walk signals) inhibits the many sites and structures of heritage interest that show the evolving nature of the area, its citizens and its work related activities.
- Some members of the public have suggested that Riverside Drive be designated a heritage road, with a particular concern being the retention of the road’s existing characteristics. Heritage designation presents a number of aspects to be considered, for seldom is the whole of a facility designated. Rather, specific components are designated, and thereby receive a measure of protection. It is recommended that the designation of Riverside Drive as a Heritage Road not be pursued at this time. Riverside Drive might better be characterized at this time as a Historic Road or Street. This will permit an integration of the road with its early importance providing access along the waterfront and to the roads historic buildings and sites to form a cohesive interpretation. This can serve as a guide of considerable significance, should a Heritage Road designation prove to be warranted. Interpretive signs should be erected along the route to note its importance as an historic road. The simple fact that a road is old does not, in itself, qualify the road as a Heritage Road.

#### 4.4 Pre-History Stage 1 Archaeological Conditions

As part of the Riverside Drive VIP EA project, a Stage 1 Archaeological Assessment was conducted by Mayer Heritage Consultants to determine whether further investigations would be required as a condition of construction of potential improvements to the Drive. The Assessment also identifies if any direct and/or indirect impacts might occur by such construction on any archaeological resources that might be present. The November, 2005 Archaeological Assessment report is included in **Technical Appendix Volume 1**.

The four main recommendations stemming from the assessment are:

1. Additional assessment or mitigative measures are warranted because there is some potential for archaeological resources in those portions of the study area that have apparently been unaffected by more recent construction. It is therefore recommended that a systematic test-pitting sample be done of any park areas that may be impacted by construction associated with this ESR. Other areas of the route appear to have been heavily impacted and therefore have low archaeological potential and so should be cleared of any archaeological conditions. The Ministry of Culture is requested to issue a letter concurring with this recommendation.
2. The above recommendations are subject to concurrence by the Ministry of Culture. It is an offence to destroy or alter an archaeological site without approval from the Ministry of Culture. No landscaping, grading or other activities that may result in the destruction or disturbance of any of the archaeological sites documented in this report is permitted prior to the Ministry of Culture's approval.
3. Although every reasonable effort was made to locate all archaeological resources, it is possible that some remain to be discovered within the study area. Should deeply buried archaeological material be found during construction, the Ministry of Culture in London (519-675-7742) and Mayer Heritage Consultants Inc. in London (519-472-8100 or 800-465-9990) should be immediately notified.
4. As on virtually any property in southern Ontario, it is possible that Aboriginal or Euro-Canadian burials could be present within the study area. In the event that human remains are encountered during construction, the proponent should immediately contact both the Ministry of Culture, and the Cemeteries Regulation Unit of the Ontario Ministry of Consumer and Commercial Relations in Toronto (416-326-8392), as well as the appropriate municipal police, the local coroner, and Mayer Heritage Consultants Inc.

