

Review of

Oak Grove Development Project: Biophysical Technical Report

Part A: Summary and General Perspective

The critique of the biophysical technical report is presented in two parts. The first is a summary of the report and a general perspective on the study. The second is a detailed critique of selected sections of the report.

In general, the technical report is a superficial examination of the study area's flora and fauna. The objective of the surveys was to document the avian, mammal, herptile and floral species present within the project study area. Given the changing survey parameters such as different seasons, plant phenology, wildlife migration, etc. the sampling effort of 3-4 days of field work was not adequate enough to meet the stated objective. There was no literature review section and very few references throughout the report. The methods used for capturing the study area's (Parker Wetlands) biodiversity were poorly developed. The results as presented contributed little to the existing body of knowledge on the Parker Wetlands. Disappointingly, the authors never thought to explain why there were no leopard frogs, owls and species of conservation concern in the surveys. Conversely, broad statements were made about particular aspects of the study area without providing any supporting data.

According to the report, the peer reviewed scientific methodologies used by the consultant are widely used and accepted by Manitoba Conservation and Water Stewardship. There are several occurrences in the report where this statement can be easily challenged. The following examples are:

- i. timing of survey and sampling methodology for plants of conservation concern.
- ii. plot placement and frequency of songbird survey,
- iii. timing of nocturnal owl survey,
- iv. sampling methodology for amphibian survey and
- v. sampling methodology for mammal survey

Rather than present a well-balanced, comprehensive inventory of the study areas plant and animal inhabitants, the report focuses instead on the invasive and weedy species present and the overall degradation of the major plant communities. Nothing illustrates this more than the example used in the summary section of the report. It states "seeds of purple loosestrife and European buckthorn are dispersed by birds and animals which could be detrimental to adjacent green spaces and spread into other City greenspace areas". It is not entirely clear to which greenspace areas they are referring. Adjacent properties include the railway tracks, Walmart parking lot, Humane Society property, self storage compound, City water treatment facility and Brenda Leipsic dog park. It is abundantly clear that the purpose of the report is to present a negative perspective of the Parker wetlands. Given the tenor of the report, it can be argued that the largely intact aspen forest and wetlands and their associated plant and animal species are not worth preserving. The intent of this critique is not to question the findings, but to identify the major shortcomings of the study.

Part B: Biophysical Technical Report Critique

4.0 VEGETATION SURVEYS

Pedestrian ground search surveys were carried out along the trail network for plants of conservation concern and non-native, introduced and invasive plant species. There was no mention in the report of any transects or plots being established in any of the major plant communities. In the report however, the authors indicate the majority of the native plants are found within the aspen woodlands. It is unclear on the methodology used to document the plant species occurring in the major plant communities.

4.1 Plants of Conservation Concern Survey Methods

There was no discussion on the method used to search for the western silvery aster, a species of conservation concern. The time of the pedestrian surveys (June 6, July 12/14) does not coincide with the asters flowering period of early August to mid-September. Unless a plant is in flower, it is extremely difficult to locate in the field, species that are uncommon or rare. Some species that occur in the study area that flower early or late in the season are understandably not listed in Appendix B. Unfortunately, there was no statement made about the flowering period of the aster, nor specific measures employed to survey for this unique species.

4.2 Plants of Conservation Concern Survey Results

Two species of conservation concern left out of the report are Western Ironweed (S1:Endangered) and Riddell's Goldenrod (S2:Threatened). Western ironweed is found in roadside ditches and riparian habitat south of Winnipeg near St. Adolphe (Murray and Church, 2015). Riddell's goldenrod is found in undisturbed roadside ditches and wet prairie habitats and its known range is south of Winnipeg in the Red River Valley (Murray and Church, 2015). These are significant omissions from the report.

Murray, C and C. Church. 2015. *Manitoba Conservation Data Centre Survey and Stewardship Activities, 2014*. Report No. 2015-01. Manitoba Conservation Data Centre, Winnipeg, MB. 47pp.

4.3 Non-native, Introduced and Invasive Plant Survey Methods

Given the common occurrence of non-native, introduced and invasive plant species along the trails, it was appropriate to establish transects to determine the degree of spread. The protocol for setting up plots and estimating species densities was explained well. There was no indication that consideration was given to establishing transects in the aspen forest, grasslands or meadow to measure the degree of spread.

4.4.1 Meadow/Grassland

In the report, biologists describe small meadow openings in the aspen forest as being dominated by sweet clovers. Vegetation transects set up in these meadows wasn't discussed in the report.

4.4.2 Willow/Sedge Wetland

Purple loosestrife is very common in the wet meadow areas according to the report. In checking these areas, there are large interior portions with only native species present such as sedge, reedgrass and mint. This is further verified in photos 8 and 9 in the report of areas represented by grasses, sedges and willows which shows no purple loosestrife. In the larger sections of the wetlands, there is a noticeable presence of a species of reedgrass (*Calamagrostis* sp) and common cattail, neither of which listed in Appendix B.

5.1 Pedestrian Bird Nest Search Methods

Great effort was spent searching for nesting activity in the study area. There was no clarification provided to distinguish between a multi-generational stick nest and stick nest.

5.2 Pedestrian Bird Nest Search Results

A large black-billed magpie nest (approx. 2 ft in diameter), occurs in a clump of willow along a trail in the SW portion of study area. It is not mentioned anywhere in the report. Two stick nests were identified within the Project Study Area. The presence of stick nests is important because they are an indication that raptors may be breeding in the area.

5.3 Songbird Point Count Survey Methods

The survey for songbirds was a one-time point count (June 14 & 15) at 3 locations in the study area. An annual (one-time) point count survey is appropriate to monitor bird populations over a long period of time such as the approach employed by Bird Studies Canada for the country's Breeding Bird Survey. The BBS is a longitudinal survey, the results of which help wildlife biologists identify population trends and implement management strategies for any species needing protection or special attention. For the purpose of the GEM report, the objective is to measure the bird species diversity in the study area. Two or three repeat surveys separated by 10-14 days would have been preferable.

Only three point count (plot) locations were established, two of which were placed at edges of habitat. There is enough contiguous aspen forest to accommodate 3 – 4 plots, the wetlands at least 2 - 3 plots and one or two additional plots in meadows or grasslands. The method of identifying habitat and selecting bird plot locations is not clearly explained. For the avian component of a biophysical report, typically, plant communities are defined and bird plots placed in those communities at a desired sampling intensity. The results often reflect what bird species occupy a particular plant community at a given point in time. This approach would avoid the type of data presented in Point Count Location #3.

5.4 Songbird Point Count Survey Results

Thirteen species of birds were recorded among the 3 point count locations. A number of species such as the American goldfinch, blue jay, yellow warbler, brown-headed cowbird, American crow and grey catbird were regularly recorded in Manitoba Hydro surveys in 2008, 2009 and in Parker Wetlands Conservation

Committee surveys carried out in 2013. None of these species were documented in the report. Somewhat puzzling results were achieved such as red-winged blackbird and alder flycatcher in aspen forest habitat (Point count location #2) and an ovenbird recorded in a grassland/cottonwood habitat (Point count location #3).

5.7 Raptor Nest Search Methods

Nest surveys were conducted for raptors such as bald eagle, osprey and hawks in the study area. Many raptor species construct nests out of sticks. Since the search for stick nests was addressed in Section 5.1., it wasn't entirely clear what type of nest the field biologists were looking for.

5.8 Raptor Nest Search Results

There were no raptor nests identified during the raptor nest searches. An argument could be made that the two stick nests mentioned in Section 5.2 were probably raptor nests. A breeding pair of Swainson's hawk have nested recently in the Parker Wetlands and have been observed in west Fort Garry for several years. Cooper's hawks have been observed perched in trees and on fences along Parker Avenue. In addition, aspen bluffs and riparian woods characteristic of the Parker Wetlands is ideal habitat for the Cooper's hawk.

5.9 Nocturnal Owl Survey Methods

A 2-minute listening period was employed at two survey locations 30 minutes after sunset on June 14 and 15. Under the auspices of Manitoba Conservation and Water Stewardship, nocturnal owl surveys in Manitoba are done in March and April during peak breeding season

5.10 Nocturnal Owl Survey Results

No owls and/or nocturnal bird species were heard during the surveys in June. The primary reason no owl species were heard is simply because in mid-June, much of breeding activities regarding territory and mating is over. Furthermore, any owl or nocturnal bird vocalizations would have been drowned out by the traffic noise close to the plots. Excessive noise or related distractions are significant factors to take into account when setting up bird surveys and these appeared to have been ignored. Another factor to consider was the placement of plots. It is desirable to place plots in a manner where the surveyors' coverage is 360° or 100%. In Map 7, both owl survey plots are situated at the edge of the study area, effectively reducing the coverage by 180° or 50%. The methodology and subsequent results don't provide any meaningful information about owls and nocturnal bird species in the study area.

6.2 Amphibian Point Count Survey Methods

The northern leopard frog (species at risk) is the key amphibian species searched for in the Parker Wetlands. The survey was conducted on June 14 and 15, 2016 where all observations and songs/calls were recorded at a fixed location in a wetland or wet area. The survey methodology is problematic for a number of reasons. Firstly, in southern Manitoba male leopard frogs call from late April to mid-May with

mating usually completed by mid-May (Nature North, n.d.). Secondly, once the breeding season has ended, adults migrate (not far from open water) out into summer habitat such as wet grasslands and sedge meadows to search for food (Kendell, 2002). A more suitable method for finding leopard frogs would be linear transects on a grid system, systematically surveyed in summer habitat. Spaced 3-4 metres apart, each line of the grid is walked in grassland or at forest edge habitat where adults search for food. Kendell (2002) suggests “*the habitat selected should complement the time of year the survey is being conducted and correspond to the use of the habitat by Leopard frogs at that time*”. Given the surveys were conducted in June, survey of the wetlands for egg masses or tadpoles would have been an option.

Kendell, Kris. 2002. *Survey Protocol for the Northern Leopard Frog*. Alberta Sustainable Resource Development, Fish and Wildlife Division, Alberta Species at Risk Report No. 43, Edmonton AB. 30pp.

Nature North, (n.d.). *Species Account: True Frogs*. Retrieved September 26, 2016, from http://www.naturenorth.com/Herps/MHA_Frogs.html

6.2 Amphibian Point Count Survey Results

Chorus and wood frogs were heard, but no leopard frogs in the project study area. More accurately, the method employed failed to detect any leopard frogs. A brief background of the leopard frog’s natural history would have helped explain why no frogs were heard.

In a biological inventory of a planned Charleswood development, Whiklo et al. (2012) identified five species of frogs: boreal chorus frog (*Pseudacris maculata*), Cope’s gray tree frog (*Hyla chrysoscelis*), gray tree frog (*Hyla versicolor*), leopard frog (*Rana pipiens*), and wood frog (*Rana sylvatica*). The amphibian surveys were conducted between April 24th and May 15th.

Whiklo, Todd, Phil Rose, Lynn Dupuis and Lisette Ross. 2012. *Ridgewood South Precinct Biological Inventory*. Native Plant Solutions. Winnipeg, MB. 72pp.

7.1 Mammal Track and Sign Survey Methods

In the report, tracks of all species, scat, browse, denning sites and direct observations of wildlife were recorded. Biologists walked along pre-determined transects and noted observations. Apart from those of the white-tailed deer, it is highly unlikely that tracks of small mammals (mice, voles and shrews) would be observed in summer. Typically, the method to identify the presence/not detected status of small mammals of a given geographic area is by live trapping or snap trapping. Trap line surveys are conducted in late summer to early fall when population numbers are highest.

7.2 Mammal Track and Sign Survey Results

Very few signs of mammal activity were attributed to significant water pooling and/or heavy use of the area by humans and dogs. This would apply to white-tailed deer. Very few signs of small mammals shouldn’t be attributed to water, humans or dogs but to the absence of reliable survey techniques and methods.

Throughout the winter, there are a myriad of game trails by eastern cottontail rabbit and red squirrel that are easily observed along the walking trails through the aspen forest. In addition, rabbit scat and heavy browse on shrubbery is easily noticeable in winter. It is surprising that rabbit browse was not detected during the nest surveys. No red or grey squirrels were observed despite the presence of bur oak, American and beaked hazel throughout the aspen forest.

11. SUMMARY

Alternative interpretations of a number of the statements made in the Summary section are viewed as fruitful to the discussion.

Statement 1. *High water levels diminished the quality of habitat for a number of species.*

There were no surveys conducted to measure the quality of habitat or habitat associations specific to any species. There is no data in the report to support this statement.

Statement 2. *Very little mammal activity was identified.*

The method used provides little to no quantifiable data to support this statement.

Statement 3. *Bird species seen and heard were common species.*

This is not quite a correct statement. A willow flycatcher (listed in Table 5) was identified during pedestrian surveys and regarded as an uncommon species in Manitoba. This is an excellent sighting, given the particular individual observed is at the northern edge of its range in Canada. This recording ought to have been reported to either Bird Studies Canada or Manitoba Conservation for entry into Manitoba's Breeding Bird Atlas. The presence of the willow flycatcher could be attributed to high water levels.

Statement 4. *Purple loosestrife and European buckthorn, both invasives, produce many seeds and when spread by birds would be detrimental to adjacent City greenspace areas.*

This example of reverse logic is perhaps the most challenging statement in the entire report and repeated no fewer than four times. Despite the biological diversity of the wetlands, the aspen forest and small forest meadows known to occur in the Parker wetlands, plus the environmental and social benefits this green space provides, the author suggests that the invasives will be detrimental to adjacent City greenspace areas. Only until recently, the Parker wetlands was the only City greenspace in the area. It is confusing as to the greenspace areas being referred to?

Statement 5. *.....garbage, debris, squatter sites diminish the quality of habitat within the Project Study Area.*

To what extent does the garbage, debris and squatter sites diminish the quality of habitat? And for what species? At a number of these incorrigible sites, many of which are located in the interior of the aspen forest, the native vegetation fully surrounds the site and is at various stages of recovery. These sites ought to be described not as sites with diminished quality habitat but those considered simply as aesthetically displeasing.

The review was undertaken by the Parker Wetlands Conservation Committee. (September, 2016)