



LAKEHEAD REGION

CONSERVATION AUTHORITY

SEVENTH REGULAR AUTHORITY MEETING

- DATE:** Wednesday, August 25, 2021
- PLACE:** Lakehead Region Conservation Authority Boardroom
- TIME:** 4:30 p.m. Via Microsoft Teams
Public participation via Tbaytel teleconference

AGENDA

1. **ADOPTION OF AGENDA**

Suggested Resolution:

“THAT: the Agenda is adopted as published.”

2. **DISCLOSURE OF INTEREST**

3. **MINUTES OF PREVIOUS MEETING – pages 1 to 8**

Attached on pages 1 to 8 are the Minutes of the Lakehead Region Conservation Authority Sixth Regular Meeting held on Wednesday, June 23, 2021.

Suggested Resolution:

“THAT: the Minutes of the Lakehead Region Conservation Authority Sixth Regular Meeting held on Wednesday, June 23, 2021, are adopted as published.”

Attached on pages 7 to 8 are the Minutes of the Lakehead Region Conservation Authority First Special Meeting held on Wednesday, July 14, 2021.

Suggested Resolution:

“THAT: the Minutes of the Lakehead Region Conservation Authority First Special Meeting held on Wednesday, July 14, 2021, are adopted as published.”

4. IN-CAMERA AGENDA

An In-Camera meeting will not be held.

5. BUSINESS ARISING FROM PREVIOUS MINUTES

None.

6. CORRESPONDENCE

None.

7. STAFF REPORTS – pages 9 to 67

Education Program Update

Appearing on pages 9 to 17 is Staff Report ENVEDU-01-2021: LRCA Environmental Education Program 2020/21 School Year Summary.

Suggested Resolution:

“THAT: Staff Report ENVEDU-01-2021 be received for information.”

2020 Traffic Counter Report

Attached on pages 18 to 67 is Staff Report CONAREA-01-2021 summarizing the 2020 Traffic Counter Report.

Suggested Resolution:

“THAT: Staff Report CONAREA-01-2021 be received AND FURTHER THAT the recommendations contained therein be endorsed.”

- *Personnel and funding permitting, continue the annual vehicle counts at the Conservation Areas,*
- *Continue developing the marketing strategy with a focus on increasing yearly coin box revenue for all Conservation Areas, and creating public awareness of LRCA owned Conservation Areas and associated costs,*
- *Continue to promote the sale of Explore Card Parking Passes, and*
- *Develop a strategy to track usage of Explorer Card users.*

8. CHIEF ADMINISTRATIVE OFFICER REPORT – pages 68 to 79

Attached on pages 68 and 69 are the monthly Treasurer’s Report for June and July’s Administration and Capital.

EOS Positioning Base Station at LRCA Office

Attached on pages 70 to 79 is staff report CORP-10-2021 related to a request from EOS Positioning Systems to install a base station at the LRCA Administrative Office.

Suggested Resolution

“THAT: the CAO and Chair are authorized to enter into an Agreement with EOS Positioning Systems to host an RTK Base Station.”

2022 Draft Budget – Appendix “A”

Attached as Appendix “A” is the 2022 Draft LRCA Budget Summary and the 2022 Draft Budget Version 1.0 full document. It is noted that the 2022 Current Value Assessment (CVA) numbers had not been provided from the MECP at the time of writing.

Please advise if your Township/Municipality would like a visit to a Council Meeting during September/October related to the 2022 Draft Budget.

The final 2022 budget will be presented to the Board at the November Meeting for approval.

9. PASSING OF ACCOUNTS

Resolution for the month of June 2021:

“THAT: having examined the accounts for the period of June 1, 2021 to June 30, 2021 cheque #2296 to #2325 for \$62,609.88 and preauthorized payments of \$117,935.23 for a total of \$180,545.11 we approve their payment.”

Resolution for the month of July 2021:

“THAT: having examined the accounts for the period of July 1, 2021 to July 31, 2021 cheque #2326 to #2356 for \$72,026.30 and preauthorized payments of \$102,053.35 for a total of \$174,079.65, we approve their payment.”

10. REGULATORY ROLE – pages 80 to 84

Due to the meeting being held via Microsoft Teams, the circulation for the Plan Input and Review and approved Section 28 permit binders cannot be undertaken. Attached on pages 80 to 82 is the Plan Input and Review Summary for the Period of June to August 18, 2021 and attached on pages 83 to 84 is a summary of Section 28 Permits issued in 2020 to date.

11. PROJECTS UPDATE

Hazelwood Lake Family Fun Day/Silver Harbour Day

Both events were cancelled due to COVID-19.

Watershed/Junior Explorer Programming

The LRCA will be hosting several guided hikes/workshops this summer and fall as part of the TD Friends of the Environment Fund Watershed Explorer and Junior Explorer programs (formerly Engaging Seniors/Living Classroom programs). Also included in this list are the LRCA's two fall mushroom hikes and the Ontario Power Generation-sponsored Fall Waterfowl Viewing Day. All programs are capped at 25 people maximum, and pre-registration is required for all programs.

The Watershed Explorer programs are intended for participants aged 16 and older, while the Junior Explorer programs are intended for families of all ages.

The tentative programming dates, topics and locations are as follows:

- August
 - Saturday, August 21 – Fish & Aquatics at Hazelwood Lake; 9:00 a.m. – 11:00 a.m. (all ages)

- Thursday, August 26 – Fish & Aquatics at Hazelwood Lake; 9:00 a.m. – 11:00 a.m. (16+)
- September
 - Sunday, September 12 – Mushroom Hike #1 at Hazelwood Lake; 10:00 a.m. – 1:00 p.m. (16+) **[PROGRAM FULL]**
 - Monday, September 13 – Mushroom Hike #2 at Hazelwood Lake; 10:00 a.m. – 1:00 p.m. (16+)
 - Thursday, September 16 – Trees & Fall Colours at Little Trout Bay; 10:00 a.m. – 1:00 p.m. (16+)
 - Saturday, September 25 – Trees & Fall Colours at Little Trout Bay; 10:00 a.m. – 1:00 p.m. (all ages)
 - Thursday, September 30 – Fall Photography Workshop at Mission Island Marsh; 9:00 a.m. – 12:00 p.m. (16+)
- October
 - Saturday, October 2 – Fall Waterfowl Viewing Day (sponsored by Ontario Power Generation) at Mission Island Marsh; 9:00 a.m. – 12:00 p.m. (all ages)
 - Wednesday, October 6 - Nature Journaling at Cascades; 10:00 a.m. - 1:00 p.m. (all ages)
 - Thursday, October 7 - Nature Journaling at Cascades; 10:00 a.m. - 1:00 p.m. (16+)

Girl Guides Partnership

For your information, staff have engaged in conversations with the Canadian Girl Guides regarding programming and partnership opportunities. The LRCA will be conducting two paid programs for Girl Guides this fall, tentatively scheduled for Saturday, October 16 and Saturday, November 6. Girl Guides have a strong relationship with the Toronto and Region Conservation Authority, and the intent is for the LRCA to fill a similar role here in the north.

Alzheimer Society Partnership

For your information, staff will be conducting two paid programs for the Alzheimer Society, tentatively scheduled for Thursday, October 14 and Thursday, October 21. Ideally groups like the Alzheimer Society, Cancer Society and other local health organizations will continue to look to the LRCA for programming and recreational opportunities. Staff intend to also investigate the possibility of hosting an outdoor “health fair” in a Conservation Area when COVID-19 restrictions allow for larger, drop-in style events, which would include local health, medical, wellness, diversity and Indigenous-related organizations and groups. Further information will be provided to the Board when available.

WSIB Health and Safety Excellence Program

Although no official correspondence has been received at the time of writing this agenda, for your information staff have received verbal confirmation from a WSIB representative that the LRCA’s five health and safety topics as part of the 2020/21 WSIB Health and Safety Excellence

Program have been validated, and that the LRCA will be receiving the full allowable rebate of \$5,000.00. Staff will now begin selecting the five topics for the 2021/22 Excellence Program, which if successfully validated, will result in another rebate for 2022.

Riparian Habitat Restoration at the Mounddale Boat Launch

Staff have received approval for funding from Environment and Climate Change Canada (ECCC) in the amount of \$47,480, including HST, through the Great Lakes Protection Initiative fund (Thunder Bay Area of Concern). The restoration at the Mounddale Boat Launch is a two-year project that will restore riparian habitat, remove invasive species, and implement green infrastructure to reduce impacts of stormwater runoff and bank erosion along the Kaministiquia River. The overall goal for the project is to improve water quality and habitat function along an important part of the river, which will advance the Fish and Wildlife Populations and Habitat beneficial uses.

Wildlife Habitat Restoration along the Neebing-McIntyre Floodway Corridor

Staff have received approval for funding from Environment and Climate Change Canada (ECCC) in the amount of \$66,750, including HST, through the Great Lakes Protection Initiative fund (Thunder Bay Area of Concern). The two-year project will target three sites along the Neebing-McIntyre Floodway for re-vegetation and invasive species removal. The three identified sites are all on LRCA owned lands in the areas of the Floodway mouth at Lake Superior, the Simpson Street triangle property, and the Floodway Diversion at Ford Street. The project will increase biodiversity, reduce soil erosion/turbidity, and improve water quality for healthier riparian habitat.

Shoreline Restoration at Mission Island Marsh Conservation Area

In July, Staff developed a proposed shoreline restoration and planting plan for the Mission Island Marsh Conservation Area to restore and stabilize the shoreline and to create a naturalized vegetated buffer zone between the water's edge and the parking lot. The proposed plan for Mission Island Marsh includes the installation of riverstone, native trees and shrubs, and a 3-metre-wide path linking the parking lot to the existing forest trail. A secondary path will be established from the north side of the parking lot to the water's edge as well.

The proposed plan and detailed project information was posted on the LRCA's News webpage on July 26th with a feedback survey that was open for a 4-week public review and commenting period. The proposed shoreline restoration and planting plan was also sent directly to targeted users of the Mission Island Marsh Conservation Area (i.e., local environmental groups and watersport organizations). At the time of writing the agenda, 24 feedback survey responses were received. Staff are currently reviewing all comments and will amend the plan if warranted. Work is scheduled to begin the week of August 23, 2021.

The Mission Marsh Shoreline Restoration project is funded through a transfer payment agreement with the Ministry of Natural Resources and Forestry. The Mission Island March Conservation Area ‘Proposed Plantings’ public handout with the proposed shoreline restoration and planting plan, as posted on the LRCA News webpage, is attached on pages 85 to 86.

Lake Superior Water Levels

In August, the Lake Superior water level was 31 centimetres below the record high set at the beginning of August in 2019, and 3 centimetres above its beginning of August average (1918-2020). The current water level is approximately 66 centimetres lower than the 100-year flood level for Lake Superior. If drier than average conditions continue in the Lake Superior basin, the level of Lake Superior could reach the long-term average this fall.

Low Water Response

As part of the Ontario Low Water Program, staff declared Level I Low Water Condition on July 29, 2021 based on the observed low flow conditions in area streams. Recorded precipitation over the last three months, was 67% of average (i.e., 156.6 millimetres compared to 232.4 millimetres average). Area streams at the beginning of July were 15% of the monthly mean average. It is anticipated to move to Level II Low Water Condition at the end of August.

Hazelwood Lake Dam Repair

For your information, and at the time of writing the agenda, Tom Jones Corporation was scheduled to mobilize to the Hazelwood Lake Dam site on Tuesday, August 17, 2021. The project duration will be approximately 4 to 5 weeks, based on a Monday to Friday work week of 10-hour days. Weekly meetings will be arranged with KGS Group and Tom Jones Corporation representatives to review project progress and advise staff on the progress of the project.

12. NEW BUSINESS

13. NEXT MEETING

Wednesday, September 29, 2021, at 4:30 p.m.

14. ADJOURNMENT

Suggested Resolution:

“THAT: the time being _____ p.m. AND FURTHER THAT there being no further business we adjourn.”

2021 EVENTS/MEETINGS

Thursday, August 26, 2021	Living Classroom Program
Saturday, August 28, 2021	Silver Harbour Day (canceled due to COVID-19)
Sunday, September 12, 2021	Fall Mushroom Hike
Thursday, September 16, 2021	Living Classroom Program
Wednesday, September 29, 2021	LRCA Board Meeting
Thursday, September 30, 2021	Fall Photography Workshop (Living Classroom Program)
Saturday, October 2, 2021	Fall Waterfowl Viewing Day
Thursday, October 7, 2021	Living Classroom Program
Wednesday, October 27, 2021	LRCA Board Meeting
Wednesday, November 24, 2021	LRCA Board Meeting
Thursday, December 9, 2021	Holiday Gathering

****All events are tentative and are subject to current COVID-19 restrictions.**



LAKEHEAD REGION

CONSERVATION AUTHORITY

Minutes of the Sixth Regular Meeting of the Lakehead Region Conservation Authority held on Wednesday, June 23, 2021, via Microsoft Teams. The Chair called the Meeting to order at 4:30 p.m.

PRESENT: Donna Blunt, Chair
Grant Arnold, Vice-Chair
Rudy Buitenhuis
Erwin Butikofer
Andrew Foulds
Andrea Goold
Umed Panu
Allan Vis

REGRETS: Joel Brown
Trevor Giertuga
Jim Vezina

ALSO PRESENT: Tammy Cook, Chief Administrative Officer
Mark Ambrose, Finance Manager
Ryne Gilliam, Lands Manager
Ryan Mackett, Communications Manager
Melanie O’Riley Receptionist/Admin Clerk, recorder of Minutes

1. ADOPTION OF AGENDA

Resolution #70/21

Moved by Grant Arnold, Seconded by Alan Vis

“THAT: the Agenda be adopted as published.” CARRIED.

2. DISCLOSURE OF INTEREST

None.

3. MINUTES OF PREVIOUS MEETING

Resolution #71/21

Moved by Rudy Buitenhuis, Seconded by Andrew Foulds

“THAT: the Minutes of the Lakehead Region Conservation Authority Fifth Regular Meeting held on Wednesday, May 26, 2021, are adopted as published.” CARRIED.

4. IN-CAMERA AGENDA

Resolution #72/21

Moved by Erwin Butikofer, Seconded by Umed Panu

“THAT: we now go into Committee of the Whole (In-Camera) at 4:31 p.m.” CARRIED.

Resolution #73/21

Moved by Andrew Foulds, Seconded by Allan Vis

“THAT: we go into Open Meeting at 4:46 p.m.” CARRIED.

Resolution #74/21

Moved by Andrea Goold, Seconded by Grant Arnold

“THAT: the In-Camera Minutes of the Lakehead Region Conservation Authority’s, May 26, 2021 meeting be adopted as published.” CARRIED.

Resolution #75/21

Moved by Allan Vis, Seconded by Andrea Goold

“THAT: the Board of Directors authorizes the disposition of the portion of Wishart Forest south of Olmala Road that is separated from the main land holding.” CARRIED.

The purpose of the In-Camera Meeting pertained to property matters.

5. BUSINESS ARISING FROM PREVIOUS MINUTES

(a) File: Indemnification By-Law

Members reviewed and discussed the final draft Indemnification By-Law that has been updated to be gender neutral.

Resolution #76/21

Moved by Rudy Buitenhuis, Seconded by Grant Arnold

“THAT: *The Members of the Lakehead Region Conservation Authority authorize the passing of By-Law No. 2/2021: Indemnification.”* **CARRIED.**

Recorded Vote

NAME	YES	NO	ABSENT	ABSTAIN
Arnold, Grant	Yes			
Brown, Joel			Absent	
Buitenhuis, Rudy	Yes			
Butikofer, Erwin	Yes			
Foulds, Andrew	Yes			
Giertuga, Trevor			Absent	
Goold, Andrea	Yes			
Panu, Umed	Yes			
Vezina, Jim			Absent	
Vis, Allan	Yes			
Blunt, Donna (Chair)	Yes			

Members reviewed and discussed Staff Report CORP-09-2021 related to the Ministry of Environment, Conservation and Parks Environmental Registry of Ontario posting ERO 019-2986: Regulatory proposal (Phase 1) under the *Conservation Authorities Act*.

Resolution #77/21

Moved by Umed Panu, Seconded by Andrew Foulds

“THAT: *the Board of Directors of the Lakehead Region Conservation Authority approve the draft comments dated June 23, 2021 related to the Ministry of Environment, Conservation and Parks Environmental Registry of Ontario posting ERO 019-2986: Regulatory proposal (Phase 1) under the Conservation Authorities Act AND FURTHER THAT a copy of the comments will be posted on the Environmental Registry of Ontario AND FURTHER THAT a copy will be sent to the Member Municipalities of the Lakehead Region Conservation Authority; Michael Gravelle, MPP – Thunder Bay Superior North; Judith Monteith-Farrell, MPP- Thunder Bay- Atikokan; and Conservation Ontario.”* **CARRIED.**

6. CORRESPONDENCE

(a) File: Lakehead University Arthur Shewchuk Memorial Bursary

Correspondence received from Lakehead University advising that Allison Farrish, first year mechanical engineering program, was the successful recipient of the Arthur Shewchuk Memorial Bursary was noted.

(b) File: Annual Report

Correspondence from Ms. Rebecca Johnson, Councilor at Large with the City of Thunder Bay, congratulating the LRCA on the 2020 Annual Report was noted.

(c) File: Source Water Protection Program- Private Drinking Water Wells

Three letters received from Fort Erie, Port Colborne and the Township of South Frontenac encouraging the Premier of Ontario to ensure that people who rely on private wells and other private servicing for clean drinking water are afforded the same source water protection as municipal drinking water systems through the Source Water Protection Program were noted.

(d) File: Lakehead Conservation Foundation Membership

Correspondence from Ms. Virginia Lane was received advising of her resignation from the Lakehead Conservation Foundation.

7. STAFF REPORTS

None.

8. CHIEF ADMINISTRATIVE OFFICER REPORT

Members were provided with the monthly Treasurer's Report for May's Administration and Capital.

Members were advised that TC Energy has confirmed that the LRCA has been approved to receive \$7,500.00 in funding to support purchasing a new floating dock at Silver Harbour Conservation Area.

Members reviewed and discussed Staff Report CORP-08-2021: Governance Accountability and Transparency Initiative. The initiative led by Conservation Ontario was developed in conjunction with a Steering Committee of Conservation Authority CAOs, to proactively demonstrate commitment to accountability and transparency by all Conservation Authorities in the province.

Resolution #78/21

Moved by Erwin Butikofer, Seconded by Andrea Goold

“WHEREAS the provincial government has passed legislative amendments related to the governance of Conservation Authorities;

AND WHEREAS the Conservation Authorities remain committed to fulfilling accountable and transparent governance;

THEREFORE, BE IT RESOLVED THAT the Lakehead Region Conservation Authority endorse the three key actions developed by the Conservation Ontario Steering Committee to update CA Administrative By-laws, to report proactively on priorities, and to promote/demonstrate results;

AND THAT staff be directed to work with Conservation Ontario to implement these actions and to identify additional improvements and best management practices.” CARRIED.

9. PASSING OF ACCOUNTS**Resolution #79/21**

Moved by Grant Arnold, Seconded by Andrew Foulds

“THAT: having examined the accounts for the period of May 1, 2021, to May 31, 2021, cheque #2274 to #2295 for \$24,493.29 and preauthorized payments of \$93,273.50 for a total of \$117,766.79, we approve their payment.” CARRIED.

10. REGULATORY ROLE

Members were provided with the Plan Input and Review Summary for the period of May to June 16, 2021 and the summary of Section 28 Permits issued in 2021 to date.

11. PROJECTS UPDATE

Members were advised that Staff have begun bathing beach sampling at Hazelwood Lake Conservation Area under the Thunder Bay District Health Unit’s Beach Program. Between June 1st and August 31st, staff sample weekly. As part of the operation of the bathing beach area, the water is tested to ensure swimmers are advised of current swimming conditions.

Members were advised that on June 14, 2021, the MECP advised that they had received a report of suspected blue green algae near the swimming area at Hazelwood Lake Conservation Area. The ministry sampled and analyzed the water, and it was confirmed that it was blue green algae. In consultation with the Thunder Bay District Health Unit the beach was closed. Beach closure signage was posted at the beach and causeway at Hazelwood Lake Conservation Area.

Members were advised that the LRCA Community Garden will once again be utilized this season by the RFDA.

Members were advised that staff have granted permission for Dr. Adam Algar, Associate Professor from the Department of Biology at Lakehead University, to conduct ecological research on the gray treefrog at Hazelwood Lake Conservation Area.

The Dorion Birding Festival took place via a Microsoft Teams Live Event on Friday, May 28, 2021. 73 participants logged in to the virtual event.

Members were advised that Staff provided teachers with a virtual version of the Water Festival in lieu of the regular, in-person Festival typically held the first week of June at the LRCA Administrative Office.

It was noted that the Hazelwood Lake Family Fun Day and Silver Harbour Day public events that were tentatively scheduled for Sunday, July 18 and Saturday, August 28 respectively will likely not be held due to COVID-19.

12. NEW BUSINESS

None.

13. NEXT MEETING

Special Meeting Wednesday, July 14, 2021, at 4:00 p.m. via Microsoft Teams.

14. AJOURNMENT

Resolution #80/21

Moved by Grant Arnold, Seconded by Allan Vis

"THAT: the time being 5:20 p.m. AND FURTHER THAT there being no further business we adjourn." CARRIED.

Chair

Chief Administrative Officer



LAKEHEAD REGION

CONSERVATION AUTHORITY

Minutes of the First Special Meeting of the Lakehead Region Conservation Authority held on Wednesday, July 14, 2021, via Microsoft Teams. The Chair called the Meeting to order at 4:00 p.m.

PRESENT: Donna Blunt, Chair
Grant Arnold, Vice-Chair
Joel Brown
Rudy Buitenhuis
Andrew Foulds
Andrea Goold
Umed Panu
Allan Vis
Jim Vezina

REGRETS: Erwin Butikofer
Trevor Giertuga

ALSO PRESENT: Tammy Cook, Chief Administrative Officer
Gail Willis, Watershed Manager

1. ADOPTION OF AGENDA

Resolution #78/21

Moved by Grant Arnold, Seconded by Joel Brown

“THAT: the Agenda be adopted as published.” CARRIED.

2. DISCLOSURE OF INTEREST

None.

3. HAZELWOOD LAKE DAM REPAIRS

Members reviewed staff report LM-05-2021 related awarding the tender for repairs to the Hazelwood Lake Dam during the summer of 2021.

Resolution #82/21

Moved by Andrea Goold, Seconded by Allan Vis

“THAT: the Contract for 2021 Hazelwood Lake Dam Repairs for the material, equipment and labour necessary for the installation of a temporary cofferdam and concrete repairs of the Hazelwood Lake Dam structure be awarded to Tom Jones Corporation for a cost of \$122,597.00, not including HST AND FURTHER THAT funds will be appropriated from the Hazelwood Lake Dam Reserve and the Conservation Areas Major Maintenance Capital Reserve for the project.”
CARRIED.

4. NEXT MEETING

Wednesday August 25, 2021, at 4:30 p.m.

5. AJOURNMENT

Resolution #83/21

Moved by Umed Panu, Seconded by Jim Vezina

“THAT: the time being 4:06 p.m. AND FURTHER THAT there being no further business we adjourn.” **CARRIED.**

Chair

Chief Administrative Officer



LAKEHEAD REGION
CONSERVATION AUTHORITY

PROGRAM AREA	Environmental Education	REPORT NO.	ENVEDU-01-2021
DATE PREPARED	August 16, 2021	FILE NO.	32-18-4
MEETING DATE	August 25, 2021		
SUBJECT	LRCA Environmental Education Program 2020/21 School Year Summary		

RECOMMENDATION

Suggested Resolution:

“THAT: Staff Report ENVEDU-01-2021 be received for information.”

LINK TO STRATEGIC PLAN (2018-2022)

Conserve & Sustain

- *Support, strengthen and encourage environmental stewardship and sustainability.*

Protect & Support

- *Increase awareness of the impacts of floods and hazards and the importance of mitigation.*

Connect & Explore:

- *Emphasize a sense of place through positive and equitable interactive experiences.*
- *Strengthen a shared interest in conservation through collaboration with existing and new partners.*

EXECUTIVE SUMMARY

The Lakehead Region Conservation Authority (LRCA)'s environmental education program has demonstrated substantial growth since its inception in 2011. To date, the education program has reached approximately 23,030 participants through 550 programs over the last decade, while earning \$45,665.01 in revenue for paid programming during that time. Over the last 10 years, the education program has also generated an additional \$391,045.10 in self-generated revenue through grants, charitable donations and sponsorships.

During the 2020/21 school year, a total of 133 education programs were delivered, reaching approximately 6,168 participants. A total of \$8,730.00 in revenue was generated through paid programs during the 2020/21 school year.

The LRCA's education program should remain a priority into the future.

DISCUSSION

The LRCA employs a recurring contract Education Coordinator position, responsible for the development, planning and deliver of environmental education programming. The position is active for 39 weeks of the year, with breaks in the contract during the months of July, August and December.

Due to the resignation of the current Education Coordinator, staff are currently going through the hiring process for a new incumbent with an anticipated start date of September 20, 2021.

The LRCA's Education Coordinator position and education program is fully funded through charitable donation, grants and self-generated revenue via programming fees. No municipal levy or provincial transfer payment goes towards the LRCA's education program or Education Coordinator position. Funding sources include corporate contributions from Ontario Power Generation, Enbridge, and TC Energy; another regular funding body for the LRCA's education program is the TD Friends of the Environment Fund. Beginning in 2022, some wages will be funded through the LRCA's Forest Management revenue in relation to programming surrounding trees and Arbor Week.

Due to COVID-19 the Lakehead Conservation Foundation (LCF) has not been able to hold fundraising events. Typically, the LCF, through the annual Conservation Dinner & Auction and Wine Tasting & Dinner at Whitewater events, has contributed up to \$25,000.00 annually to the LRCA to partially fund the environmental education program. Those events have been cancelled recently due to the pandemic, and there is uncertainty about how the LRCA and LCF may be able to fundraise for similar amounts of money with the same or similar amount of staff time required to plan fundraising events, etc.

The LRCA's education program continued to make progress during the 2020/21 school year, despite the pandemic. Staff transitioned to virtual programming, including pre-recorded videos, live virtual field trips and live virtual programs via Zoom, Teams, and Google Meets. Due to the ability to present virtually, staff found that programs were being regularly booked during months where typical outdoor program bookings are usually lower. Virtual programming also allowed staff to reach many students who may otherwise not have been able to attend programming.

During the 2020/21 school year, staff conducted a total of 133 environmental education programs (paid and unpaid) from 33 schools, reaching approximately 3,868 paid participants. The education program brought in \$8,730.00 in revenue during the 2020/21 school year, which goes directly toward paying for the program itself, including the Education Coordinator position wages.

In addition, it is estimated that an additional 2,300 participants were reached through the LRCA's pre-recorded virtual complementary programs (Water Festival, Spring Water Awareness, etc.). This brings the total number of participants reached during 2020/21 to approximately 6,168.

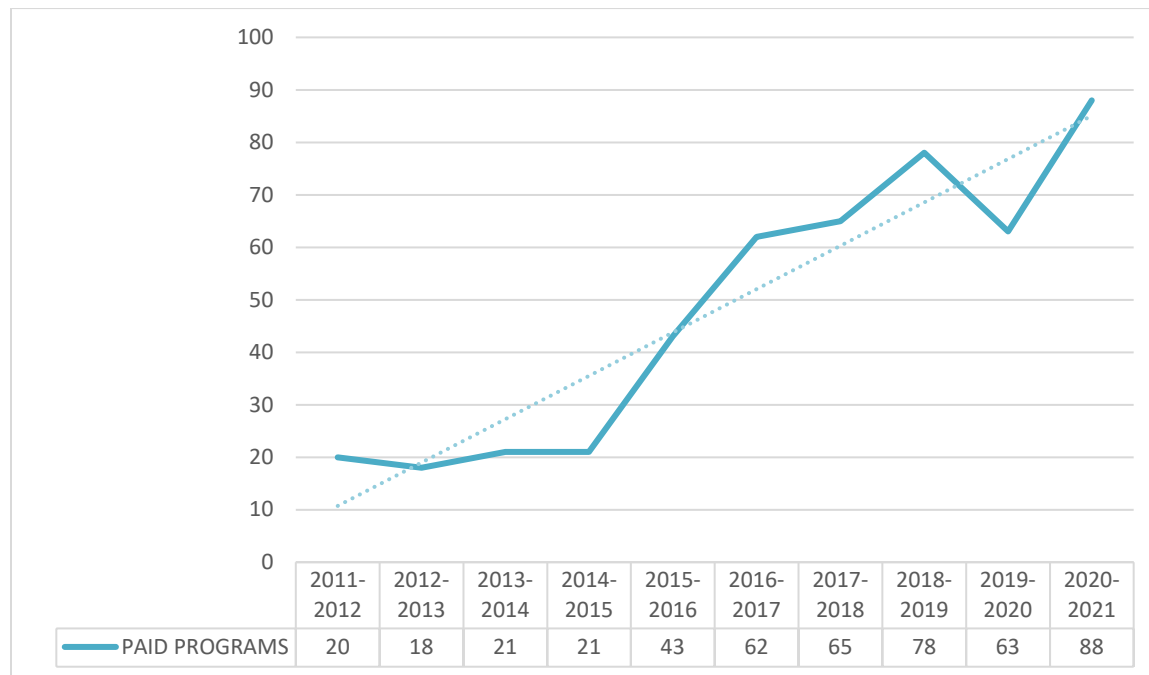
Due to the continuing COVID-19 pandemic, the majority of programming conducted during the 2020/21 school year was virtual. Staff plan to resume hosting in-person guided hikes at

Conservation Areas and in-person, at-school programming as soon as it is responsible and safe to do so. Virtual programming will remain an option going forward.

The type of programming provided by the LRCA includes:

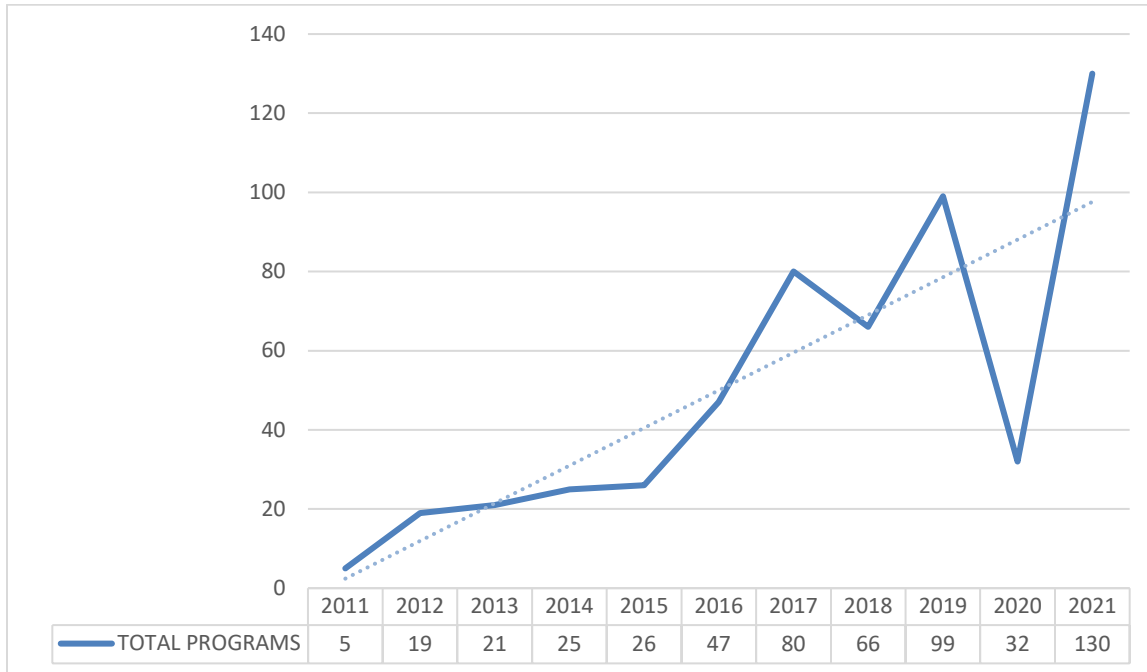
- School programs (in-class; guided hike; outdoors at schools; virtual live; virtual pre-recorded)
- Complimentary core programming (Lakehead Children’s Water Festival; Watershed Connections; Arbor Week)
- Complementary natural hazard programs (Spring Water Awareness Program; Floodway Hikes)
- Living Classroom/Watershed Explorer programs (formerly Living Classroom/Engaging Seniors; funded by TD Friends of the Environment Fund)
- Miscellaneous workshops, presentations, seminars, and discussions, either hosted by the LRCA or hosted by other organizations but at which the LRCA has presented

Education Paid Programs:



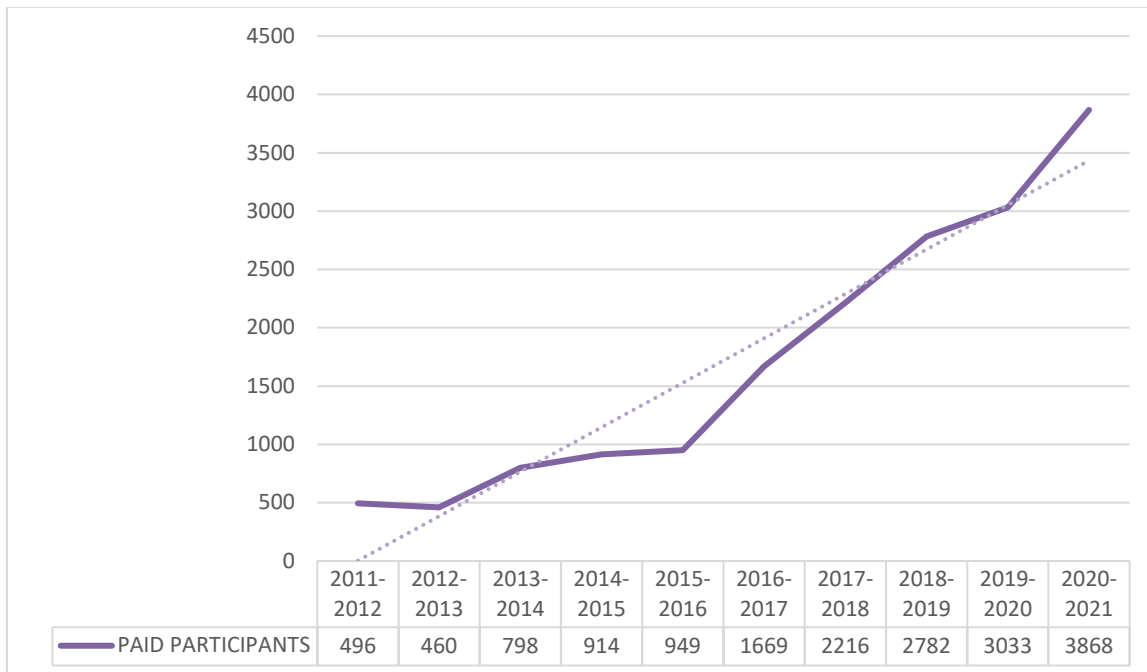
Paid program total to-date: 479; data presented per school year.

Total Education Programs:



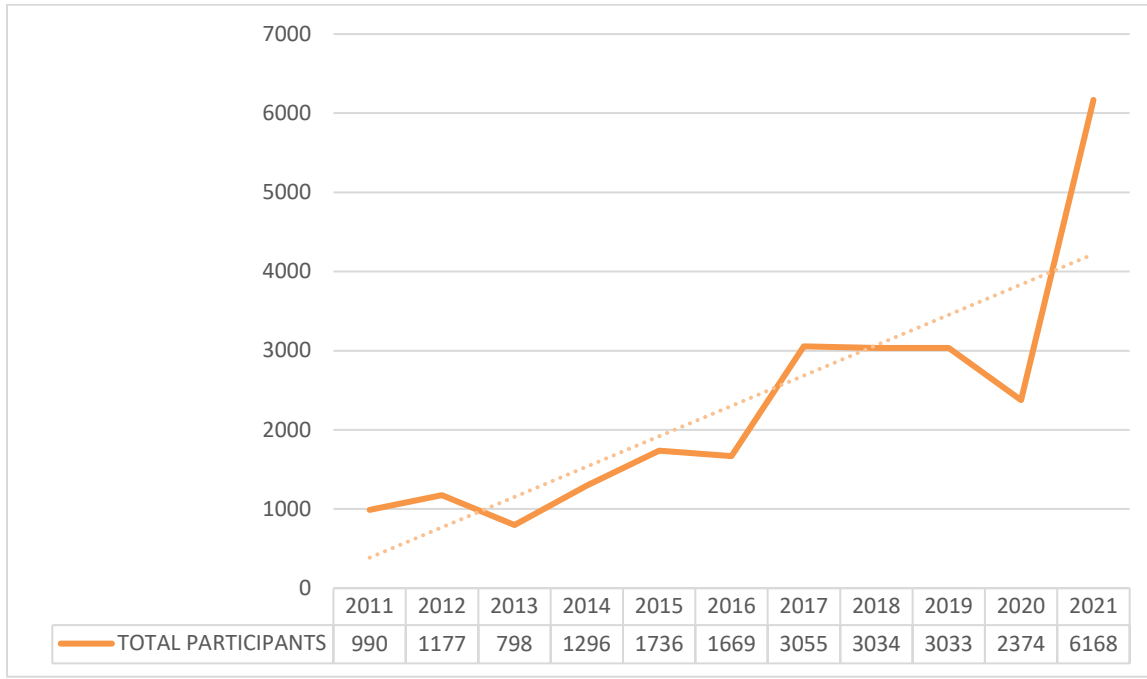
Total education programs to-date: 550

Education Paid Participants:



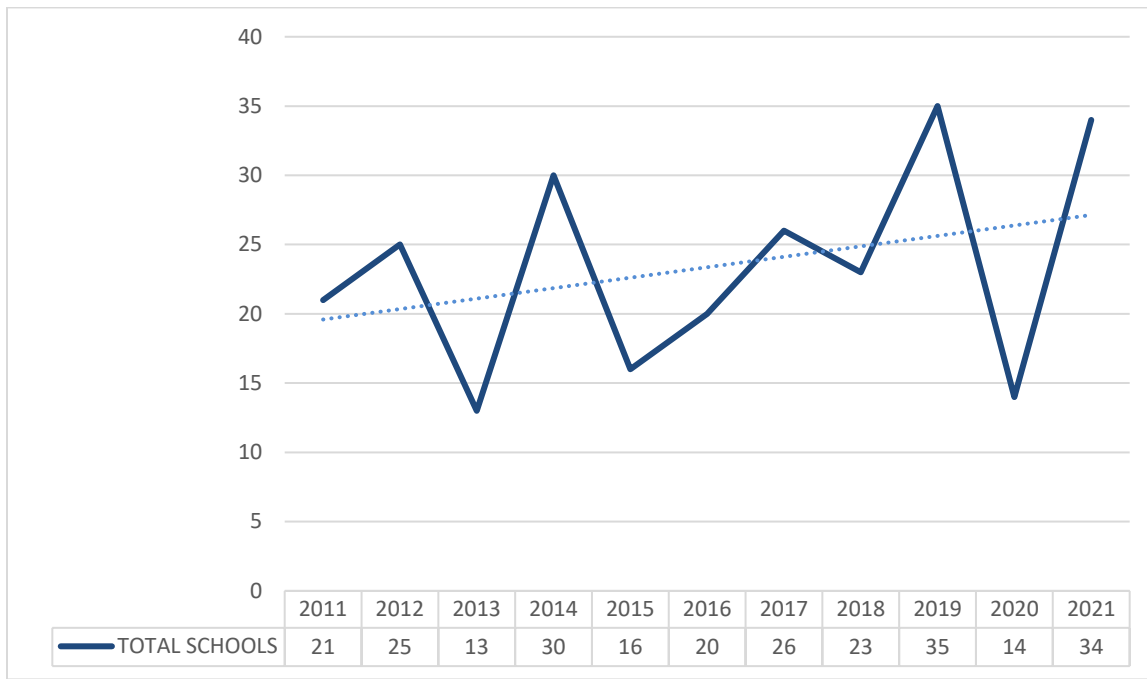
Paid program participants total to-date: 17,185; data presented per school year.

Total Education Participants:



Total education participants to-date: 23,030

Total Number of Booking Schools:



Note that single schools typically book multiple programs; additionally, some programs (like the Water Festival) involve multiple schools.

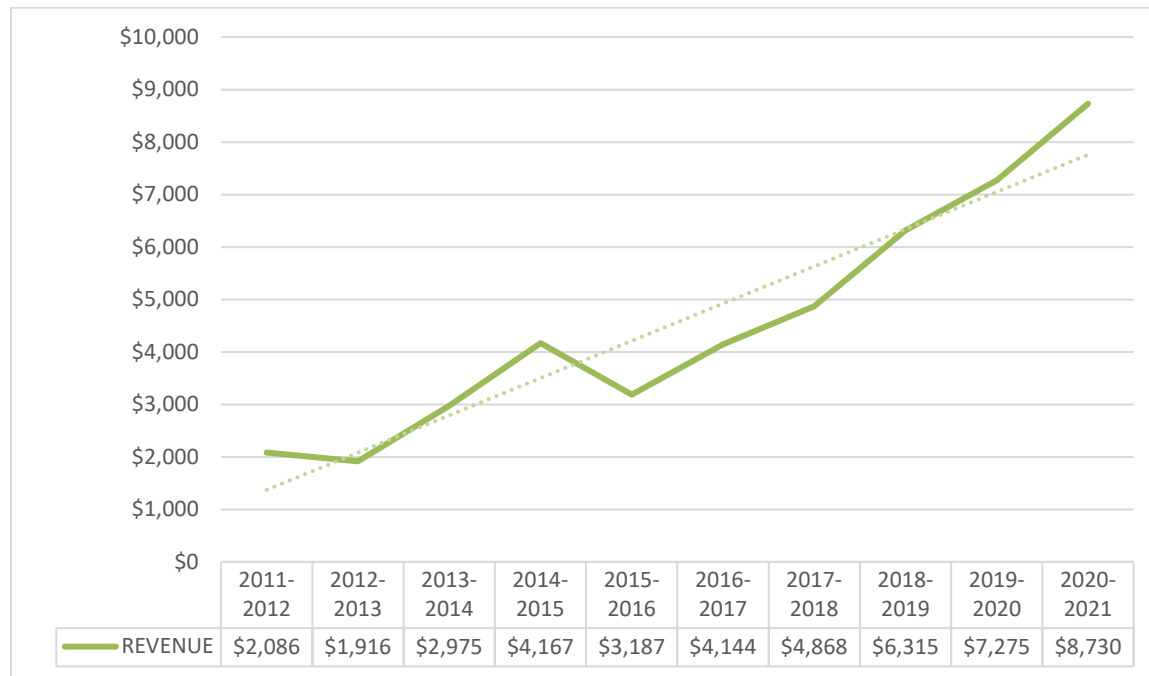
Notable Trends:

- The number of education programs delivered each year is consistently trending upwards
- The number of participants reached each year is consistently trending upwards
- The number of schools within the Lakehead Watershed that are booking programs continues to grow
- Revenue generated by the education program is consistently trending upwards
- During 2021, many more programs were booked during the months of March and April than is usual; typically, the weather and wet/icy trail conditions would limit outdoor education programming during those months, however many teachers were utilizing the LRCA’s virtual program offerings
- The use of virtual programming (live and pre-recorded) enabled the LRCA to reach many more students during 2021 than would normally be possibly through traditional education programming

FINANCIAL IMPLICATIONS

The LRCA will continue with the education program and Education Coordinator position into the future, provided adequate funding is available. The LRCA’s education deferred fund currently contains \$77,532.48 (at the time of writing this report; some of this fund will be utilized this year for the position’s wages).

Education Paid Program Revenue:



Paid program revenue total to-date: \$45,665.01; data presented per school year.

Self-Generated Revenue, Charitable Donations and Sponsorships:

In addition to revenue generated through paid education programming, the education program has also generated revenue through various funding partners, sponsorships, grants and donations. All revenue generated through the education program directly funds the program.

REVENUE SOURCE	REVENUE GENERATED TO-DATE (2011-Present)
Lakehead Conservation Foundation (LCF)	\$213,500.00
Ontario Power Generation (OPG)	\$59,800.00
TD Friends of the Environment Fund (TD FEF)	\$58,849.92
Enbridge	\$1,500.00
RBC Blue Water Program	\$13,000.00
Seniors Community Grant Program (Provincial)	\$9,474.72
Living Classroom Fund donations	\$20,720.46
Union Gas	\$7,000.00
Ministry of the Environment, Conservation and Parks	\$3,500.00
City of Thunder Bay	\$2,000.00
CP Rail	\$500.00
Lakehead University	\$500.00
Bean Foundation Grant	\$700.00
TOTAL TO-DATE:	\$391,045.10

CONCLUSION

The LRCA has become known for delivering high-quality environmental education programming and continues to grow the program each year. Teachers and other educators are more frequently looking to the Authority for education programming, and staff continue to grow the various partnerships, relationships, and rapport with these individuals each year. Education is a vital part of the outreach and community relations initiatives of the Authority and should remain a continued priority.

BACKGROUND

The hiring of the LRCA's first Education Coordinator position and subsequent implementation of paid education program delivery via field trips, guided hikes and in-person, in-class programming began in 2011. The Communications Manager oversees the high-level administration of the LRCA's education and outreach programming and is the direct supervisor of the Education Coordinator position. The Education Coordinator carries out the day-to-day program development, delivery and communications with schools, teachers, and principals.

The LRCA has traditionally conducted several “complimentary” education programs, such as the Spring Water Awareness Program (SWAP), Lakehead Children’s Water Festival, Watershed Connections and Arbor Week. These programs were historically planned and conducted by the Community Stewardship/Public Relations Officer (now Communications Manager), however as that position evolved to carry out different duties, and the desire for more dedicated education programming increased, the hiring of a dedicated education position became a necessity.

The current Education Coordinator position is a recurring contract that has the incumbent working 39 weeks out of the year, with a break in the contract during the months of July and August, as well as in December.

Ideally the Education Coordinator position will eventually become a permanent position at the Authority, which will help with staff retention as well as to maintain the momentum and progress made each school year, and to help continue the upward trends of bookings, participants and revenue.

The LRCA’s programming for schools strives to meet the Ontario Ministry of Education curriculum. The *Education Act* explicitly lists Conservation Authorities as potential education partners and Authority-owned lands as locations at which education can occur:

Agreements with conservation authorities, etc.

(7) A board may enter into an agreement with a conservation or other appropriate authority under which the board may, with the approval of the Minister, construct and maintain on lands owned by the authority the necessary facilities for the purpose of conducting a natural science program or other out-of-classroom program. R.S.O. 1990, c. E.2, s. 197 (7).

Idem

(8) A board that conducts a natural science, conservation or other out-of-classroom program may enter into an agreement with a conservation or other appropriate authority for the use of the facilities and personnel of such authority for the purpose of conducting such a program as directed by the board. R.S.O. 1990, c. E.2, s. 197 (8).

Idem

(9) One or more boards may enter into an agreement with a conservation or other appropriate authority to provide for the construction, furnishing and equipping by the authority on lands owned by the authority of facilities for the purposes of conducting a natural science, conservation or other out-of-classroom program as directed by the board or one or more of the boards and, where under the agreement a board is required to pay all or part of the cost of the facilities, the construction of the facilities shall be first approved by the Minister, and the amount paid therefor by the board shall be deemed to be an expenditure made by the board for a permanent improvement. R.S.O. 1990, c. E.2, s. 197 (9).


The LRCA will continue to work with local school boards within the LRCA Area of Jurisdiction to continue to provide education programming in addition to the programming conducted for the general public.

REFERENCE MATERIAL ATTACHED

None.

PREPARED BY:

Ryan Mackett, Communications Manager

THIS REPORT SIGNED AND VERIFIED BY:  Tammy Cook, Chief Administrative Officer	DATE: August 16, 2021
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LAKEHEAD REGION

CONSERVATION AUTHORITY

PROGRAM AREA	CONSERVATION AREAS	REPORT NO.	CONAREA-01-2021
DATE PREPARED	August 10, 2021	FILE NO.	28-25-2
MEETING DATE	August 25, 2021		
SUBJECT	Traffic Counter Report - 2020		

RECOMMENDATION

Suggested Resolution:

“THAT: the Staff Report CONAREA-01-2021 be received **AND FURTHER THAT** the recommendations contained therein be endorsed.”

- Personnel and funding permitting, continue the annual vehicle counts at the Conservation Areas,
- Continue developing the marketing strategy with a focus on increasing yearly coin box revenue for all Conservation Areas, and creating public awareness of LRCA owned Conservation Areas and associated costs,
- Continue to promote the sale of Explore Card Parking Passes, and
- Develop a strategy to track usage of Explorer Card users.

LINK TO STRATEGIC PLAN (2018 – 2022)

Connect & Explore:

- Manage recreational areas for current and future generations.

EXECUTIVE SUMMARY

In 2020, TRAFx G3 vehicle counters were deployed at Cascades, Mission Island Marsh, Hazelwood Lake, Silver Harbour, Little Trout Bay, Cedar Falls and Hurkett Cove Conservation Areas. Seasonal trail counters were deployed on the Dam Trail at Hazelwood Lake and at the James Duncan Memorial/Lookout trail at Little Trout Bay Conservation Areas.

Due to a significant loss of traffic counter data in 2019, all data from the 2020 traffic study was compared with the 2018 traffic counter numbers.

In 2020, 214,128 vehicles visited the seven studied conservation areas, which corresponds to 471,082 people, assuming a count of 2.2 people per vehicle. Mission Island Marsh Conservation Area was the most visited area (35.0%), followed by Cascades Conservation Area (34.2%), Silver Harbour Conservation Area (18.3%), Hazelwood Lake Conservation Area (6.4%), Little Trout Bay Conservation Area (2.5%), Cedar Falls Conservation Area (2.1%), and Hurkett Cove Conservation

Area (1.5%). The average monthly vehicle count increased by approximately 5,547 vehicles from 12,297 in 2018 to 17,844 in 2020.

Total revenue from all coin boxes in 2020 amounted to \$10,254.00, which equates to approximately 2.4% of people paying the parking fee by coin box. In 2020, 275 Explore Cards were purchased and 19 were donated as promotional items with a revenue of \$8,250.00. It is estimated that 6.85% of visitors to the areas pay for their parking using an Explore Card, which results in an estimated 9.25% of all visitors paying to park in the areas. Total revenue generated from coin boxes and Explorer Cards increased by approximately \$8,234.14 in 2020 when compared to 2019 (i.e., \$10,269.86 in 2019 compared to \$18,504.00 in 2020).

The COVID-19 pandemic was a significant factor in the increased visitation rates as the LRCA's Conservation Areas remained open while so many other indoor and outdoor recreation options were closed. Total vehicle count percentage increase from 2018 to 2020 was 45%.

DISCUSSION

Annual vehicle traffic counter studies of Cascades, Cedar Falls, Little Trout Bay, Mission Island, Hazelwood Lake, Hurkett Cove and Silver Harbour Conservation Areas were completed in 2020. Seasonal trail counter studies of Little Trout Bay Conservation Area (James Duncan Memorial/Lookout trail) and Hazelwood Lake Conservation Area (Dam trail) were also conducted in 2020.

Due to a significant loss of traffic counter data in 2019, all data from the 2020 traffic study was compared with the 2018 traffic counter numbers.

Methodology

The TRAFx G3 vehicle counters were placed underground in plastic valve boxes that provided protection from the surrounding soil and were covered with approximately 10 centimetres of native soil or rock on top. The counters were placed in Ziploc bags that have desiccant moisture control packets to control the moisture levels in the bag. A PVC junction box is utilized at Hazelwood Lake, which has been installed on the side of the guardrail along the hill prior to the causeway.

The counters cannot distinguish direction of traffic (i.e. in or out); therefore, areas that only have one entrance to both enter and exit the area had their counts divided by two. The vehicle counters also do not give an estimate of the number of people per vehicle. Since the traffic counters only count vehicles, any visitors who bike or walk to the area would not be included in the usage summary. Traffic counts were not reduced for Authority vehicles visiting the areas.

The following table summarizes the circumstance and the data factor that was applied in calculating usage at the areas:

Table 1: Usage Factors

Circumstance	Data factor	Area Applied
Only one way into and out of area	All counts are divided by 2	All areas except Little Trout Bay
Only one way into and out from boat launch to parking lot	All counts are divided by 4	Little Trout Bay
Estimate number of people per vehicle	Multiply by a factor of 2.2	All areas
Authority maintenance staff entering area	Not factored into estimates	All areas

Volume of Visitors to Conservation Areas

Throughout the 2020 study period, 214,128 vehicles visited the seven Conservation Areas. Utilizing an assumed factor of 2.2 people per vehicle, an estimated 471,082 people attended the seven areas throughout the year. In 2020, approximately 66,569 more vehicles visited Conservation Areas compared to 2018, which equates to a 45% increase in usage.

Table 2: Annual Total Vehicles and Visitors to Conservation Areas

Year	Total Vehicle Count	Total Estimated Visitors
2015	138,306	304,273
2016	137,331	302,128
2017	143,297	315,253
2018	147,559	324,630
2019	n/a	n/a
2020	214,128	471,082
Average	156,124	343,473

COVID-19

On March 11, 2020, the World Health Organization declared a global pandemic for the new Coronavirus (COVID-19). The COVID-19 pandemic caused significant disruption to normal routines of government, businesses, and residents across the globe. On March 17, 2020, the Province of Ontario declared a state of emergency following travel bans and emergency measures put in place by the Government of Canada. Several Provincial Orders were put in place as a result. The state of emergency was undeclared on July 24, 2020; however, many Emergency Orders remained in effect. Additionally, the province declared a mandatory lock down for Northern Ontario beginning December 26, 2020. During the various shutdowns, area residents were unable to travel, visit Provincial parks and municipal amenities, or take part in other day to day usual activities. During this period all Conservation Areas remained open and as a result,

experienced unprecedented usage for the majority of the year. Both regular and new visitors who were looking for something to do during this period visited Conservation Areas as they offered opportunities for people to enjoy nature, get exercise and support mental health. Individual Conservation Area percentage increases to areas such as Cedar Falls and Hazelwood Lake show that people were also willing to travel further distances to enjoy the Conservation Areas.

Trends in Usage

In 2020, Mission Island Marsh Conservation Area was the most visited area (35.0%), followed by Cascades Conservation Area (34.2%), Silver Harbour Conservation Area (18.3%), Hazelwood Lake Conservation Area (6.4%), Little Trout Bay Conservation Area (2.5%), Cedar Falls Conservation Area (2.1%) and Hurkett Cove Conservation Area (1.5%).

Overall, Sundays (18.3%) are the day of the week that sees the most visitors, followed by Saturday (16.3%), Wednesday (13.5%), Friday (13.3%), Tuesday (13.0%), Monday (12.9%), and Thursday (12.7%).

The average monthly vehicle count from January to December 2020 was 17,844 compared to 12,297 in 2018, this is an increase of 5,547 vehicles per month. The highest recorded monthly vehicle count was at Cascades with 10,021 vehicles visiting the area in May. The lowest recorded monthly vehicle count was at Hurkett Cove with 1 vehicle visiting the area in March.

The average monthly trail count during the 2020 study period was 468 at Little Trout Bay and 172 at Hazelwood Lake. The highest monthly trail count was recorded in May, with 636 people walking the trail at Little Trout Bay. The lowest monthly trail count was recorded in October, with 84 people walking the trail at Hazelwood Lake.

Estimate of Visitors paying Parking Fee

An analysis of the estimated number of vehicles paying the \$2.00 parking fee was also conducted. The calculation multiplies the number of estimated vehicles for the study period by \$2.00 to calculate the expected revenue and then calculates the percentage of the collected coin box revenue. Based on the collected revenue of \$10,254.00, 5,127 vehicles paid the \$2 parking fee, which equates to 2.4% of the vehicles paying the parking fee by coin box. If every Explore Card pass holder visited the area 50 times per year (i.e. 294 cards x 50 visits/year = 14,700 vehicles), it is estimated that a total 6.85% of visitors are paying to park in the areas by Explore Card. Therefore, it is estimated that 9.25% of visitors pay either in the coin box or by Explore Card to park in the Conservation Areas. It is noted that in 2021, the parking fee was increased to \$5.00 and that staff were working towards installing pay and display units at Mission Island Marsh and Cascades Conservation Areas. New large \$5 signage was also installed in all areas to inform/remind visitors of the parking fee.

FINANCIAL IMPLICATIONS

Total revenue from all coin boxes in 2020 amounted to \$10,254.00, which equates to 5,127 vehicles paying the \$2.00 parking fee during the entire year, compared to an estimated 214,128 vehicles visiting the areas. This equates to a percentage of approximately 2.4% of people who pay the parking fee by coin box. If it is assumed that each Explore Card purchaser visited the areas 50 times per year, the estimated percentage of people paying by Explore Card is 6.85%, equating to 9.25% of all visitors paying.

In 2020, 275 Explore Cards were purchased with revenue of \$8,250.00, and 19 additional Explore Cards were donated as promotional items. The total revenue from coin boxes and Explore Cards in 2020 was \$18,504. This is an increase of \$8,234.14 as compared to the 2019- coin box revenue and Explorer Card sales of 2019.

In 2021, the parking fee was increased to \$5.00, new large parking fee signage was installed, and staff were working towards the installation of pay and display units at Cascades and Mission Island Marsh Conservation Areas. At the time of writing the report (August 12, 2021), usage at the areas was consistent to 2020, 1,520 Explore Cards had been sold and considerably more revenue had been collected from coin boxes. This increased trend in revenue generation implies that visitors to the Conservation Areas are becoming more aware of the requirement to pay to visit the areas, which will result in minimizing the amount of municipal levy required to maintain Conservation Areas.

CONCLUSION

Based on a review of the 2020 traffic counter data, 214,128 vehicles visited the seven studied areas, which corresponds to an estimated 471,082 people visiting the area in 2020. The year experienced unprecedented usage due to the COVID-19 pandemic resulting a 45% increase in visitors to the Areas.

The study found that Mission Island Marsh and Cascades Conservation Area are the most visited areas, and Sundays are the most utilized day of the week.

BACKGROUND

In an effort to estimate usage of Conservation Areas, the Lakehead Region Conservation Authority conducts vehicle counts at its various areas.

Between 2001 and 2013, the Authority undertook seasonal traffic studies utilizing a JAMAR style counter at two Authority owned properties during the summer and fall of the given year. The JAMAR counter utilized a pressure hose that detected the depression of the hose by the tires of the vehicle. The JAMAR study period typically ran from June to September/October with all equipment removed prior to any snowfall.

In 2014, in an effort to collect annual versus seasonal vehicle count data, the Authority purchased five TRAFx G3 vehicle counters. The TRAFx G3 vehicle counter utilizes a tiny magnetometer and embedded software to detect passing vehicles. The counter is contained in a small weatherproof

box and is installed either above or below ground for the entire year. Counters are downloaded in the field with the TRAFx Dock and the data is transferred to the traffic software program at the office. The software program allows for interpretation of the data with various graphing/analyzing options.

REFERENCE MATERIAL ATTACHED

Attachment #1 – 2020 Traffic Counter Study

PREPARED BY: Ryne Gilliam, Lands Manager

<p>THIS REPORT SIGNED AND VERIFIED BY:</p> <p><i>Tammy Cook</i></p> <p>Tammy Cook Chief Administrative Officer</p>	<p>DATE: August 16, 2021</p>
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LAKEHEAD REGION
CONSERVATION AUTHORITY

Traffic Counter Report

2020

PREPARED BY:

Scott Drebit (GIS/Water Resources Technologist)

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Executive Summary

In an effort to estimate usage of Conservation Areas, the Lakehead Region Conservation Authority conducts vehicle counts at its various areas.

In 2014, in an effort to collect annual versus seasonal vehicle count data, the Authority purchased five TRAFx G3 vehicle counters. Two additional counters were purchased in 2016. The TRAFx G3 vehicle counter utilizes a tiny magnetometer and embedded software to detect passing vehicles. The counter is contained in a small weather-proof box and can be either installed above or below ground for the entire year. Counters are downloaded in the field with the TRAFx Dock and the data transferred to the traffic software program at the office. The software program allows for interpretation of the data with various graphing/analyzing options.

In 2020 the counters were deployed at Cascades, Mission Island Marsh, Hazelwood Lake, Silver Harbour, Little Trout Bay, Cedar Falls and Hurkett Cove Conservation Areas. Seasonal trail counters were deployed on the Dam Trail at Hazelwood Lake and at the James Duncan Memorial/Lookout trail at Little Trout Bay Conservation Areas.

Due to a significant loss of traffic counter data in 2019, all data from the 2020 traffic study was compared with the 2018 traffic counter numbers.

Based on a review of the seven studied areas in 2020, Mission Island Marsh Conservation Area is the most visited area with 35.0% of vehicle traffic per area. The second most visited area is Cascades Conservation Area (34.2%), followed by Silver Harbour Conservation Area (18.3%), Hazelwood Lake Conservation Area (6.4%), Little Trout Bay Conservation Area (2.5%), Cedar Falls Conservation Area (2.1%) and Hurkett Cove Conservation Area (1.5%).

Overall, Sundays (18.3%) are the day of the week that sees the most visitors, followed by Saturdays (16.3%), Wednesdays (13.5%), Fridays (13.3%), Tuesdays (13.0%), Mondays (12.9%), and Thursdays (12.7%).

Throughout the 2020 study period the seven Conservation Areas were visited by a total of 214,128 vehicles. Utilizing an assumed factor of 2.2 people per vehicle, an estimated 471,082 people attended the seven areas throughout the year. This is higher than the three previous yearly studies with a total of 147,559 vehicles and 324,630 people in 2018, 143,297 vehicles and 315,253 people in 2017 and a total of 137,331 vehicles and 302,128 people in 2016.

The average monthly vehicle count from January to December 2020 was 17,844 compared to 12,297 in 2018, 11,941 in 2017 and 11,444 in 2016. The highest recorded



monthly vehicle count was at Cascades with 10,021 vehicles visiting the area in May. The lowest recorded monthly vehicle count was at Hurkett Cove with 1 vehicle visiting the area in March.

The average monthly trail count during the 2020 study period was 469 at Little Trout Bay and 173 at Hazelwood Lake. The highest monthly trail count was recorded in May, with 636 people walking the trail at Little Trout Bay. The lowest monthly trail count was recorded in July, with 84 people walking the trail at Hazelwood Lake.

Total revenue from all coin boxes in 2020 amounted to \$10,254.00, which equates to 5,127 vehicles paying the \$2.00 parking fee during the entire year, compared to an estimated 214,128 vehicles visiting the areas. This equates to a percentage of approximately 2.4% of people who pay the parking fee by coin box. If it is assumed that each Explore Card purchaser visited the areas 50 times per year, the estimated percentage of people paying by Explore Card is 6.85%, equating to 9.25% of all visitors paying.

In 2020, a total of 275 Explore Cards were purchased and 19 additional Explore Cards were given away as promotional with revenue of \$8,250.00; compared to 2019 with 165 Explore Cards purchased and 52 promotional Explore Cards with a total of \$4,950; 2018 with 172 Explore Cards purchased and 74 promotional Explore Cards with a total of \$5,160.00; 2017 with 123 Explore Cards purchased and 189 promotional Explore Cards with a total of \$3,690.00. The total revenue from coin boxes and Explore Cards in 2020 was \$18,504.00, compared to 2019 with \$10,269.86, 2018 with \$9,039.29 and 2017 with \$7,590.53.

The COVID-19 pandemic was a significant factor in the increased visitation rates as the LRCA's Conservation Areas remained open while so many other indoor and outdoor recreation options were closed. Total vehicle count percentage increase from 2018 to 2020 was 45%.

In 2021, the parking fee was increased to \$5.00 per vehicle/day use fee and staff were working towards the installation of pay and display units at Mission Island Marsh and Cascades Conservation Areas, in an effort to increase the generation of revenue to reduce the dependence on municipal levy to subsidize the operation of the areas. Additional work was also completed related to promoting the parking fee and the necessity of a user pay model, including the installation of large \$5.00 parking fee signage in the areas. Early indications demonstrate a considerable increase in people paying the parking fee and purchasing Explore Cards, which will be fully assessed in the 2021 report.

It is recommended that personnel and funding permitting, staff continue the annual vehicle counts at the Conservation Areas; continue developing the marketing strategy



with a focus on increasing yearly coin box revenue for all Conservation Areas, and creating public awareness of LRCA owned Conservation Areas and associated costs; continue to promote the sale of Explore Card Parking Passes; and develop a strategy to track usage of Explorer Card users.



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1 BACKGROUND

Between 2001 and 2013 the Authority undertook seasonal traffic studies utilizing a JAMAR style of counter at two Authority owned properties during the summer/fall of the given year. The JAMAR counter utilized a pressure hose that detected the depression of the hose by the tires of the vehicle. The JAMAR study period typically ran from June to September/October with all equipment removed prior to any snowfall.

In an effort to collect data all year the Authority purchased five TRAFx G3 vehicle counters in 2014 and two in 2016. The TRAFx G3 vehicle counter utilizes a tiny magnetometer and embedded software to detect passing vehicles. The counter is contained in a small weather-proof box and can be either installed above or below ground for the entire year. Counters are downloaded in the field with the TRAFx Dock and the data transferred to the traffic software program at the office. The software program allows for interpretation of the data with various graphing/analyzing options. 2020 is the fifth full year of vehicle count data.

2 METHODOLOGY

The traffic counters deployed at Cascades, Cedar Falls, Little Trout Bay, Mission Island, Hazelwood Lake, Hurkett Cove and Silver Harbour Conservation Areas are placed underground in plastic valve boxes that provide protection from the surrounding soil and are covered with approximately 10 centimetres of native soil or rock on top. The counters are placed in Ziploc bags which have desiccant moisture control packets to control the moisture levels in the bag.

The counters cannot distinguish direction of traffic (i.e. in or out); therefore, areas that only have one entrance to both enter and exit the area have had their counts divided by two. The counters also do not give an estimate of the number of people per vehicle. As the traffic counters only count vehicles, any visitors who bike or walk to the area would not be included in the usage summary. Counts have not been reduced for Authority vehicles visiting the areas.

The count data at Little Trout Bay Conservation Area employed a rationale to estimate the number of vehicles towing boats using the boat launch facility. The counters cannot differentiate between a vehicle type (car, truck, motorcycle, etc.) nor whether a boat trailer is being towed. Also, due to the location of the counter, vehicles with a boat trailer crossed the counter twice during the launching phase and similarly on the retrieval phase (i.e. crossed counter to launch boat then again to park and similarly to remove boat and exit the area). Therefore, each of the daily count summaries was divided by four to determine daily traffic. This rationale likely gives higher volumes than the actual number of boat launchings.

The following table summarizes the circumstance and the data factor that has been applied in calculating usage at the areas:

Table 1: Usage Factors

Circumstance	Data factor	Area Applied
Only one way into and out of area	All counts are divided by 2	All areas except Little Trout Bay
Only one way into and out from boat launch to parking lot	All counts are divided by 4	Little Trout Bay
Estimate number of people per vehicle	Multiply by a factor of 2.2	All areas
Authority maintenance staff entering area	Not factored into estimates	All areas

Data is transferred from the counter with a TRAFx dock, which is then transferred to www.trafx.net for processing and data storage. The data is analyzed using the TRAFx



DataNet software which is compatible with the counters. The data is also correlated to other information such as weather conditions, known events, coin box revenues, etc. to produce this report. The data does not permit a thorough analysis but does offer insight to general usage of the Areas.

An analysis of the estimated number of vehicles paying the \$2.00 parking fee is also conducted. The calculation is conducted by multiplying the number of estimated vehicles for the study period by \$2.00 to calculate the expected revenue and then calculating the percentage of the collected coin box revenue.

This report covers annual traffic counter studies of Cascades, Mission Island Marsh, Hazelwood Lake, Silver Harbour, Little Trout Bay, Cedar Falls and Hurkett Cove. Seasonal trail counters were also placed at Little Trout Bay and Hazelwood Lake. Map 1: Study Locations shows the areas that were studied in this report.



3 DATA ANALYSIS

3.1 Cascades Conservation Area

In 2020 a traffic survey was conducted at Cascades Conservation Area for the entire calendar year. It was the fifth yearly study completed along with 2015, 2016, 2017 and 2018. Previous summer studies were completed in 2001, 2004, 2006, 2011 and 2014. The area is very popular with dog walkers, recreational hikers and people visiting the rapids along the Current River.

Table 2: Yearly Vehicle Count & Revenue Summary – Cascades

	2015	2016	2017	2018	2020
Average Daily	156	159	153	145	200
Average Monthly	4,694	4,857	4,645	4,420	6,096
Total Vehicles	56,758	58,283	55,740	53,034	73,149
Highest Daily Count & Event	417 Vehicles September 7, 2015 Labour Day	617 Vehicles March 12, 2016 Warmest Day of Spring	488 Vehicles July 3, 2017 Canada Day	594 Vehicles July 2, 2018 Canada Day	586 Vehicles June 2, 2020
Yearly Coin Box Total (\$)	\$1,924.48	\$1,959.21	\$1,871.61	\$1,261.10	\$3,208.30
Percent of Vehicles Paying by coin box	1.7	1.7	1.7	1.2	2.2

The average daily vehicle count for the study period in 2020 was 200, which is 31% higher than previous four year average (153).

Table 3: Seasonal Average Daily Counts – Cascades

	2015	2016	2017	2018	2020
Winter	104	127	116	99	125
Spring	182	169	181	181	278
Summer	202	203	204	192	229
Fall	135	138	109	109	166

The seasonal average daily summer count in 2020 was higher than all the surveys conducted in the previous years (i.e. 175 in 2014, 187 in 2011, 188 in 2007 and 190 in 2004).



The average monthly vehicle count for 2020 was 6,086 (Figure 1), compared to 4,420 in 2018, 4,645 in 2017, 4,857 in 2016 and 4,694 in 2015. The highest monthly vehicle count was recorded in May, with 10,021 vehicles visiting the area. The lowest monthly vehicle count was recorded in January, with 2,053 vehicles visiting the area.

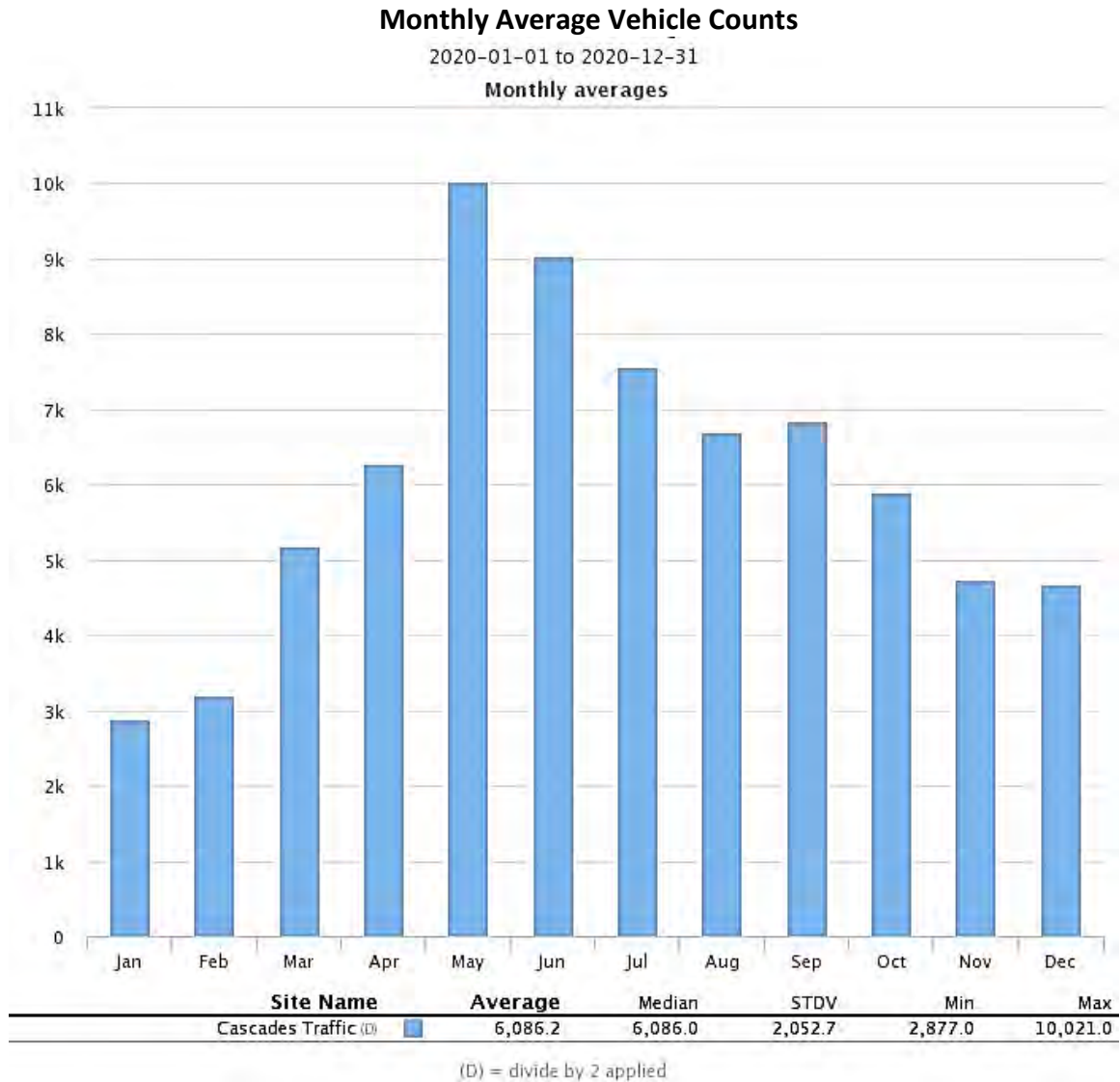


Figure 1: Cascades Monthly Average Vehicle Counts



Daily average vehicle counts ranged from 179.8 vehicles per day on Fridays (12.8%) to 247.5 vehicles per day on Sundays (17.7%) (Figure 2). The highest daily vehicle count was recorded on Tuesday June 2, 2020 with 586 vehicles followed by Sunday September 27, 2020 with 527 vehicles visiting the area. No LRCA events were held on these days.

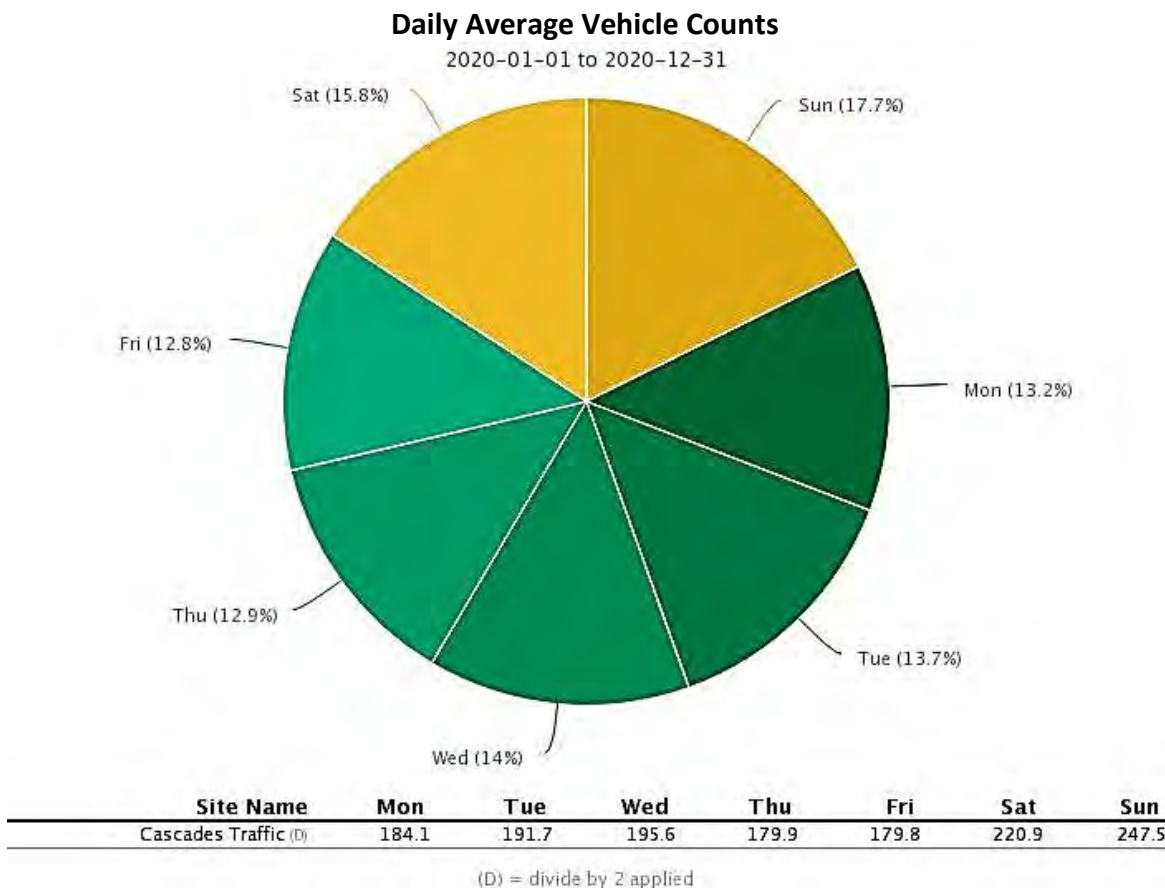


Figure 2: Cascades Daily Average Vehicle Counts

For the study period of January 1 to December 31, 73,149 vehicles entered Cascades Conservation Area, compared to 53,034 in 2018, 55,740 in 2017, 58,283 in 2016 and 56,758 in 2015.

The total vehicle counts were compared to coin box revenues. Based on the 2020 total coin box revenue for the period it is estimated that approximately 2.2% of the vehicles entering the area are paying the \$2.00 vehicle fee by coin box, which is higher than the 2018, 2017, 2016 and 2015 studies.



3.2 Mission Island Marsh Conservation Area

In 2020 a traffic survey was conducted at Mission Island Marsh Conservation Area for the entire calendar year. It was the fifth yearly study completed along with 2015, 2016, 2017 and 2018. Previous summer studies were completed in 2002, 2003, 2007 and 2014. A survey was attempted in 2012; however, due to vandalism no useable data was collected. The area is popular with recreation walkers, nature enthusiasts, wildlife photographers, naturalist clubs and education groups.

Table 4: Yearly Vehicle Count & Revenue Summary – Mission Island Marsh

	2015	2016	2017	2018	2020
Average Daily	137	144	156	155	205
Average Monthly	4,160	4,386	4,743	4,707	6,248
Total Vehicles	49,915	52,633	56,917	56,486	74,971
Highest Daily Count & Event	300 Vehicles April 3, 2015 Good Friday	280 Vehicles May 23, 2016 Victoria Day	404 Vehicles April 14, 2017 Good Friday	312 Vehicles May 13, 2018 No Event	393 Vehicles April 5, 2020
Yearly Coin Box Total (\$)	N/A	N/A	N/A	N/A	\$1434.58
Percent of Vehicles Paying by coin box	N/A	N/A	N/A	N/A	1.0

The average daily vehicle count for the study period in 2020 was 205, which is 39% higher than the previous four year average (148).

Table 5: Seasonal Average Daily Counts – Mission Island Marsh

	2015	2016	2017	2018	2020
Winter	103	118	131	134	143
Spring	169	179	195	189	284
Summer	162	166	179	175	224
Fall	113	113	119	122	169

The seasonal average daily summer count in 2020 was higher than all the surveys conducted in the previous years (i.e. 149 in 2014, 168 in 2007, 134 in 2003 and 142 in 2002).



The average monthly vehicle count for 2020 was 6,237.6 (Figure 3). The highest monthly vehicle count was recorded in April, with 9,118 vehicles visiting the area. The lowest monthly vehicle count was recorded in January, with 2,900 vehicles visiting the area.

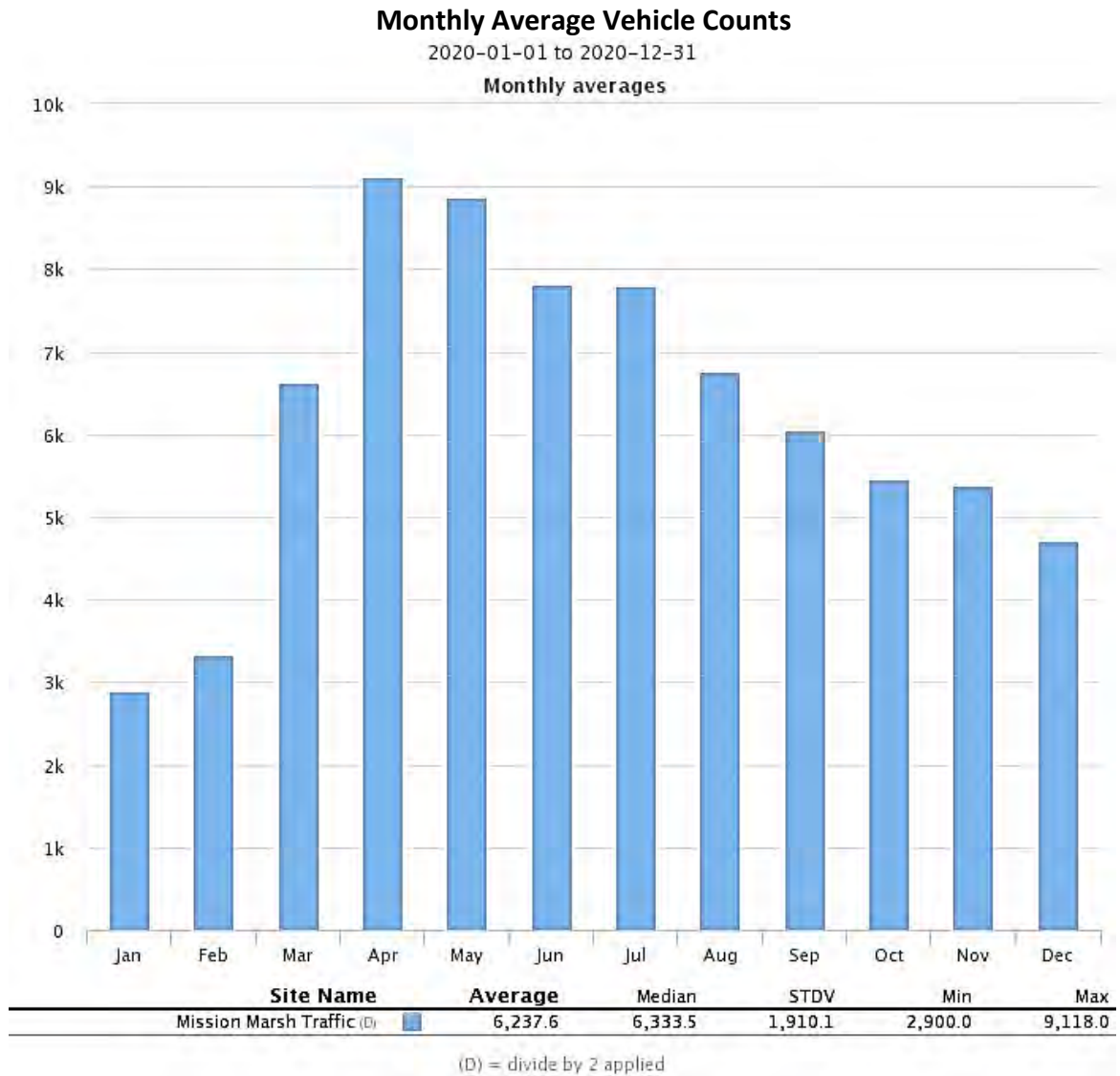


Figure 3: Mission Island Marsh Monthly Average Vehicle Counts



Daily vehicle counts ranged from 188 vehicles per day on Thursdays (13.2%) to 244 vehicles per day on Sundays (17%) (Figure 4). The highest daily vehicle count was recorded on Sunday April 5, 2020 with 393 vehicles followed by Sunday April 26, 2020 with 392 vehicles visiting the area. No LRCA events were held on these days.

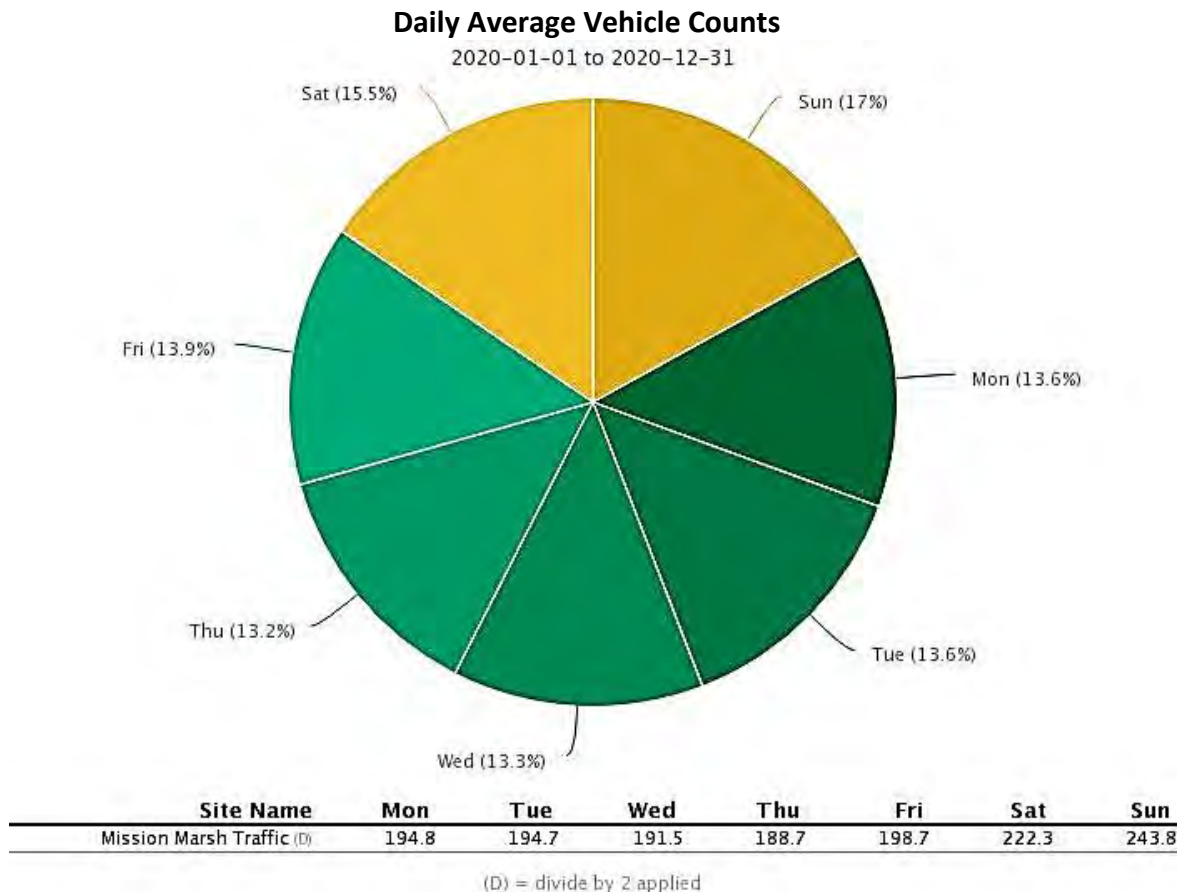


Figure 4: Mission Island Marsh Daily Average Vehicle Counts

For the study period of January 1 to December 31, 74,971 vehicles entered Mission Island Marsh Conservation Area, compared to 56,486 in 2018, 56,917 in 2017, 52,633 in 2016 and 49,915 in 2015.

On October 15, 2019 a new coin box was installed at Mission Island Marsh Conservation Area to replace the original coin box that was vandalized and removed in the fall of 2011. The total vehicle counts were compared to coin box revenues. Based on the 2020 total coin box revenue for the period it is estimated that approximately 1.0% of the vehicles entering the area are paying the \$2.00 vehicle fee by coin box.



3.3 Hazelwood Lake Conservation Area

In 2020 a traffic survey was conducted at Hazelwood Lake Conservation Area for the entire calendar year. It was the fourth yearly study completed along with 2015, 2016 and 2018. In 2017, due to the guardrails on the causeway being replaced, the traffic survey was conducted from January to April and November to December. Previous summer studies were completed in 2001, 2005, 2010 and 2014. The area is used for kayaking, fishing, swimming at the beach and hiking the trails.

Table 6: Yearly Vehicle Count & Revenue Summary – Hazelwood Lake

	2015	2016	2017 (Missing May to October)	2018	2020
Average Daily	21	21	10	22	37
Average Monthly	603	635	136	667	1,143
Total Vehicles	7,442	7,622	1,633	8,000	13,712
Highest Daily Count & Event	417 Vehicles July 11, 2015 No Event	102 Vehicles August 1, 2016 Civic Holiday	29 Vehicles March 30, 2017 No Event	260 Vehicles July 22, 2018 Family Fun Day	222 Vehicles July 1, 2020 Canada Day
Yearly Coin Box Total (\$)	\$741.04	\$799.00	\$715.16	\$813.84	\$1899.58
Percent of Vehicles Paying by coin box	5.0	5.2	N/A	5.1	6.9

The average daily vehicle count for the study period in 2020 was 37, which is 76% higher than the previous three year (2015, 2016, 2018) full-study average (21).

Table 7: Seasonal Average Daily Counts – Hazelwood Lake

	2015	2016	2017	2018	2020
Winter	9	13	9	11	16
Spring	29	24	N/A	26	55
Summer	36	36	N/A	40	58
Fall	9	11	7	11	21

The seasonal average daily summer count in 2020 was higher than surveys conducted in previous years (i.e. 30 in 2014, 38 in 2010, 39 in 2005 and 50 in 2001).



The average monthly vehicle count for 2020 was 1,141 (Figure 5). The highest monthly vehicle count was recorded in July, with 2,527 vehicles visiting the area. The lowest monthly vehicle count was recorded in February, with 364 vehicles visiting the area.

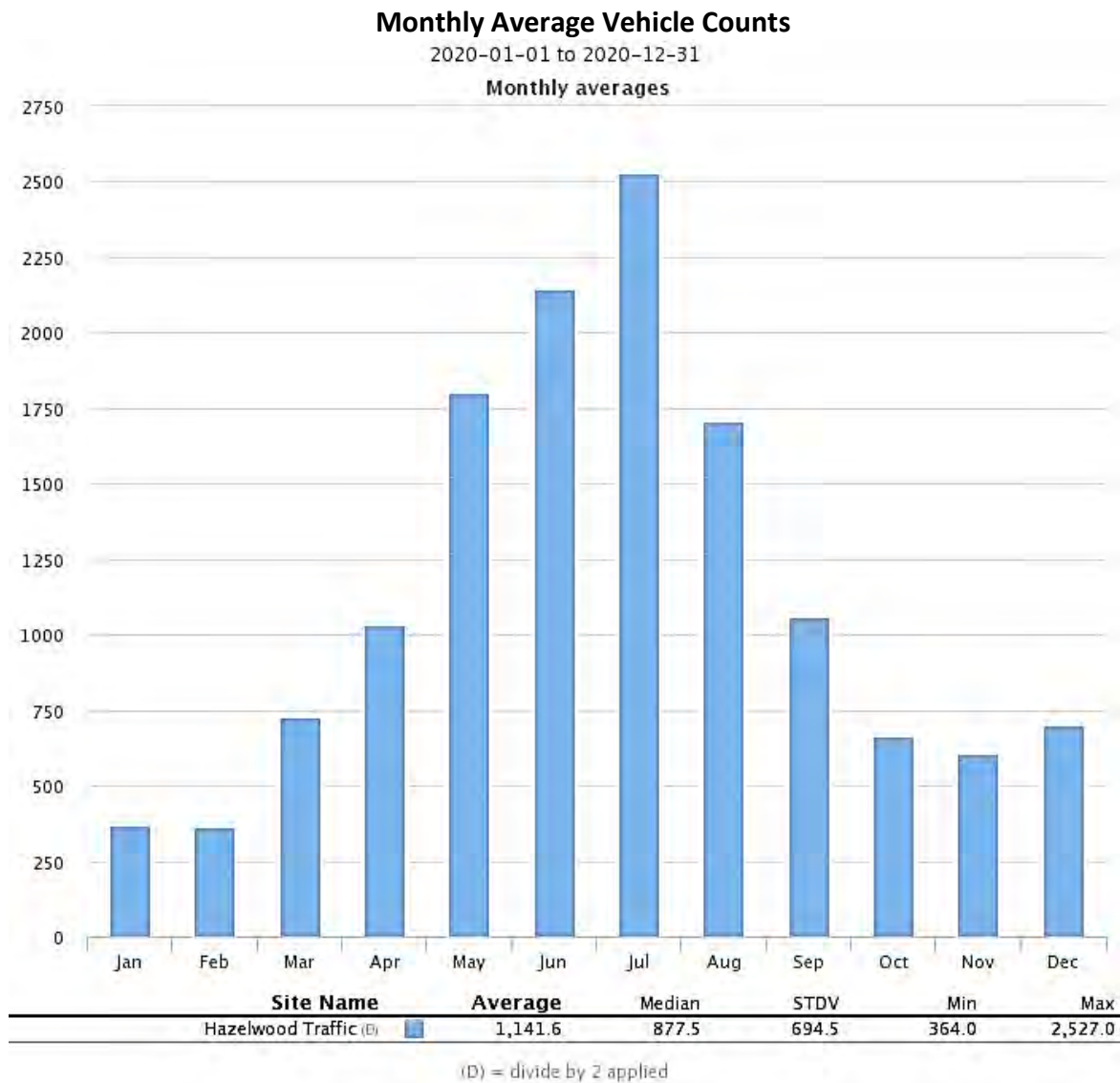


Figure 5: Hazelwood Lake Monthly Average Vehicle Counts



Daily vehicle counts ranged from 29.9 vehicles per day on Tuesdays (11.4%) to 53.3 vehicles per day on Sundays (20.3%) (Figure 6). The highest daily vehicle count was recorded on Wednesday July 1, 2020 with 222 vehicles followed by Sunday June 28, 2020 with 163 vehicles visiting the area. The increase in traffic on July 1, 2020 is likely due to it being Canada Day.

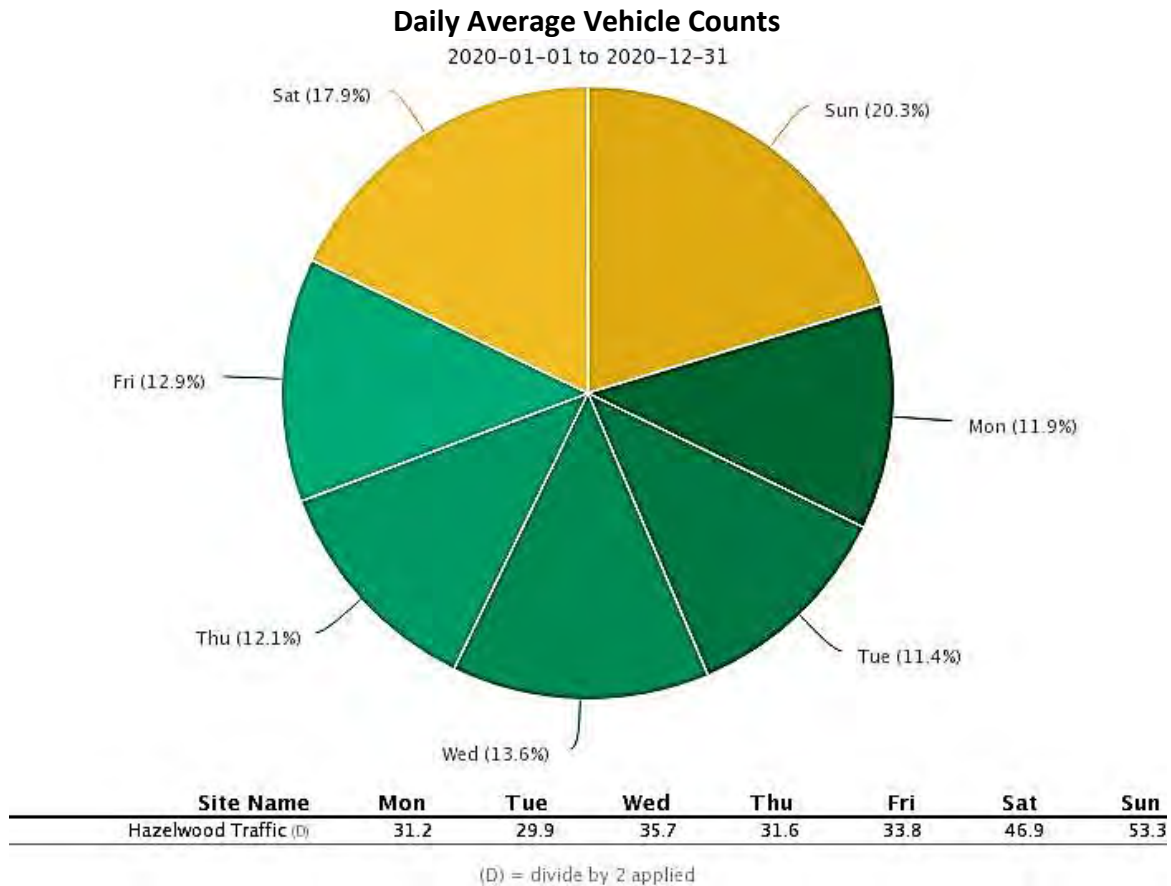


Figure 6: Hazelwood Lake Daily Average Vehicle Counts

For the study period of January 1 to December 31, 13,712 vehicles entered Hazelwood Lake Conservation Area, compared to 8,000 in 2018, 1,633 in 2017(6-month study period), 7,622 in 2016 and 7,442 in 2015.

The total vehicle counts were compared to coin box revenues. Based on the 2020 total coin box revenue for the period it is estimated that approximately 6.9% of the vehicles entering the area are paying the \$2.00 vehicle fee by coin box.



3.4 Silver Harbour Conservation Area

In 2020 a traffic survey was conducted at Silver Harbour Conservation Area for the entire calendar year. It was the fourth yearly study completed along with 2017, 2018 and 2019. Previous seasonal studies were completed in 2002, 2005 and 2014 during the summer months, 2015 during the winter and spring and 2016 during the summer and fall. Surveys were attempted in 2011 and 2012; however, due to vandalism no useable data was collected. The area provides public access to Lake Superior, a large picnic site and shelter.

Table 8: Yearly Vehicle Count & Revenue Summary – Silver Harbour

	2016 (July to December)	2017	2018	2019	2020
Average Daily	65	57	60	60	107
Average Monthly	957	1,721	1,828	1,835	3,264
Total Vehicles	11,484	20,652	21,941	22,025	39,173
Highest Daily Count & Event	203 Vehicles August 7, 2016 No Event	390 Vehicles August 19, 2017 Silver Harbour Day	260 Vehicles July 2, 2018 Canada Day	307 Vehicles August 24, 2019 Silver Harbour Day	482 Vehicles July 26, 2020 No Event
Yearly Coin Box Total (\$)	\$661.55	\$354.80	\$400.65	\$675.17	\$1125.33
Percent of Vehicles Paying by coin box	N/A	0.9	0.9	1.5	1.4

The average daily vehicle count for the study period in 2020 was 107, which is 75% higher than the previous four year average (61).

Table 9: Seasonal Average Daily Counts – Silver Harbour

	2016	2017	2018	2019	2020
Winter	N/A	34	48	47	65
Spring	N/A	59	67	65	136
Summer	89	101	93	97	161
Fall	34	32	32	32	66

The seasonal average daily summer count in 2020 was higher than the surveys conducted in previous years. (i.e. 67 in 2014, 55 in 2005 and 44 in 2002). The increase in winter visitors was likely due to people visiting the area to view the blue ice.



The average monthly vehicle counts for 2020 was 3,259.5 (Figure 7). The highest monthly vehicle count was recorded in July, with 6,490 vehicles visiting the area. The lowest monthly vehicle count was recorded in January, with 840 vehicles visiting the area.

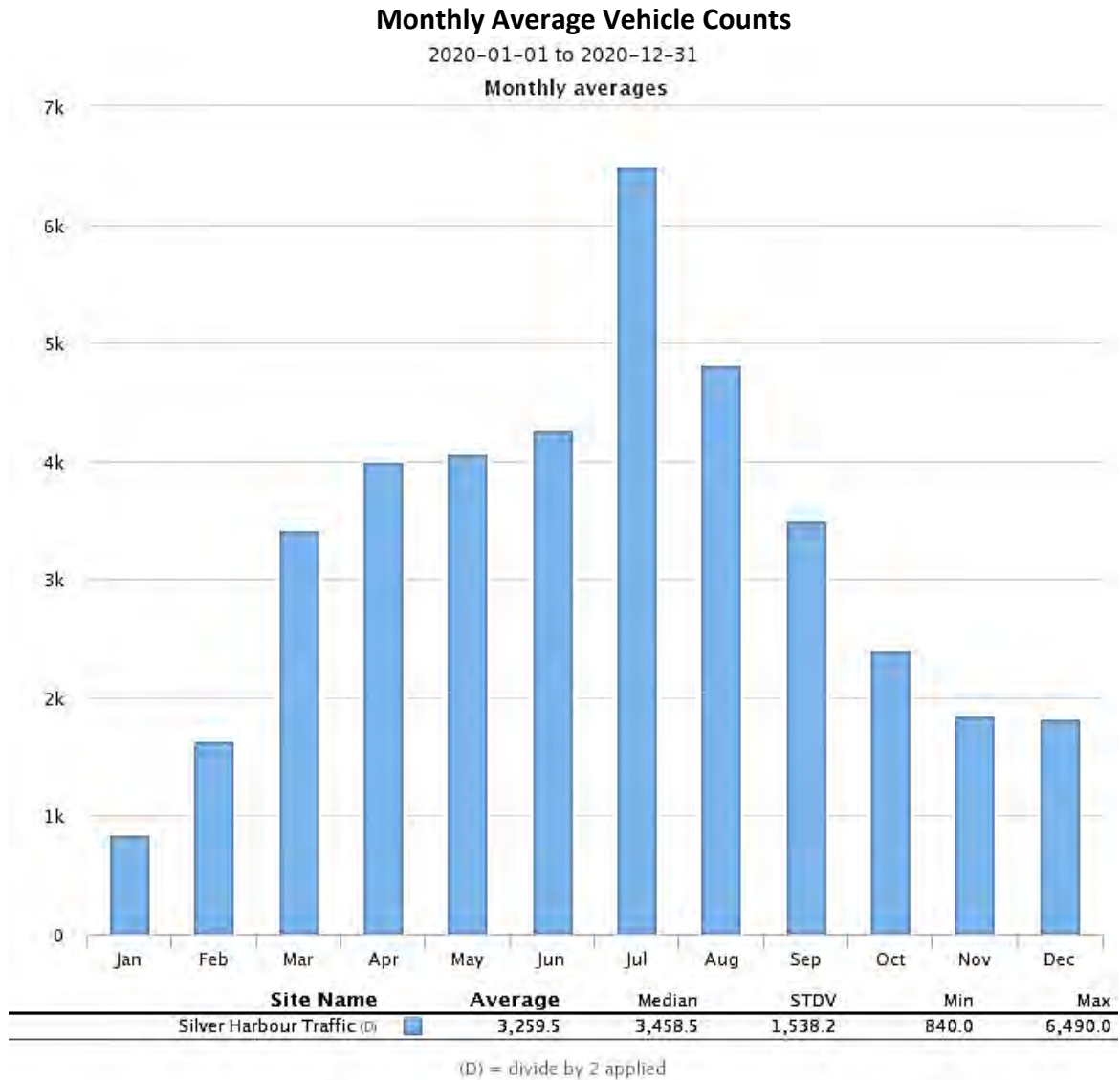


Figure 7: Silver Harbour Monthly Average Vehicle Counts



Daily vehicle counts ranged from 87.1 vehicles per day on Tuesdays (11.6%) to 84.7 vehicles per day on Sundays (20.3%) (Figure 8). The highest daily vehicle count was recorded on Saturday July 26, 2020 with 482 vehicles followed by July 1, 2020 with 424 vehicles visiting the area. No LRCA events were held on these days; however, the increase in traffic is likely due to it being Canada Day on July 1, 2020.

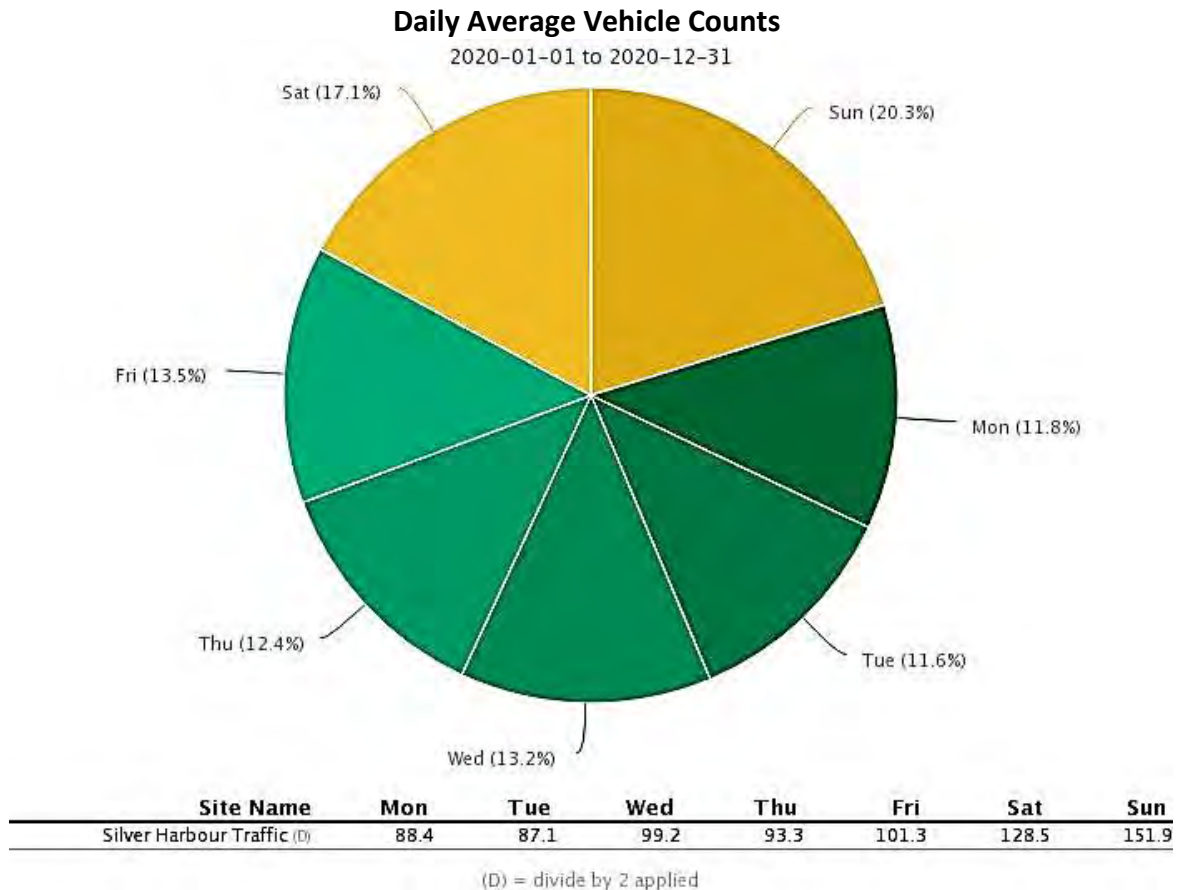


Figure 8: Silver Harbour Daily Average Vehicle Counts

For the study period of January 1 to December 31, 39,173 vehicles entered Silver Harbour Conservation Area, compared to 22,025 in 2019, 21,941 in 2018, 20,652 in 2017, 11,484 in 2016(6-month study period).

The total vehicle counts were compared to coin box revenues. Based on the 2020 total coin box revenue for the period it is estimated that approximately 1.4% of the vehicles entering the area are paying the \$2.00 vehicle fee by coin box.



3.5 Little Trout Bay Conservation Area

In 2020 a traffic survey was conducted at Little Trout Bay Conservation Area for the entire calendar year. It was the fourth yearly study completed along with 2016, 2017 and 2018. Previous seasonal studies were completed in 2003 and 2006 during the summer months and 2015 during the summer, fall and winter. The area provides public access to Lake Superior, picnic facilities and hiking trails.

Table 10: Yearly Vehicle Count & Revenue Summary – Little Trout Bay

	2015 (June to December)	2016	2017	2018	2020
Average Daily	12	10	11	10	15
Average Monthly	207	304	324	308	449
Total Vehicles	2,480	3,650	3,893	3,690	5,391
Highest Daily Count & Event	54 Vehicles July 11, 2015 No Event	58 Vehicles July 31, 2016 Civic Holiday Long Weekend	89 Vehicles July 16, 2017 No Event	98 Vehicles August 18, 2018 Day by the Bay	69 Vehicles July 1, 2020 Canada Day
Yearly Coin Box Total (\$)	\$332.31	\$374.51	\$456.88	\$843.50	\$914.66
Percent of Vehicles Paying by coin box	N/A	5.1	5.9	11.4	8.5

The average daily vehicle count for the study period in 2020 was 15, which is 36% higher than the four year average (11).

Table 11: Seasonal Average Daily Counts – Little Trout Bay

	2015	2016	2017	2018	2020
Winter	N/A	4	7	6	8
Spring	N/A	10	10	11	20
Summer	38	21	23	19	24
Fall	7	6	4	4	7

The seasonal average daily summer count in 2020 was higher than the surveys conducted in the previous years except for 2015 (i.e. 11 in 2013, 12 in 2006 and 10 in 2003).



The average monthly vehicle count from January to December 2020 was 448.7 (Figure 9). The highest monthly vehicle count was recorded in July, with 937 vehicles visiting the area. The lowest monthly vehicle count was recorded in December, with 172 vehicles visiting the area.

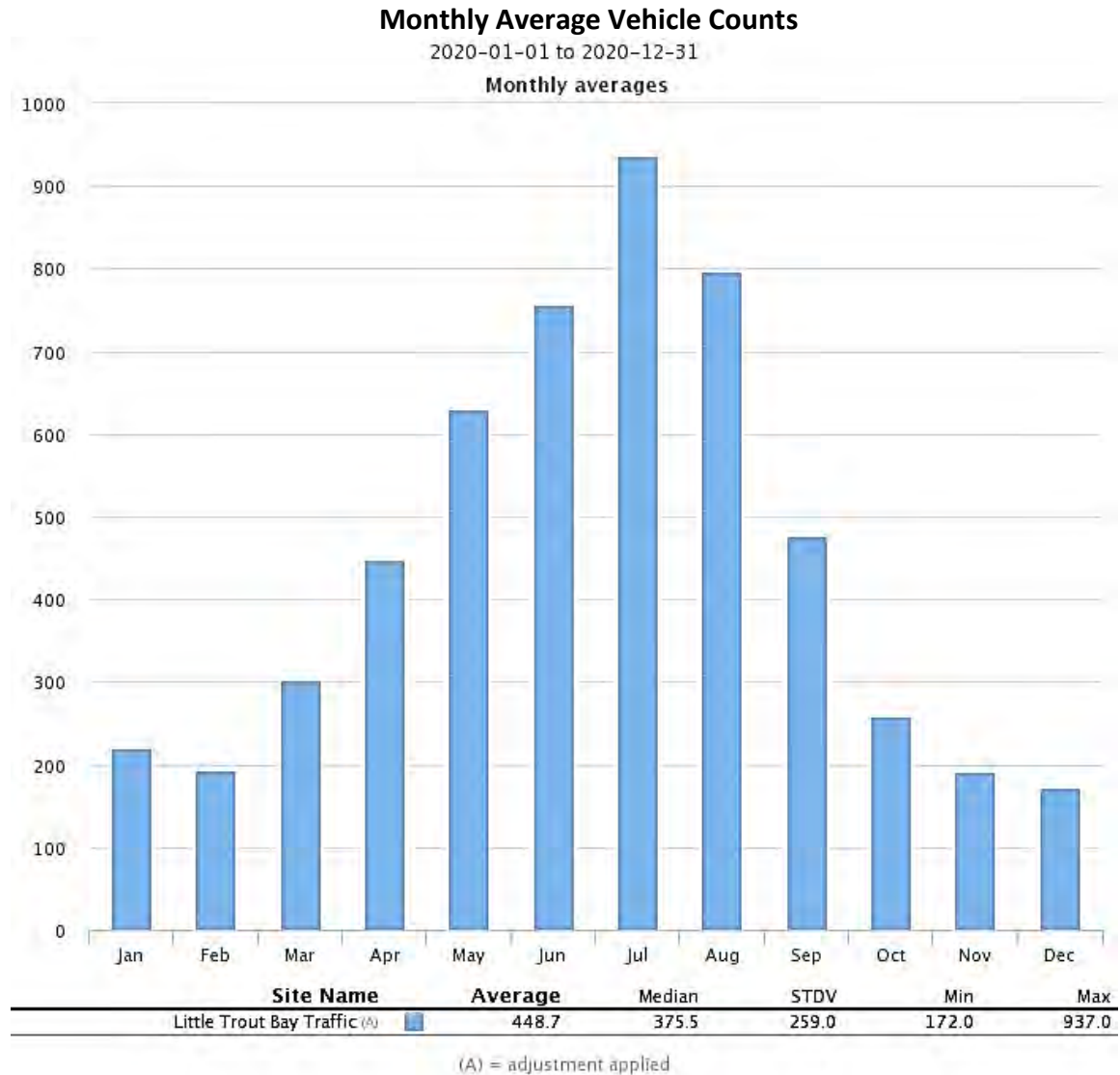


Figure 9: Little Trout Bay Monthly Average Vehicle Counts



Daily vehicle counts ranged from 11 vehicles per day on Mondays (10.7%) to 22.3 vehicles per day on Sundays (21.6%) (Figure 10). The highest daily vehicle count was recorded on Wednesday July 1, 2020 with 69 vehicles followed by June 6, 2020 with 65 vehicles visiting the area. No LRCA events were held on these days; however, the increase in traffic is likely due to it being Canada Day on July 1, 2020.

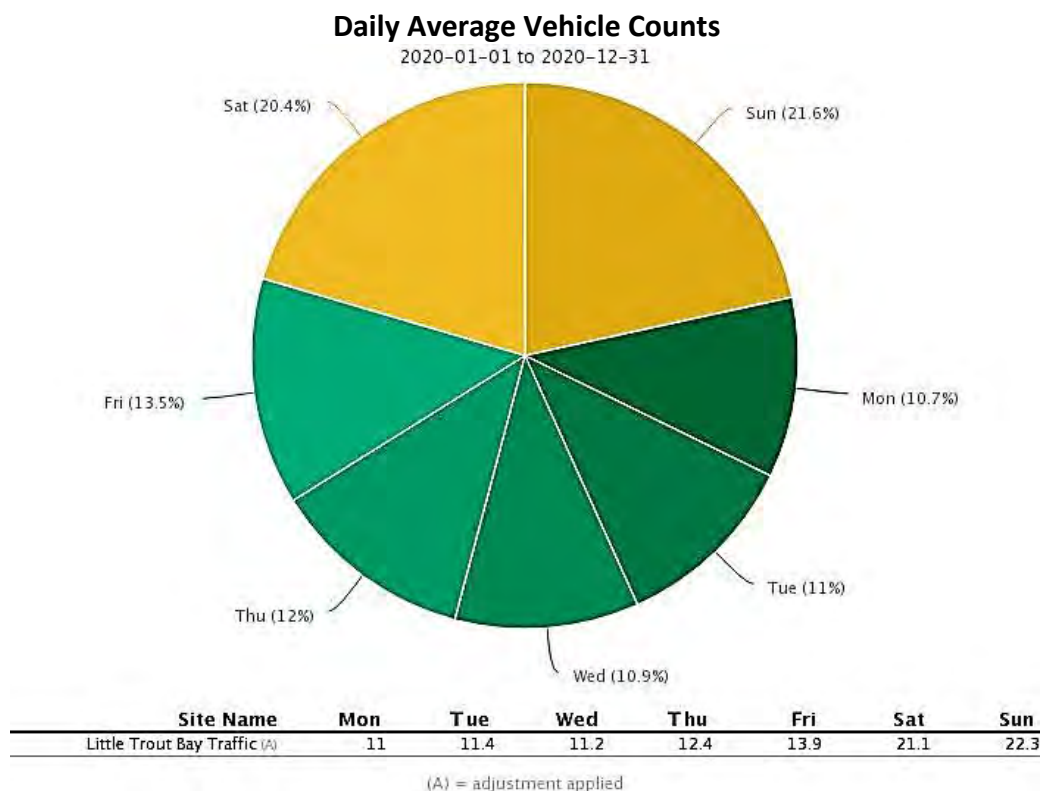


Figure 10: Little Trout Bay Daily Average Vehicle Counts

For the study period of January 1 to December 31, 5,391 vehicles entered Little Trout Bay Conservation Area, which was higher than the surveys conducted in previous years.

The total vehicle counts were compared to coin box revenues. Based on the 2020 total coin box revenue for the period it is estimated that approximately 8.5% of the vehicles entering the area are paying the \$2.00 vehicle fee by coin box.



3.6 Cedar Falls Conservation Area

In 2020 a traffic survey was conducted at Cedar Falls Conservation Area for the entire calendar year. It was the fourth yearly study completed along with 2016, 2017 and 2018. Previous seasonal studies were completed in 2008 and 2009 during the summer months and 2015 during the summer, fall and winter. The area has a hiking trail to a cascading waterfall.

Table 12: Yearly Vehicle Count & Revenue Summary – Cedar Falls

	2015 (May to December)	2016	2017	2018	2020
Average Daily	7	7	7	7	12
Average Monthly	142	212	202	202	369
Total Vehicles	1,704	2,543	2,423	2,418	4,425
Highest Daily Count & Event	32 Vehicles October 8, 2015 No event	74 Vehicles April 15, 2016 Easter Weekend	93 Vehicles March 31, 2017 Easter Weekend	186 Vehicles June 28, 2018 No event	81 Vehicles April 25, 2020 No event
Yearly Coin Box Total (\$)	\$287.79	\$337.36	\$321.43	\$375.67	\$1,172.73
Percent of Vehicles Paying by coin box	N/A	6.6	6.6	7.8	13.3

The average daily vehicle count for the study period in 2020 was 12, which is 71% higher than the previous four year average (7).

Table 13: Seasonal Average Daily Counts – Cedar Falls

	2015	2016	2017	2018	2020
Winter	N/A	5	5	3	6
Spring	N/A	10	10	10	21
Summer	6	7	7	8	13
Fall	7	6	6	5	9

The seasonal average daily summer count in 2020 was higher than the surveys conducted in previous years. (i.e. 2 in 2009, 2 in 2008).



The average monthly vehicle count from January to December 2020 was 368.4 (Figure 11). The highest monthly vehicle count was recorded in May, with 795 vehicles visiting the area. The lowest monthly vehicle count was recorded in February, with 112 vehicles visiting the area.

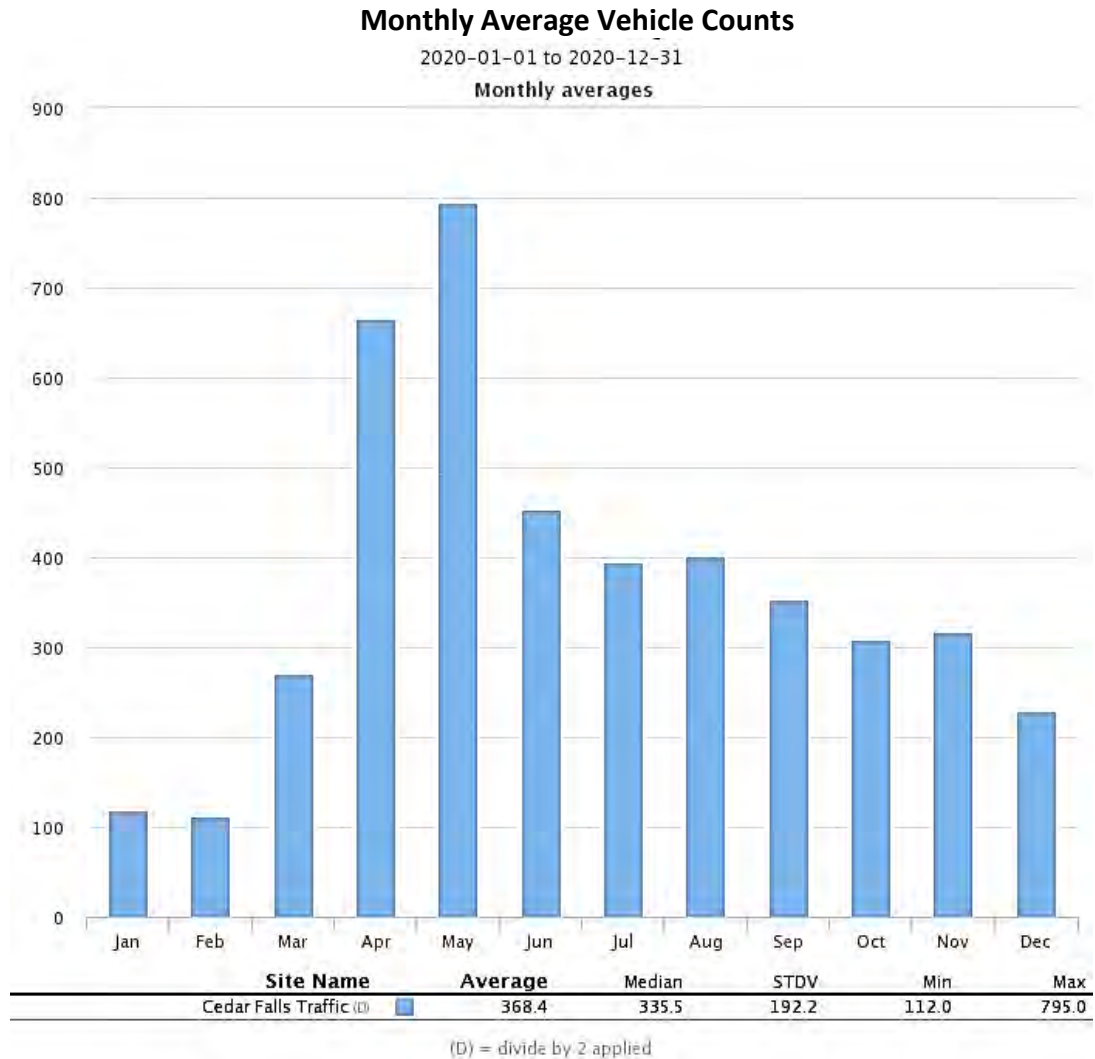


Figure 11: Cedar Falls Monthly Average Vehicle Counts



Daily vehicle counts ranged from 18.6 vehicles per day on Sundays (21.9%) to 8.5 vehicles per day on Thursdays (10.1%) (Figure 12). The highest daily vehicle count was recorded on Saturday April 25, 2020 with 81 vehicles visiting the area followed by Sunday April 26, 2020 with 73 vehicles visiting the area. No LRCA events were held on these days.

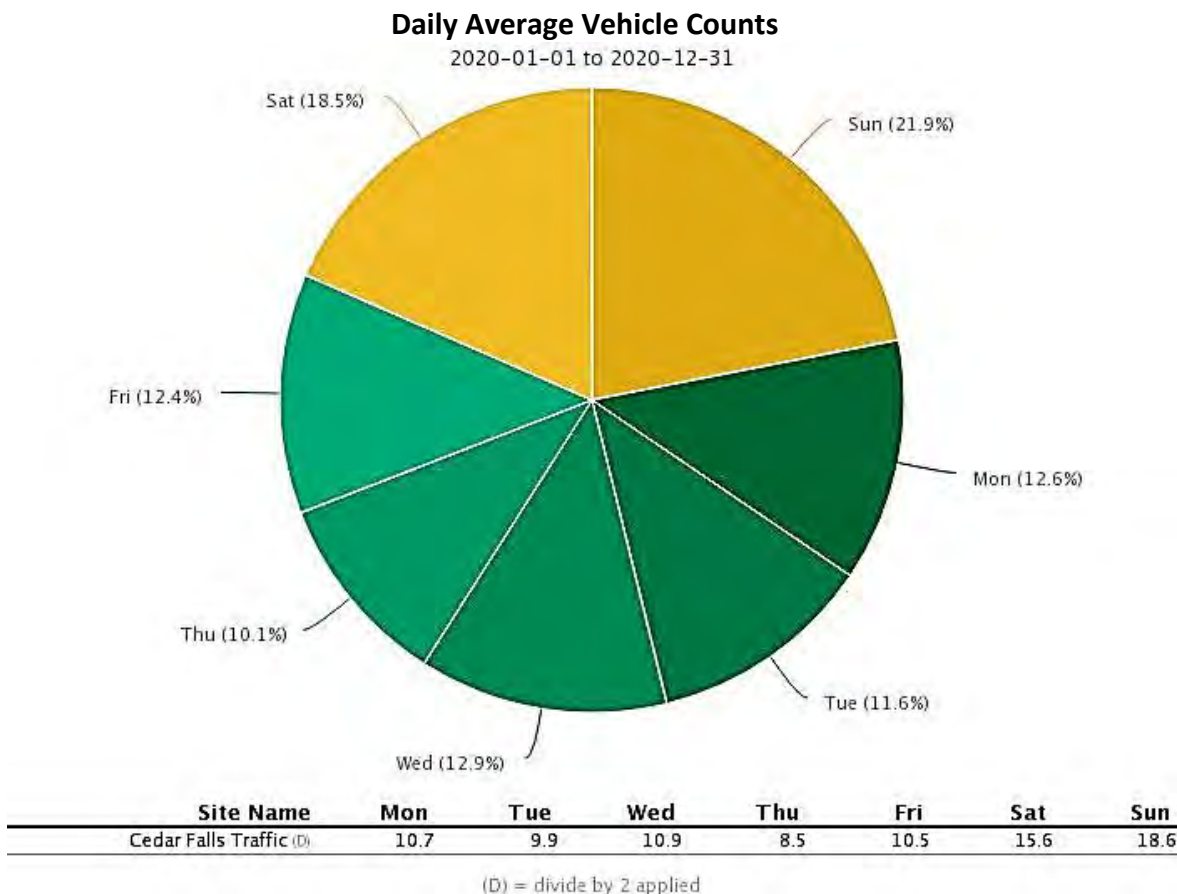


Figure 12: Cedar Falls Daily Average Vehicle Counts

For the study period of January 1 to December 31, a total of 4,425 vehicles entered Cedar Falls Conservation Area, which was higher than the surveys conducted in previous years.

The total vehicle counts were compared to coin box revenues. Based on the 2020 total coin box revenue for the period it is estimated that approximately 13.3% of the vehicles entering the area are paying the \$2.00 vehicle fee by coin box.



3.7 Hurkett Cove Conservation Area

In 2020 a traffic survey was conducted at Hurkett Cove Conservation Area for the entire calendar year. It was the third yearly study completed along with 2017 and 2018. Previous seasonal studies were completed in 2010 and 2014 during the summer months, and 2016 during the summer and fall. The area is popular for botanizing, picnicking and photography. It is also one of the top birding sites in Ontario.

Table 14: Yearly Vehicle Count & Revenue Summary – Hurkett Cove

	2015	2016 (July to December)	2017	2018	2020
Average Daily	N/A	6	6	5	9
Average Monthly	N/A	93	170	166	276
Total Vehicles	N/A	1,116	2,039	1,990	3,307
Highest Daily Count & Event	N/A	27 Vehicles October 22, 2016 No Event	84 Vehicles May 27, 2017 Dorion Birding Festival	67 Vehicles May 26, 2018 Dorion Birding Festival	44 Vehicles July 1, 2020 Canada Day
Yearly Coin Box Total (\$)	\$151.12	\$16.75	\$180.65	\$184.53	\$498.82
Percent of Vehicles Paying by coin box	N/A	N/A	4.4	4.6	7.5

The average daily vehicle count for the study period in 2020 was 9, which is 50% higher than the previous three year full-study (2015, 2017, 2018) average (6).

Table 15: Seasonal Average Daily Counts – Hurkett Cove

	2015	2016	2017	2018	2020
Winter	N/A	N/A	1	0	0
Spring	N/A	N/A	9	7	13
Summer	8	8	9	11	16
Fall	N/A	5	4	4	7

The seasonal average daily summer count in 2020 was higher than surveys conducted in previous years (i.e. 7 in 2014 and 7 in 2010).



The average monthly vehicle count from January to December 2020 was 275.6 (Figure 13). The highest monthly vehicle count was recorded in May, with 565 vehicles visiting the area. The lowest monthly vehicle count was recorded in March, with 1 vehicle visiting the area.

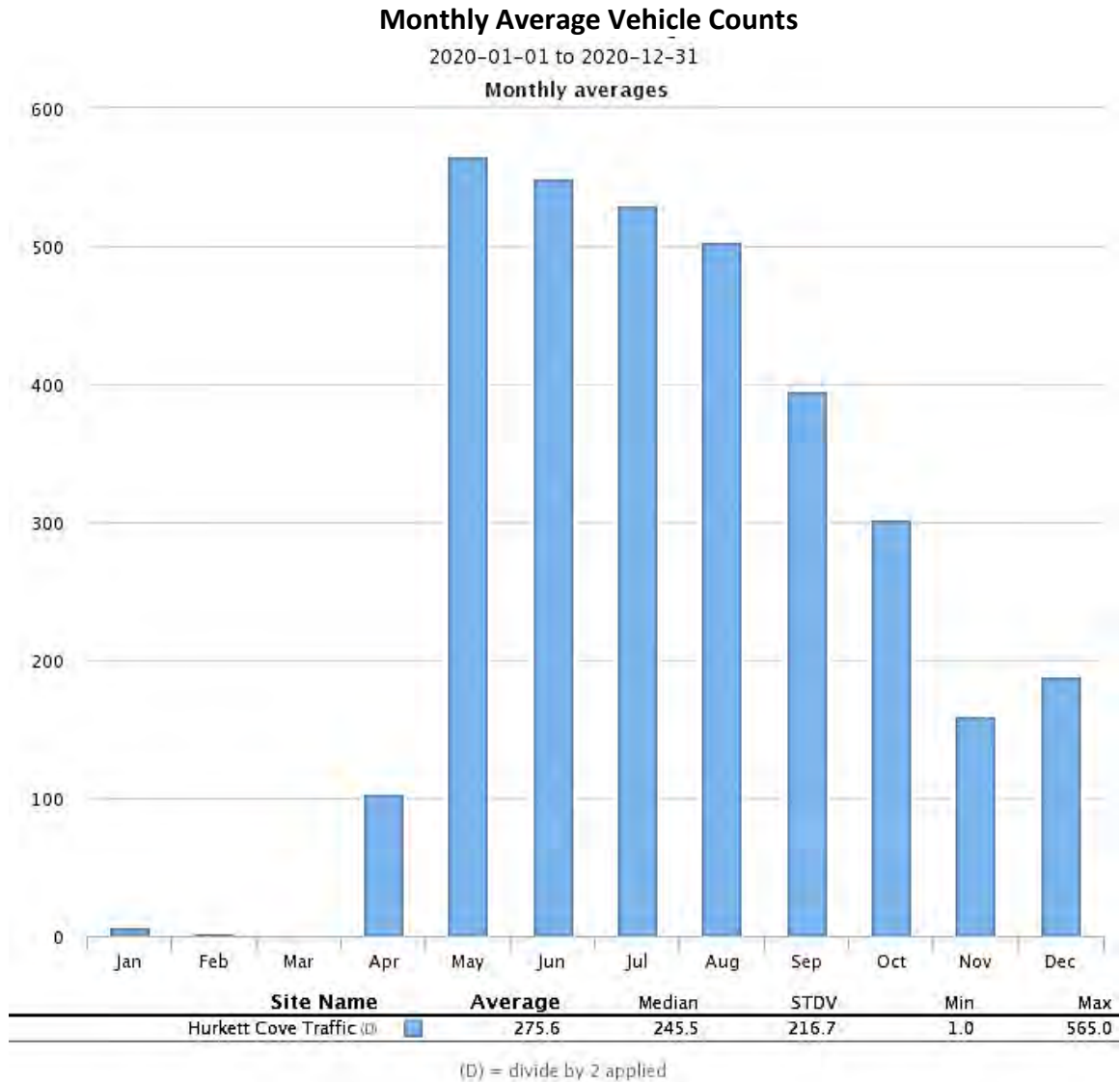


Figure 13: Hurkett Cove Monthly Average Vehicle Counts



Daily vehicle counts ranged from 14.3 vehicles per day on Sundays (22.5%) to 6.9 vehicles per day on Mondays (10.9%) (Figure 14). The highest recorded daily vehicle count was recorded on Wednesday July 1, 2020 with 44 vehicles followed by Sunday May 24, 2020 with 41 vehicles visiting the area. No LRCA events were held on these days; however, the increase in traffic is likely due to it being Canada Day on July 1, 2020.

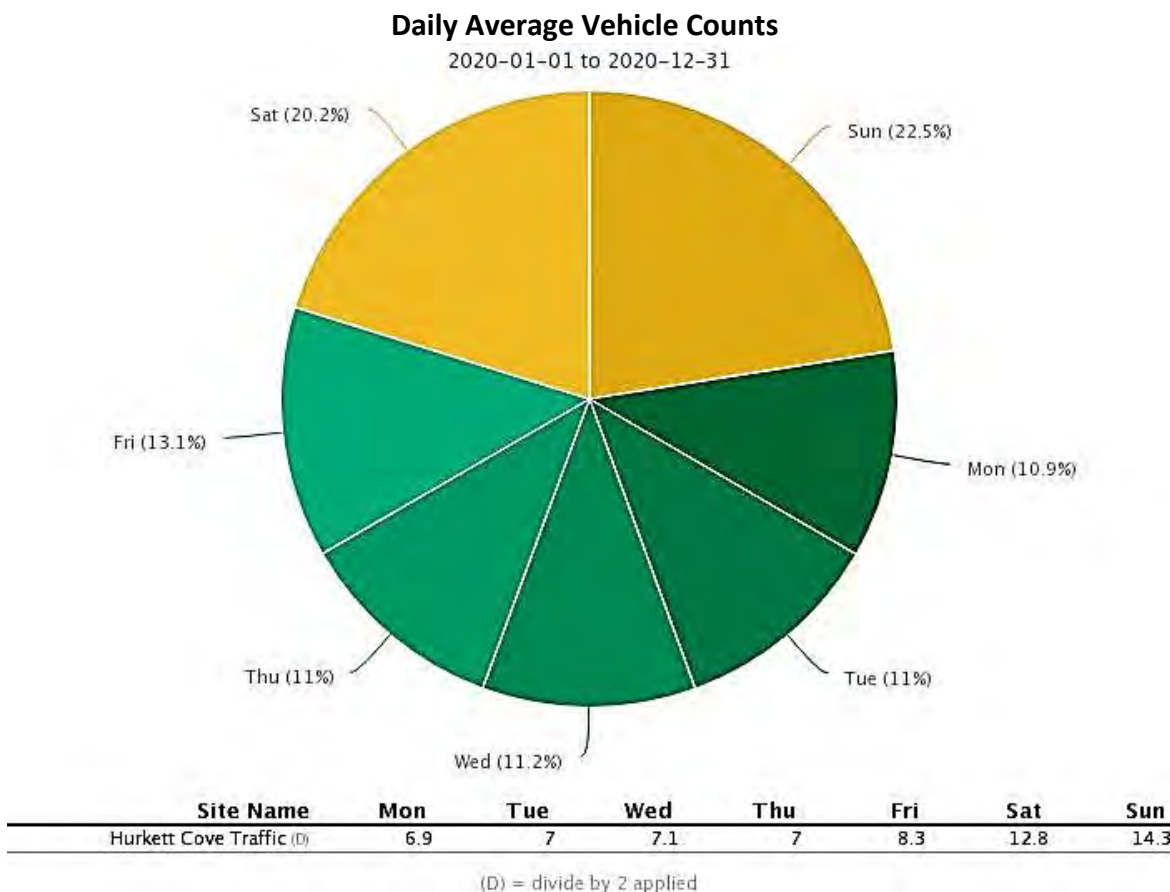


Figure 14: Hurkett Cove Daily Average Vehicle Counts

For the study period of January 1 to December 31, a total of 3,307 vehicles entered Hurkett Cove Conservation Area, which was higher than the surveys conducted in previous years.

The total vehicle counts were compared to coin box revenues. Based on the 2020 total coin box revenue for the period it is estimated that approximately 7.5% of the vehicles entering the area are paying the \$2.00 vehicle fee by coin box.



3.8 Seasonal Trail Counters

3.8.1 Lookout Trail/James Duncan Memorial Trail

In 2018 a seasonal trail survey was conducted on the Lookout Trail/James Duncan Memorial Trail at Little Trout Bay Conservation Area from May 1 to August 31, 2020. It was the first seasonal study completed.

The average monthly trail count from was 468.5 (Figure 15). The highest monthly trail count was recorded in May, with 636.1 people walking the trail. The lowest monthly trail count was recorded in June, with 351 people walking the trail.

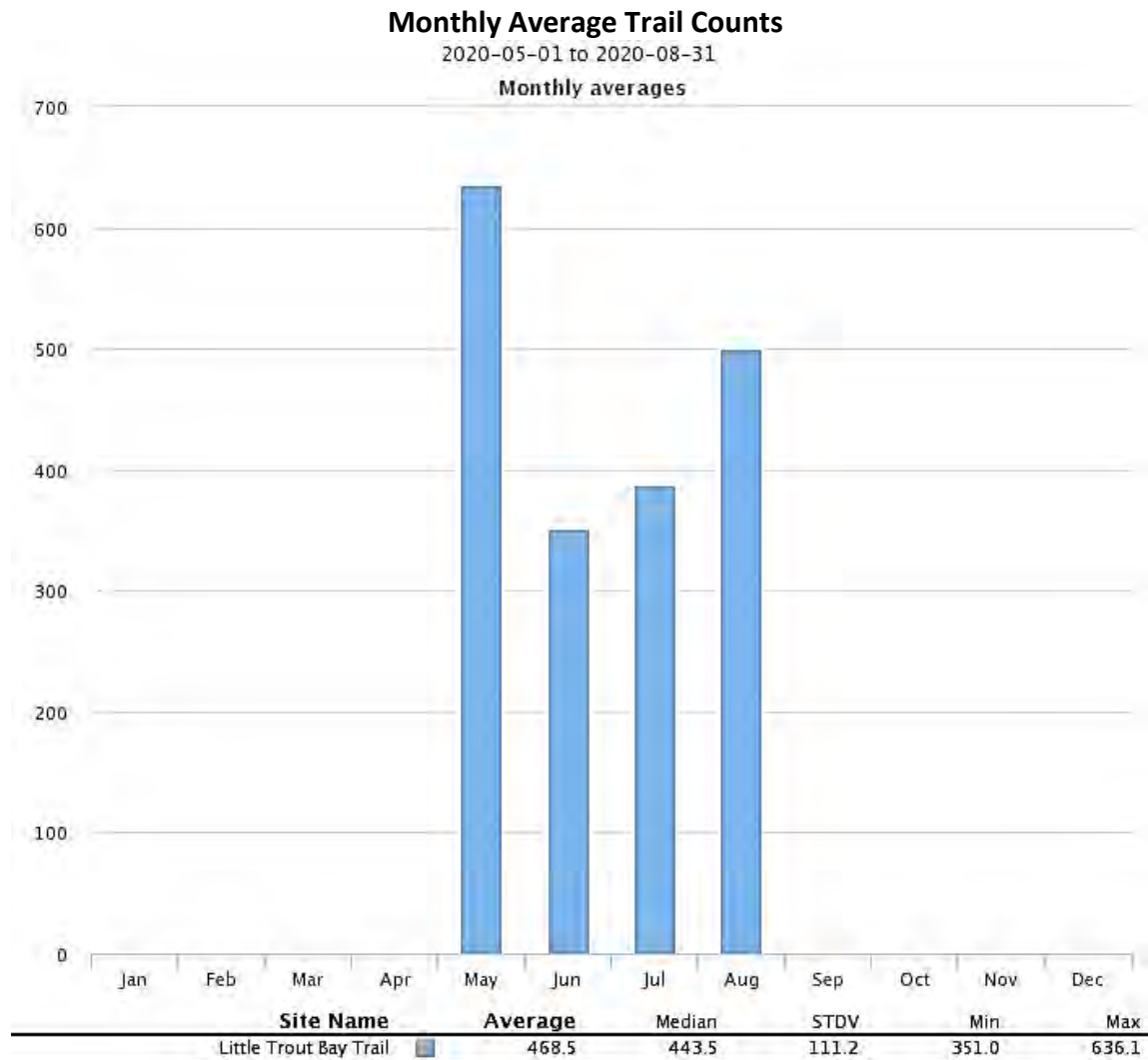


Figure 15: Lookout Trail/James Duncan Memorial Trail Monthly Average Trail Counts



The average daily trail count from was 15.2. Daily trail counts ranged from 9.1 people per day on Tuesdays (8.6%) to 27.8 people per day on Sundays (27.8%) (Figure 16). The highest recorded daily trail count was recorded on Monday May 18, 2020 with 90 people walking the trail. No LRCA event was held on this day; however, the increase in traffic is likely due to it being Victoria Day.

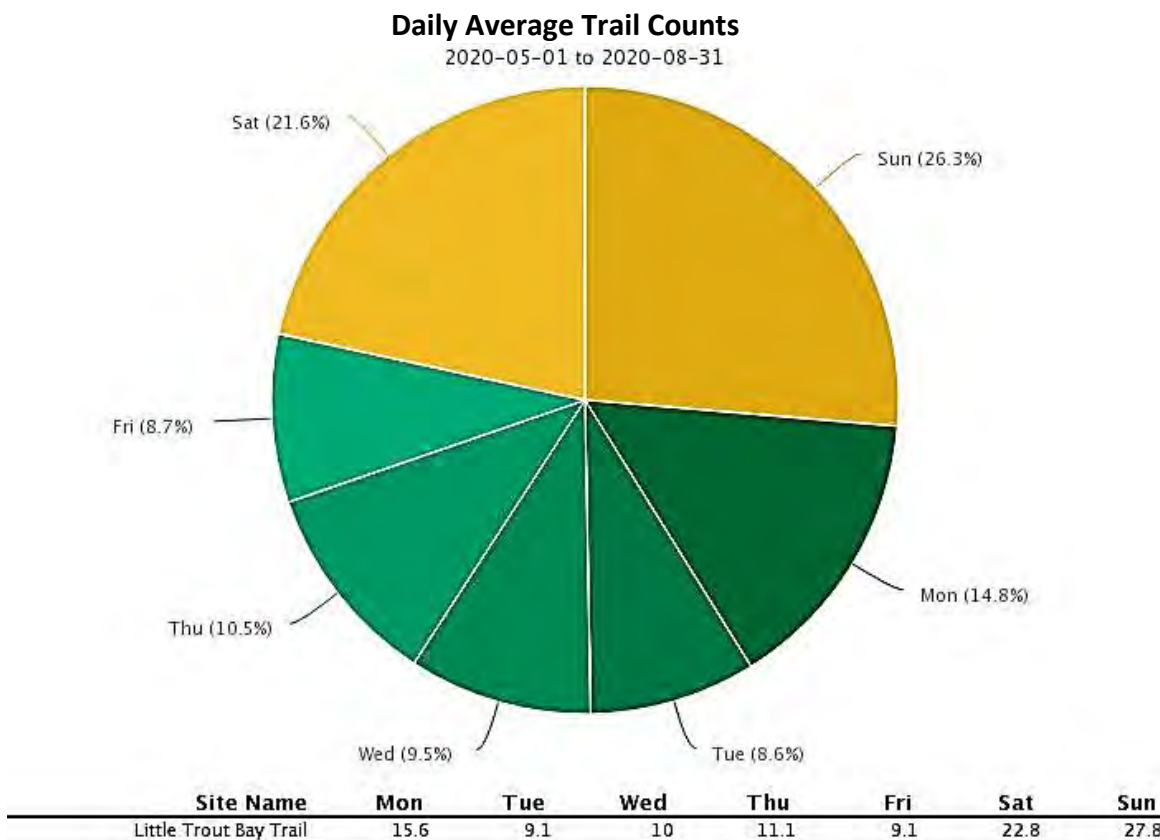


Figure 16: Lookout Trail/James Duncan Memorial Trail Daily Average Trail Counts

For the study period of May 1 to August 31, a total of 1,875 people walked the trail at the Little Trout Bay Conservation Area.



3.8.2 Hazelwood Lake Dam Trail

In 2020 a seasonal trail survey was conducted on the Dam Trail at Hazelwood Lake Conservation Area from June 1 to July 31, 2020. It was the first seasonal study.

The average monthly trail count was 90.9 (Figure 15). The highest monthly trail count was recorded in June, with 98 people walking the trail. The lowest monthly trail count was recorded in June, with 83.8 people walking the trail.

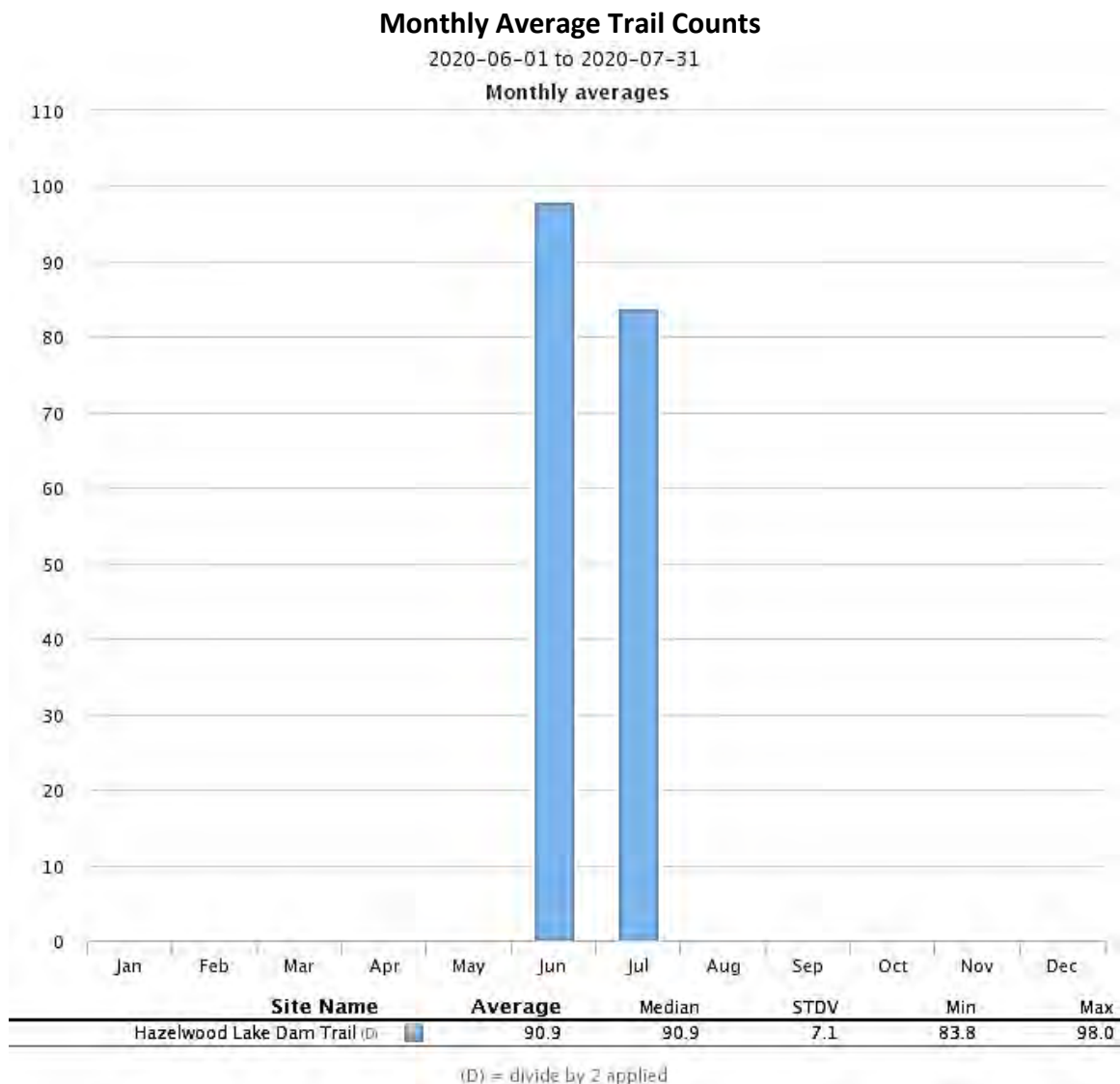


Figure 17: Hazelwood Lake Dam Trail Monthly Average Trail Counts

The average daily trail count was 3.0. Daily trail counts ranged from 2.1 people per day on Mondays (10.1%) to 3.9 people per day on Wednesdays (17.9%) (Figure 18). The

highest recorded daily trail count for the study period was recorded on Saturday June 13, 2020 with 12 people walking the trail. No LRCA event was held on this day.

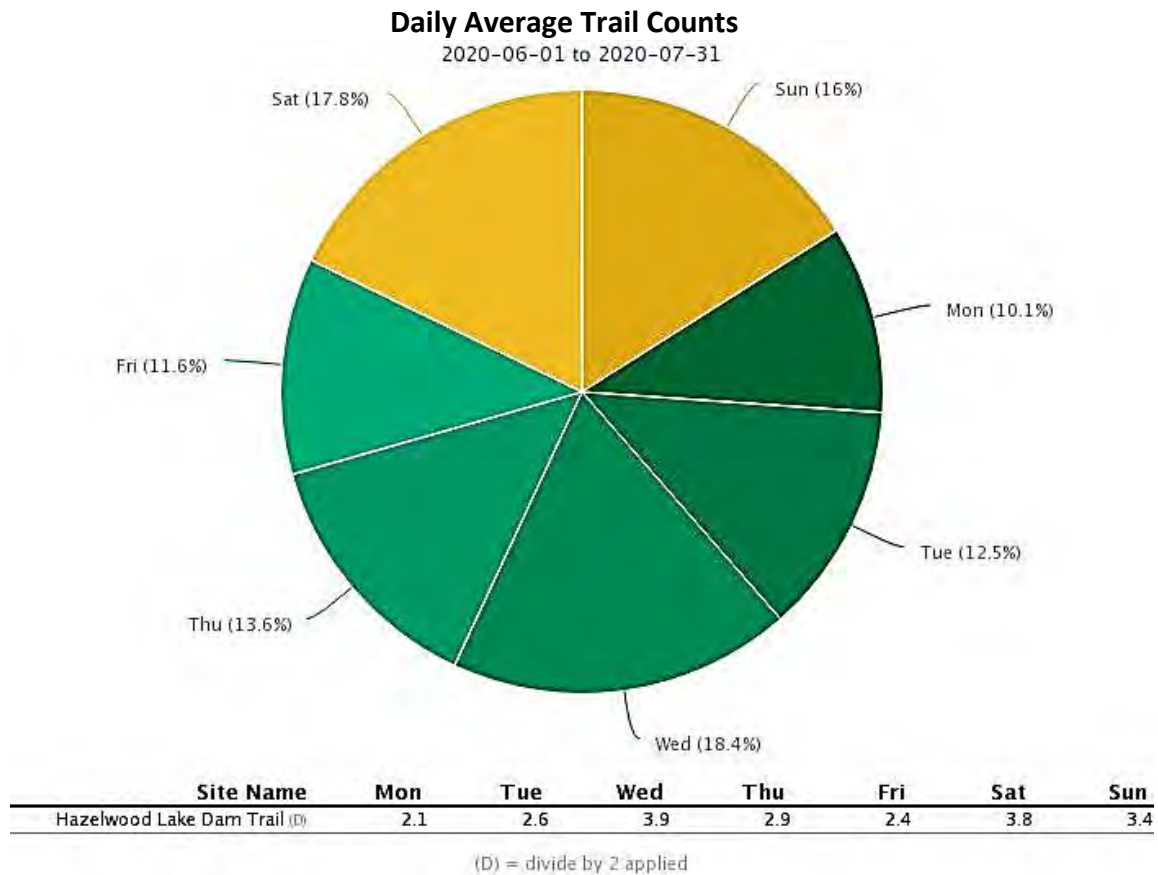


Figure 18: Hazelwood Lake Dam Trail Daily Average Trail Counts

For the study period of June 1 to July 31, a total of 181.8 people walked the Dam Trail at Hazelwood Lake.

4 SUMMARY AND CONCLUSIONS

Based on a review of the seven studied areas in 2020, Mission Island Marsh Conservation Area is the most visited area with 35.0% of vehicle traffic per area. The second most visited area is Cascades Conservation Area (34.2%), followed by Silver Harbour Conservation Area (18.3%), Hazelwood Lake Conservation Area (6.4%), Little Trout Bay Conservation Area (2.5%), Cedar Falls Conservation Area (2.1%) and Hurkett Cove Conservation Area (1.5%) (Figure 19).

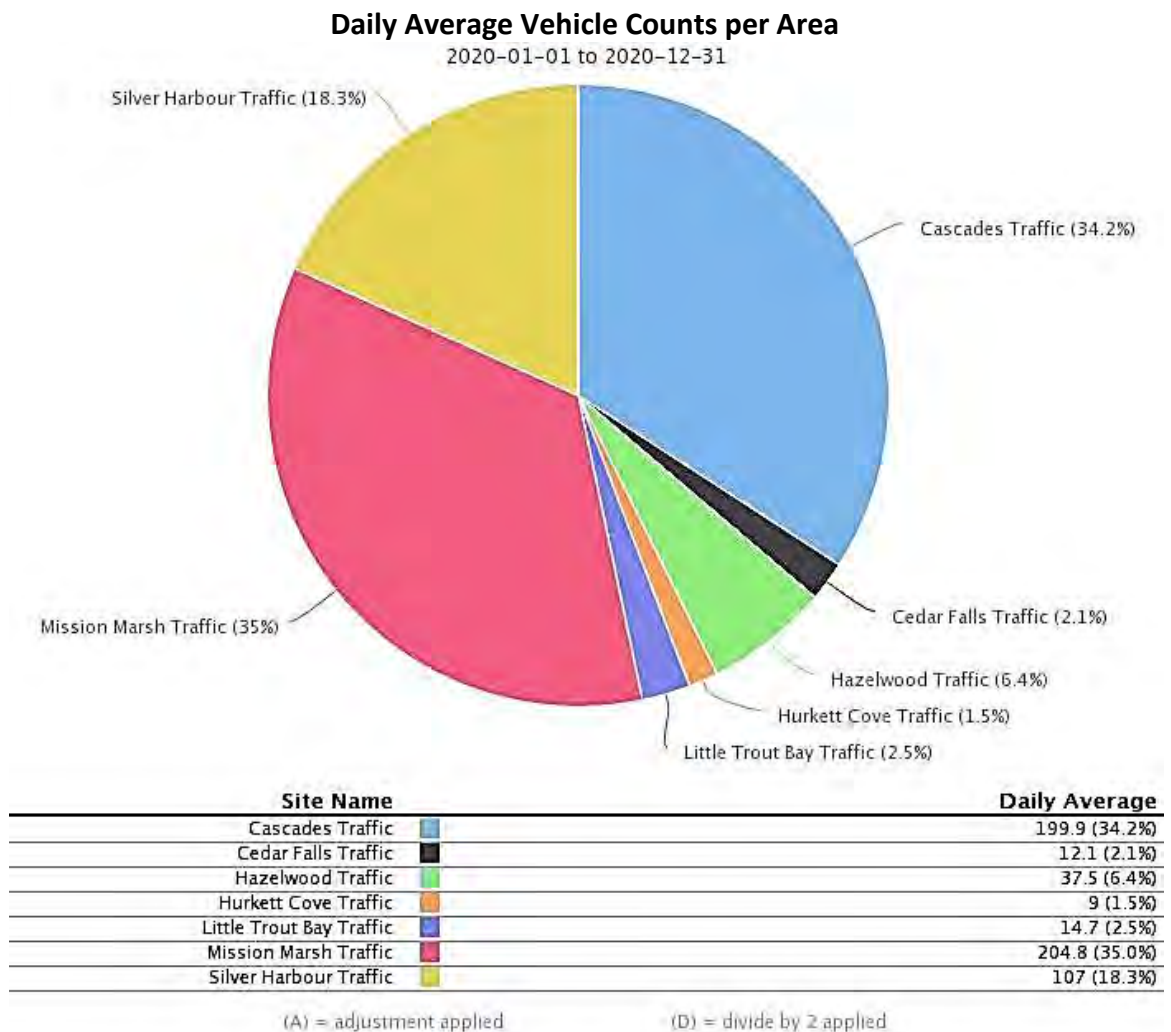


Figure 19: Conservation Areas Comparison – Daily Average Vehicle Traffic per Area



Overall, Sundays (18.3%) are the day of the week that sees the most visitors, followed by Saturdays (16.3%), Wednesdays (13.5%), Fridays (13.3%), Tuesdays (13.0%), Mondays (12.9%), and Thursdays (12.7%) (Figure 20).

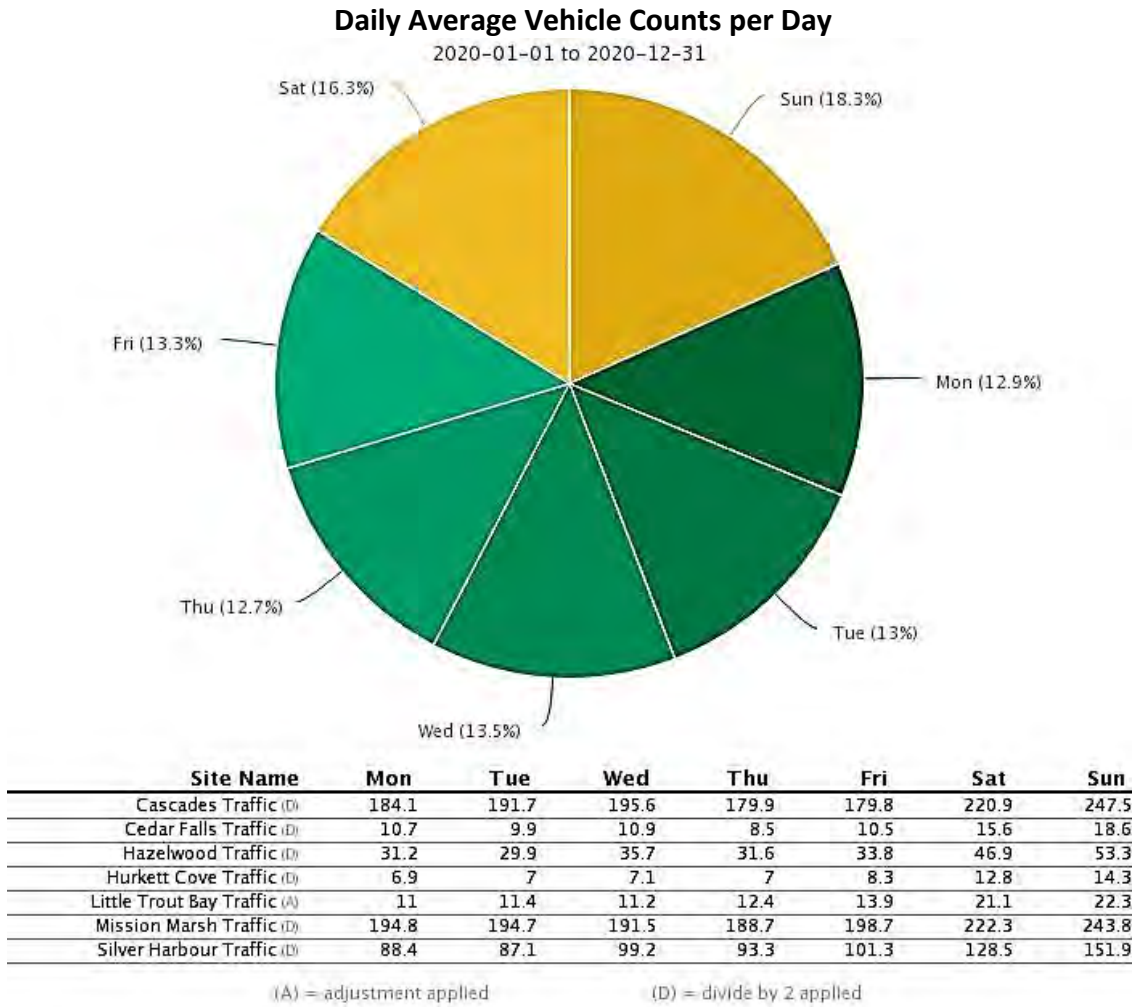


Figure 20: Conservation Areas Comparison – Daily Average Vehicle Traffic per Day

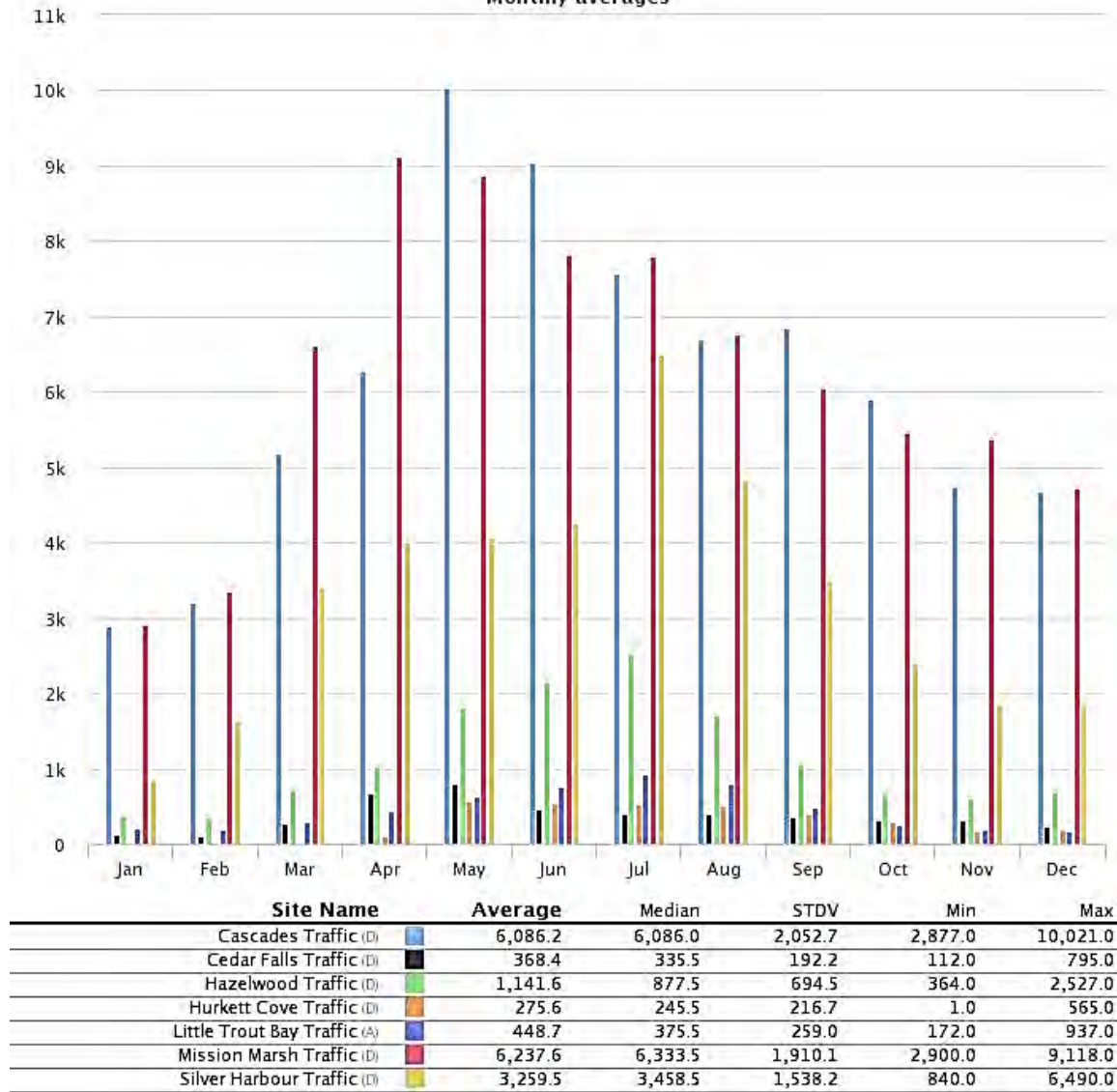


The average monthly vehicle count (Figure 21) from January to December 2020 was 17,844 compared to 12,297 in 2018, 11,941 in 2017 and 11,444 in 2016. The highest recorded monthly vehicle count was at Cascades with 10,021 vehicles visiting the area in May. The lowest recorded monthly vehicle count was at Hurkett Cove with 1 vehicle visiting the area in March.

Monthly Average Vehicle Counts per Area

2020-01-01 to 2020-12-31

Monthly averages



(A) = adjustment applied

(D) = divide by 2 applied

Figure 21: Conservation Areas Comparison - Monthly Average Vehicle Traffic per Area



The average monthly trail count during the 2020 study period was 468.5 at Little Trout Bay and 172.5 at Hazelwood Lake. The highest monthly trail count was recorded in May, with 636.1 people walking the trail at Little Trout Bay. The lowest monthly trail count was recorded in July, with 83.8 people walking the trail at Hazelwood Lake.

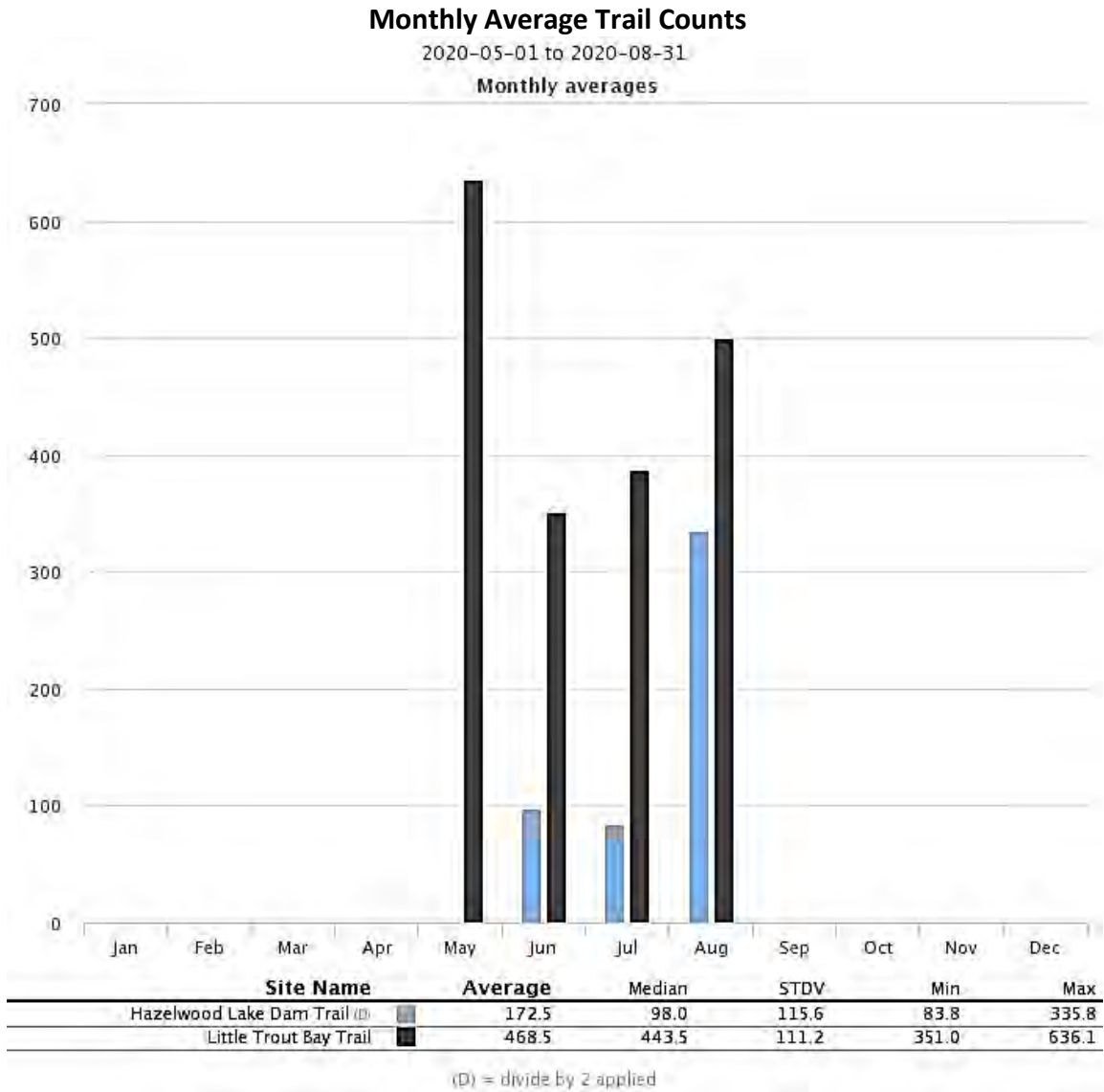


Figure 22: Conservation Areas Comparison - Monthly Average Trail Traffic per Area

Throughout the 2020 study period the seven Conservation Areas were visited by a total of 214,128 vehicles. Utilizing an assumed factor of 2.2 people per vehicle, an estimated 471,082 people attended the seven areas throughout the year. This is higher than the three previous yearly studies with a total of 147,559 vehicles and 324,630 people in 2018, 143,297 vehicles and 315,253 people in 2017 and a total of 137,331 vehicles and



302,128 people in 2016. In 2020, approximately 66,569 more vehicles visited Conservation Areas compared to 2018, which equates to a 45% increase in usage.

Table 16: Annual Total Vehicles and Visitors to Conservation Areas

Year	Total Vehicle Count	Total Estimated Visitors
2015	138,306	304,273
2016	137,331	302,128
2017	143,297	315,253
2018	147,559	324,630
2019	n/a	n/a
2020	214,128	471,082
Average	156,124	343,473

COVID-19

On March 11, 2020, the World Health Organization declared a global pandemic for the new Coronavirus (COVID-19). The COVID-19 pandemic caused significant disruption to normal routines of government, businesses, and residents across the globe. On March 17, 2020, the Province of Ontario declared a state of emergency following travel bans and emergency measures put in place by the Government of Canada. Several Provincial Orders were put in place as a result. The state of emergency was undeclared on July 24, 2020; however, many Emergency Orders remained in effect. Additionally, the province declared a mandatory lock down for Northern Ontario beginning December 26, 2020. During the various shutdowns, area residents were unable to travel, visit Provincial parks and municipal amenities, or take part in other day to day usual activities. During this period all Conservation Areas remained open and as a result, experienced unprecedented usage for the majority of the year. Both regular and new visitors who were looking for something to do during this period visited Conservation Areas as they offered opportunities for people to enjoy nature, get exercise and support mental health. Individual Conservation Area percentage increases to areas such as Cedar Falls and Hazelwood Lake show that people were also willing to travel further distances to enjoy the Conservation Areas.

Estimate of Visitors paying Parking Fee

An analysis of the estimated number of vehicles paying the \$2.00 parking fee was also conducted. The calculation multiplies the number of estimated vehicles for the study period by \$2.00 to calculate the expected revenue and then calculates the percentage of the collected coin box revenue. Based on the collected revenue of \$10,254.00, 5,127 vehicles paid the \$2.00 parking fee, which equates to 2.4% of the vehicles paying the parking fee by coin box. If every Explore Card pass holder visited the area 50 times per year (i.e. 294 cards x 50 visits/year = 14,700 vehicles), it is estimated that a total 6.85%



of visitors are paying to park in the areas by Explore Card. Therefore, it is estimated that 9.25% of visitors pay either in the coin box or by Explore Card to park in the Conservation Areas. It is noted that in 2021, the parking fee was increased to \$5.00 and that staff were working towards installing pay and display units at Mission Island Marsh and Cascades Conservation Areas. New large \$5 signage was also installed in all areas to inform/remind visitors of the parking fee.

In 2020, a total of 275 Explore Cards were purchased and 19 additional Explore Cards were given away as promotional with revenue of \$8,250.00, compared to 2019 with 165 Explore Cards purchased and 52 promotional Explore Cards with a total of \$4,950, 2018 with 172 Explore Cards purchased and 74 promotional Explore Cards with a total of \$5,160.00, 2017 with 123 Explore Cards purchased and 189 promotional Explore Cards with a total of \$3,690.00. The total revenue from coin boxes and Explore Cards in 2020 was \$18,504, compared to 2019 with \$10,269.86, 2018 with \$9,039.29 and 2017 with \$7,590.53.

Table 17: Conservation Area Comparison & Revenue Summary

Conservation Area	Total Number of Vehicles	Average Daily Traffic (%)	Yearly Coin Box Total (\$)	Vehicles Paying by coin box* (%)
Mission Island Marsh	74,971	35.0	\$1,431.35	1.0%
Cascades	73,149	34.2	\$3,208.30	2.2%
Silver Harbour	39,173	18.3	\$1,125.33	1.4%
Little Trout Bay	5,391	2.5	\$914.66	8.5%
Hazelwood Lake	13,712	6.4	\$1,899.58	6.9%
Cedar Falls	4,425	2.1	\$1,172.73	13.3%
Hurkett Cove	3,307	1.5	\$498.82	7.5%
Yearly Totals	214,128		\$10,254.00	2.4%

* assumes \$2.00 per vehicle



5 RECOMMENDATIONS

The following recommendations are provided for consideration:

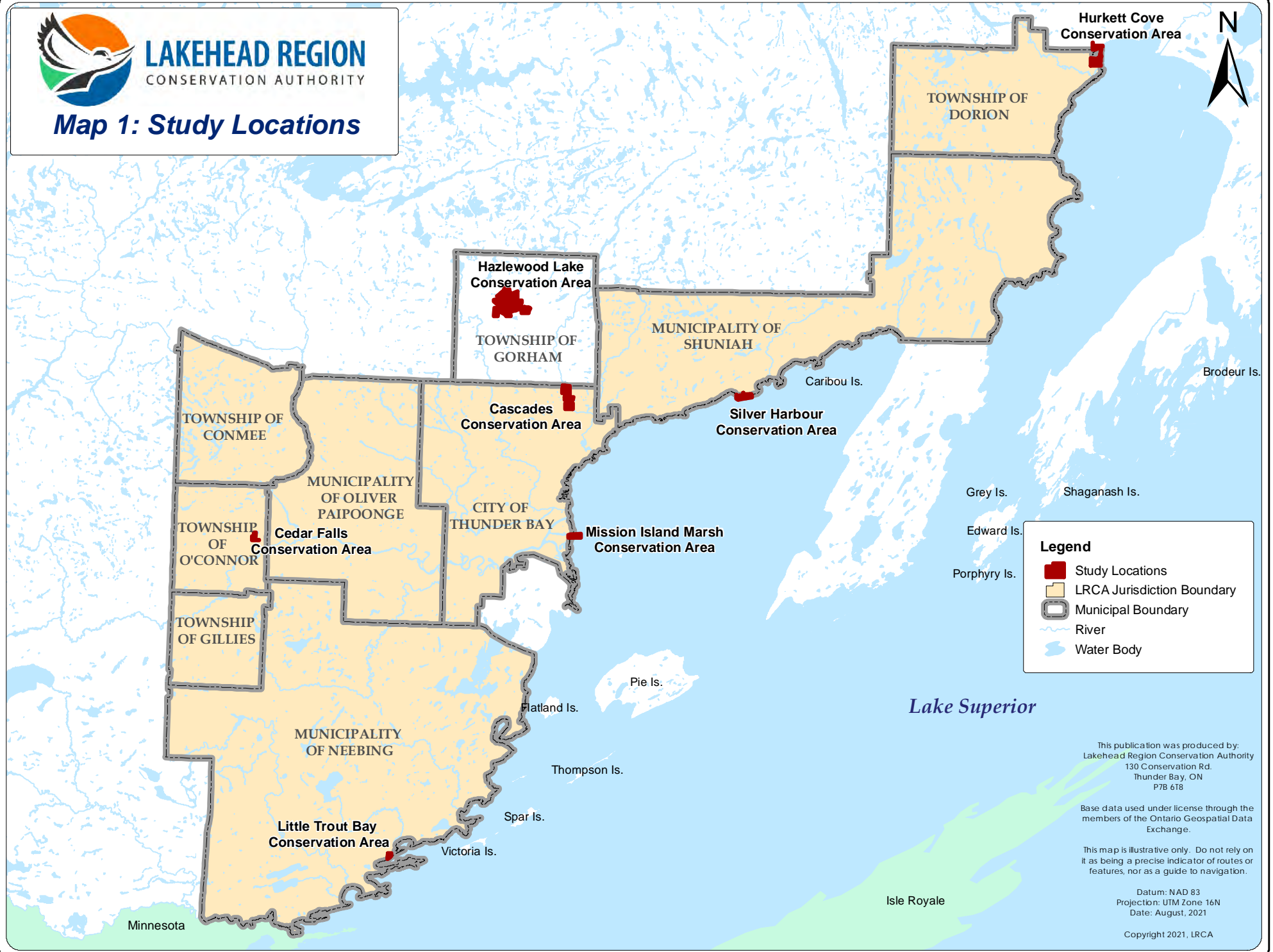
- Personnel and funding permitting, continue the annual vehicle counts at the Conservation Areas,
- Continue developing a marketing strategy with a focus on increasing yearly coin box revenue for all Conservation Areas, and creating public awareness of LRCA owned Conservation Areas and associated costs,
- Continue to promote the sale of Explore Card Parking Passes, and
- Develop a strategy to track usage of Explorer Card users.

Maps



LAKEHEAD REGION
CONSERVATION AUTHORITY

Map 1: Study Locations



Legend

- Study Locations
- LRCA Jurisdiction Boundary
- Municipal Boundary
- River
- Water Body

This publication was produced by:
 Lakehead Region Conservation Authority
 130 Conservation Rd.
 Thunder Bay, ON
 P7B 6T8

Base data used under license through the members of the Ontario Geospatial Data Exchange.

This map is illustrative only. Do not rely on it as being a precise indicator of routes or features, nor as a guide to navigation.

Datum: NAD 83
 Projection: UTM Zone 16N
 Date: August, 2021

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**2021 TREASURER'S REPORT
MONTHLY EXPENSES**

	2021 BUDGET	June	TOTAL TO DATE	BALANCE REMAINING
REVENUE				
Provincial Grants	287,047	28,175	96,615	190,432
Municipal Levy	1,668,402	-	1,668,402	-
Self Generated	213,229	46,318	198,017	15,212
Other Revenue	451,869	22,489	93,167	358,702
TOTAL REVENUE	2,620,547	96,982	2,056,201	564,346
EXPENSES				
Core Mandate Operating				
Administration	525,680	61,107	281,795	243,885
Community Relations	115,685	8,376	51,799	63,886
Natural Hazard and Protection Management	631,907	59,987	262,154	369,753
Conservation and Management of Cons. Auth. Lands	204,996	25,316	98,268	106,728
Drinking Water Source Protection	56,107	4,214	27,550	28,557
Total Core Mandate Operating	1,534,375	159,001	721,566	812,809
Non Core Mandate Operating				
Other Programming	382,608	13,380	113,276	269,332
Total None Core Mandate	382,608	13,380	113,276	269,332
Total Core and Non Core Mandate Operating	1,916,983	172,380	834,842	1,082,141
Core Mandate Capital				
Natural Hazard and Protection Management	426,018	6,651	40,620	385,398
Authority Office	25,200	1,808	4,879	20,321
Conservation and Management of Cons. Auth. Lands	252,346	8,972	17,753	234,593
Total Core Mandate Capital	703,564	17,431	63,252	640,312
Total Operating and Capital	2,620,547	189,811	898,094	1,722,453

**2021 TREASURER'S REPORT
MONTHLY EXPENSES**

	2021 BUDGET	July	TOTAL TO DATE	BALANCE REMAINING
REVENUE				
Provincial Grants	287,047	155,721	252,336	34,711
Municipal Levy	1,668,402	-	1,668,402	-
Self Generated	213,229	13,955	211,972	1,257
Other Revenue	451,869	385	93,552	358,317
TOTAL REVENUE	2,620,547	170,061	2,226,262	394,285
EXPENSES				
Core Mandate Operating				
Administration	525,680	38,595	320,390	205,290
Community Relations	115,685	9,064	60,864	54,821
Natural Hazard and Protection Management	631,907	43,748	305,902	326,005
Conservation and Management of Cons. Auth. Lands	204,996	20,061	118,329	86,667
Drinking Water Source Protection	56,107	3,941	31,491	24,616
Total Core Mandate Operating	1,534,375	115,410	836,976	697,399
Non Core Mandate Operating				
Other Programming	382,608	21,801	150,778	231,830
Total None Core Mandate	382,608	21,801	150,778	231,830
Total Core and Non Core Mandate Operating	1,916,983	137,210	987,753	929,230
Core Mandate Capital				
Natural Hazard and Protection Management	426,018	291	40,911	385,107
Authority Office	25,200	-	4,879	20,321
Conservation and Management of Cons. Auth. Lands	252,346	316	2,368	249,978
Total Core Mandate Capital	703,564	608	48,158	655,406
Total Operating and Capital	2,620,547	137,818	1,035,911	1,584,636



LAKEHEAD REGION
CONSERVATION AUTHORITY

PROGRAM AREA	CORPORATE	REPORT NO.	CORP-10-2021
DATE PREPARED	August 10, 2021	FILE NO.	69-7-2
MEETING DATE	August 25, 2021		
SUBJECT	EOS Positioning System Base Station at LRCA Office		

RECOMMENDATION

Suggested Resolution

“THAT: the CAO and Chair are authorized to enter into an Agreement with EOS Positioning Systems to host an RTK Base Station.”

LINK TO STRATEGIC PLAN

Priority: Conserve and Sustain

- *Optimize decision-making by sharing data and knowledge.*

EXECUTIVE SUMMARY

The LRCA has been approached by EOS Positioning Systems to host a base station at the LRCA Administrative Office in exchange for free access to their paid service that will provide Real-Time-Kinematic (RTK) network correction services that significantly improves Global Positioning Systems (GPS) accuracy.

Staff recommend entering into an Agreement with EOS Positioning Systems for the installation of a RTK Base Station at the LRCA Administrative Office, which will provide the LRCA free access to their RTK network correction service, thereby improving the accuracy of GPS data collected and used by LRCA staff. Additionally, EOS is offering the service for free for one year to all Member Municipalities of the LRCA, with discounted rates thereafter, if the municipality chooses to subscribe.

DISCUSSION

The LRCA has been approached by EOS Positioning Systems to host a base station at the LRCA Administrative Office in exchange for free access to their paid service that will provide Real-Time-Kinematic (RTK) network correction services that significantly improves Global Positioning Systems (GPS) accuracy. EOS has been approaching all Conservation Authorities as potential partners as they expand their service throughout Ontario. Currently approximately 25 Conservation Authorities are in discussions with EOS, with Raison Region Conservation Authority being the first to sign the Agreement.

EOS Positioning Systems Inc. is Canadian company based in Terrebonne Quebec that designs and manufactures high-accuracy GPS/Global Navigation Satellite Systems (GNSS) receivers that increase the accuracy of GPS coordinates down to centimetres accuracy.

The installation would require that a base station be installed in the server room with a cable leading to the antenna which would be mounted on the roof of the office building. Any updates or upgrades *to the* software and equipment firmware will be *done by EOS* remotely using the internet.

The Arrow Gold base station will cover the area with a radius of about 80 kilometres around the LRCA office (which will encompass our entire jurisdiction) in which approximately two centimetres of accuracy will be attainable. The datasheet for the base station is attached as Attachment #1.

Currently, staff are only aware of one other company (Cansel) that offers the service locally.

Partner responsibilities:

EOS	LRCA
Supply and pay for equipment	Provide location for installation of antenna and small box to hold equipment
Install equipment	Provide electricity to power equipment (equivalent to a workstation computer)
Provide plan <i>and pay for their own Internet access through the cellular network</i>	Allow access to site if EOS needs to physically access equipment. All updates and upgrades to software is done remotely through the Internet.
Maintain equipment and software	
Provide LRCA lifetime of free RTK subscriptions	
Maintains rights to sell RTK subscriptions to neighbouring communities and organizations	

Benefits to LRCA

The LRCA currently collects GPS data in the field when processing Section 28 permits, assessing planning applications and collecting data related to LRCA owned assets. Currently staff collect the data, download the data in the office and post process the data using a free service that increases the accuracy of points between 0.5 to 1.0 metres horizontally and double that vertically. If the LRCA uses the EOS service, using LRCA’s existing GPS units, no post processing of data will be required, saving staff time with immediate accuracy of data being approximately 2 centimetres. If the LRCA were to subscribe to this type of service, it is estimated that the cost could be up to \$3,000 per year. The increased accuracy of collected data will provide staff the ability to better assess the risk of proposals near natural hazards and reduce potential liability associated with errors.

EOS is proposing entering into an agreement for an initial five- year term, which can be renewed annually thereafter. Either party can terminate with 90 days notice. The draft agreement has been attached as Attachment #2.

Promotional Offer to Member Municipalities

For the Conservation Authorities who move forward with the base hosting agreements, EOS will offer one full year of free RTK corrections to all of their municipal partners - no strings attached. Member Municipalities can stop using the subscription at any time, and they aren't obligated to drop their current RTK provider. Municipal RTK retail pricing in Ontario is roughly \$2,900-\$3,300 per year on average, as per EOS's municipal clients. If Member Municipalities choose to continue using EOS RTK subscriptions moving forward, EOS is proposing that the agreement could be as low as \$750 per year.

FINANCIAL IMPLICATIONS

If the LRCA hosts the base station, annual electricity costs are anticipated to be equivalent to the operation of workstation computer. The granting of a free license to use the EOS service provides approximately \$3,000 of value to the LRCA annually, while providing a greater degree of accuracy of all collected GPS data, as well as saving staff time which will no longer be needed to post process the data.

CONCLUSION

Staff recommend entering into an Agreement with EOS Positioning Systems for the installation of a RTK Base Station at the LRCA Administrative Office, which will provide the LRCA free access to their RTK network correction service.

BACKGROUND

None.

REFERENCE MATERIAL ATTACHED

Attachment #1 – Fast RTK Base Station Datasheet

Attachment #2 – Draft Agreement

PREPARED BY: Tammy Cook, CAO

REVIEWED BY: Roman Augustyn, Information Systems Coordinator

<p>THIS REPORT SIGNED AND VERIFIED BY:</p> <p><i>Tammy Cook</i></p> <p>Tammy Cook Chief Administrative Officer</p>	<p>DATE: August 17, 2021</p>
--	----------------------------------

FastRTK Base Station

Description:

The *FastRTK* base station was designed to be a flexible, cost-effective, and reliable RTK base station. These systems have been deployed widely across North America, from Hawaii to Barbuda in the Caribbean Sea.

Flexible

A key feature is the flexibility of the base station. For example, virtually any type of wireless modem can be installed supporting nearly any wireless service provider, from AT&T FirstNet for public safety priority to Verizon, Sprint, T-Mobile or whichever your preferred wireless carrier is. This even includes dual SIM card wireless modems that can accommodate SIM cards from two different wireless providers.

Owing to the Linux operating system, it is very reliable and easy to update software and operating system remotely as new software features are developed.

Its modular design allows the operator to update the base station as requirements change. For example, if the IT department decides to standardize on different wireless provider, it is relatively simple to change the wireless modem. Or they may decide to use an ethernet connection to the corporate network.

Finally, if there is no wireless coverage in the region, the *FastRTK* base can be outfitted with a UHF/VHF modem (or other data modem) that will broadcast RTK base data for several miles.

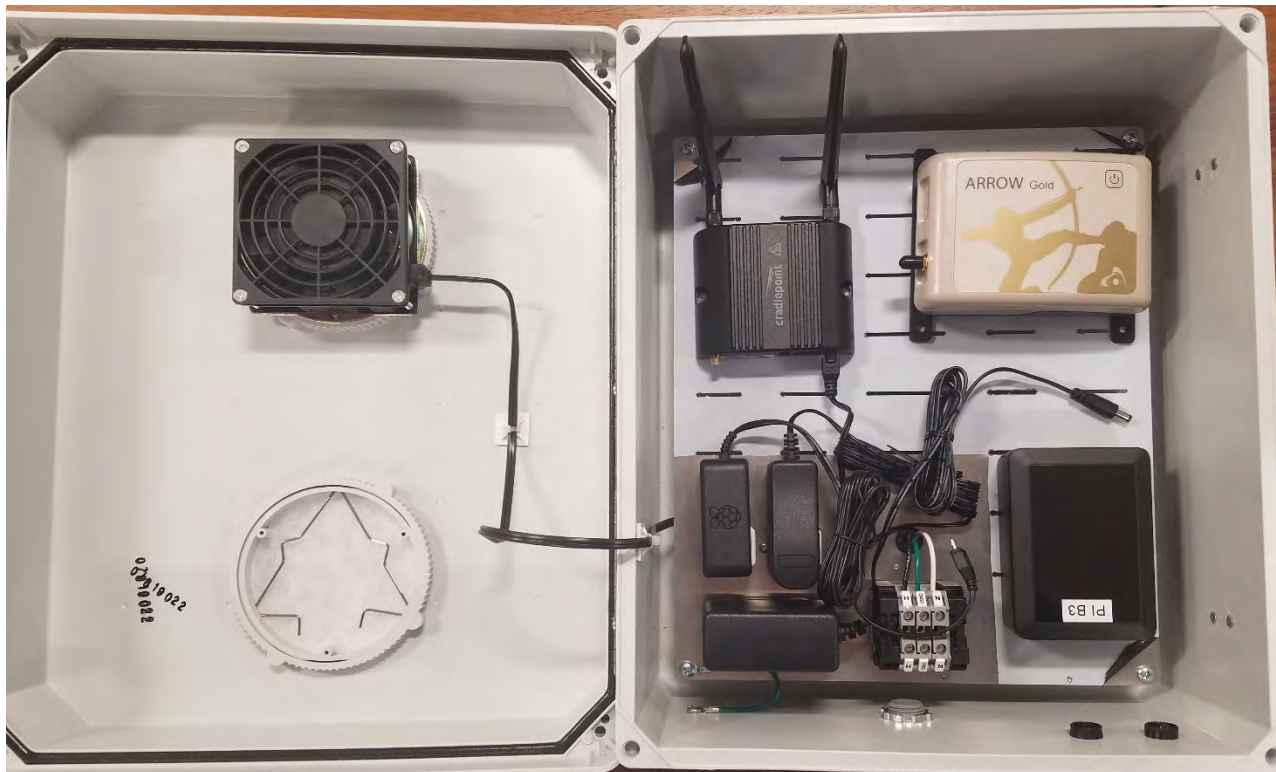
Cost-Effective

Using standard, off-the-shelf components allows the *FastRTK* base station to be built at a lower cost than many RTK base stations with comparable features. The core of the *FastRTK* base station is a GNSS receiver that supports all four GNSS constellations (GPS, Glonass, Galileo, BeiDou) and, just as importantly, all civilian

signals broadcast by those four constellations. The *FastRTK* base station was designed and built in the USA using only North American components.

Secure

The *FastRTK* system has been tested by a Fortune 500 company forensic lab and passed with flying colors to be safe and secure from hackers and viruses. Advanced security features protect your network. If you want to simply not connect to your network, just use a wireless modem and it becomes a completely independent system from your network.



Reliable

Being an infrastructure product, it is vitally important that the *FastRTK* base station operate reliably 24/7/365. Owing to its reliability, the Linux operating system fits perfectly for an RTK base station deployment.

Low Overhead and No Maintenance Costs

The FastRTK base station was designed for low overhead cost and no maintenance. Simply supply power from a wall plug or UPS, plug in your ethernet connection or wireless connection and leave it alone, serving centimeter RTK corrections to hundreds of users at the same time. It will automatically collect raw data, submit to OPUS, and update the RTK base antenna position to the correct value. Furthermore, it automatically collects data on a weekly basis and submits to OPUS to monitor the antenna's position.

Dynamic Nearest Mount Point

For organizations incorporating several RTK bases, the user does not have to worry about selecting the closest RTK base. The DynamicNear mount point automatically selects the nearest RTK base. Furthermore, if during the day the user moves closer to another RTK base, it will automatically switch.

DETAILED SPECIFICATIONS AND FEATURES

1. Constellation/frequency support - Concurrent

GPS: L1 C/A, L1P, L1C, L2P, L2C, L5

Glonass: L1 (G1), L2 (G2)

Galileo: E1, E5a, E5b

BeiDou: B1, B2, B3

QZSS

IRNSS

SBAS

L-Band

2. Position Status, RTK output and Raw Observation Storage

Position status: NMEA-0813 2.x, 3.x

RTK output: RTCM2.x, RTCM3.x, CMR up to 50Hz.

Raw observation data: RINEX 2.x, 3.x. 16GB standard (up to 128GB optional).

3. RTK Precision

Horizontal RMS: 8mm + 1ppm

Vertical RMS: 15mm + 1ppm

4. I/O - All independently configurable

RS-232

USB

Bluetooth: Class I long-range iOS, Android, Windows. (Serial Port Profile, Apple iOS iAP2)

Ethernet: RJ-45 full duplex.

Wifi: 802.11

LTE/4G/5G (optional): Verizon, AT&T, FirstNet, T-Mobile, Sprint, Bell and others.

UHF (optional): 402MHz to 473MHz. 12.5/20/25KHz spacing configurable, up to 35W output, Pacific Crest, TrimTalk, FEC support, Data Security Code feature

5. NTRIP

HTTP, HTTPS, TCP/IP, UDP, FTP, SSH key

Linux-based NTRIP Caster, NTRIP Server, NTRIP client

DynamicNear mountpoint for automatically selecting and switching to the nearest RTK base.

Consume RTK correction data from any other RTK base station, even if it's not a *Fast*RTK base.

Email and SMS (text) status alerts

SQL database for user authentication and management

Web-based user interface

Up to 1,000 concurrent users

Automated antenna position monitoring

6. Security

Software:

IP filtering/firewall. Flexible port configuration.

SSH 2048-bit RSA public/private keys

Proxy server

Automatic security updates

Physical: stainless steel padlock hasps

7. Physical

NEMA Type 4, IP-66, w/fully gasketed access lid

Operating temperature: -40C to +65C

Automated, temperature-controlled fan

12VDC battery or 120-240VAC wall power

GNSS antenna connector (TNC)

UHF radio antenna connector (BNC)

###

EOS RTK Base Station Agreement to Host

A hosting AGREEMENT is offered to the Lakehead Region Conservation Authority (LRCA) on this day of July 27th, 2021 and accepted on _____ . This agreement is between the LRCA located at _____ and Eos Positions Systems located at 100 -1060 Rue Levis, Terrebonne, QC J6W 5S6.

Eos and the LRCA agree as follows

- 1. Eos will provide a base station, required components, cellular data plan, maintenance, and software for the full operation and life of the agreement. (This can also be setup directly to your internet network, TBD)**
- 2. Eos will maintain ownership of the base station and cost to repair or replace due to manufacturer defects. Purposeful damage to the system will be addressed accordingly.**
- 3. The LRCA will provide electricity for the base station.**
- 4. The LRCA will provide a location (TBD) for the installation of the GNSS Antenna and the GNSS Receiver that ensures safety and security for the successful operation of the Base Station.**
- 5. Eos will manage the station remotely through the onboard cell modem. This modem will broadcast the base data through the internet to the users with valid subscriptions. NRCan Geographical Coordinates will be output.**
- 6. Eos will provide LRCA unrestricted access to RTK subscriptions, in exchange**
- 7. Initial term is 5 years from date of agreement execution.**

Installation and Access

- 1. It is suggested that only the Antenna be mounted on or outside the agreed building thereby reducing the requirement to access the installation area and amount of changes to the building. The receiver and the modem are to be installed inside the building in a suitable location.**
- 2. Access to Antenna should only be required in the event of physical damage causing the system to no longer operate properly.**

- 3. Physical access to the receiver and modem will only be required to perform replacement or repairs to the contained components. All other access can be accomplished remotely through the cell modem.**
- 4. Installation will be determined by the building owner and or the maintenance staff of the building. In the event that a contractor needs to be used for installation, Eos will be responsible for these cost as deemed reasonable. If costs are not reasonable then a second location will need to be considered.**

Termination

- 1. This Agreement may be terminated by either party at any time by giving ninety days (90) written notice to the other party.**
- 2. All equipment owned by Eos Positioning must be removed with the site left in good repair at the end of the agreement.**
- 3. The parties specifically agree that the notice and consideration set forth in this paragraph constitutes reasonable, fair and equitable notice.**
- 4. If not sooner terminated, this Agreement shall renew at the end of the initial term and shall thereafter continue for successive annual periods until terminated by either party upon not less than ninety (90) days' written notice.**

Indemnification

- 1. Eos releases the LRCA from all costs, losses and damages suffered by Eos in connection with the base station. The LRCA releases Eos from all costs, losses and damages with relation to operation of the base station.**
- 2. No Liability shall be assumed by either party for non-functioning port streams or data inaccuracies and all reasonable effort should be provided to maintain reliable port connections for use by either parties.**

Eos Representative

Title

Date

Signature

LRCA Representative

Title

Date

Signature

**Monthly Plan Input/Review and Fill Regulations Administration
June 1 to 30, 2021**

Municipality	Minor Variance (A)	Consent (B)	Official Plan	Official Plan/ Zoning By-Law Comprehensive	Zoning By-Law (Z)	Subdivisions	Clearances	Reality Services	Lawyer Inquiries	Letter of Opinion (Other)	Total
City of Thunder Bay		B-21-2021			Z-01-2021		1391 Arthur Street W	Temporary Patio Requests	209 Bishop Court		
					Z-03-2021		Gemstone Estates Stage 5	Temporary Patios	237 Wappner Road		
								378 Wyndale Street	800 Marks Street N		
								Temporary Patio Applications	Vacant Land Mapleward Road		
Total	0	1	0	0	2	0	2	4	4	0	13
Oliver Paipoonge		1B/10/21									
		1B/11/21									
Total	0	2	0	0	0	0	0	0	0	0	2
O'Connor											
Total	0	0	0	0	0	0	0	0	0	0	0
Neebing									Dog Island		
									Vacant Land, Jarvis Bay Rd W		
Total	0	0	0	0	0	0	0	0	2	0	2
Shuniah	A2/21										
Total	1	0	0	0	0	0	0	0	0	0	1
Conmee											
Total	0	0	0	0	0	0	0	0	0	0	0
Gillies											
Total	0	0	0	0	0	0	0	0	0	0	0
Dorion											
Total	0	0	0	0	0	0	0	0	0	0	0
Rural Planning Board		1B/10/21									
		1B/12/21									
Total	0	2	0	0	0	0	0	0	0	0	2
Monthly Total	1	5	0	0	2	0	2	4	6	0	20

**Monthly Plan Input/Review and Fill Regulations Administration
July 1 to 31, 2021**

Municipality	Minor Variance (A)	Consent (B)	Official Plan	Official Plan/ Zoning By-Law Comprehensive	Zoning By-Law (Z)	Subdivisions	Clearances	Reality Services	Lawyer Inquiries	Letter of Opinion (Other)	Total
City of Thunder Bay			OZ-02-2021					45 Dalton Ave	1171 Oliver Road 1175 Oliver Road 595 Arthur Street W		
Total	0	0	1	0	0	0	0	1	3	0	5
Oliver Paipoonge		1B/09/21			ZBLA 08-2021						
		1B/12/21			ZBLA 10-2021						
		1B/13/21			ZBLA 09-2021						
		1B/16/21			ZBLA 11-2021						
		1B/18/21									
		1B/19/21									
		1B/14/21									
		1B/15/21 1B/17/21									
Total	0	9	0	0	4	0	0	0	0	0	13
O'Connor											
Total	0	0	0	0	0	0	0	0	0	0	0
Neebing									6675 Highway 61		
Total	0	0	0	0	0	0	0	0	1	0	1
Shuniah											
Total	0	0	0	0	0	0	0	0	0	0	0
Conmee											
Total	0	0	0	0	0	0	0	0	0	0	0
Gillies											
Total	0	0	0	0	0	0	0	0	0	0	0
Dorion		B20-21									
		B21-21									
Total	0	2	0	0	0	0	0	0	0	0	2
Rural Planning Board		1B/13/21									
Total	0	1	0	0	0	0	0	0	0	0	1
Monthly Total	0	12	1	0	4	0	0	1	4	0	22

Monthly Plan Input/Review and Fill Regulations Administration
August 1 to 18, 2021

Municipality	Minor Variance (A)	Consent (B)	Official Plan	Official Plan/ Zoning By-Law Comprehensive Review	Zoning By-Law (Z)	Subdivisions	Clearances	Reality Services	Lawyer Inquiries	Letter of Opinion (Other)	Total
City of Thunder Bay	A-46-2021	B-47-2021									
Total	1	1	0	0	0	0	0	0	0	0	2
Oliver Paipoonge		1B/26/21									
		1B/25/21									
		1B/24/21									
		1B/23/21									
		1B/22/21									
		1B/21/21									
		1B/20/21									
Total	0	7	0	0	0	0	0	0	0	0	7
O'Connor											
Total	0	0	0	0	0	0	0	0	0	0	0
Neebing	B04-2021										
Total	1	0	0	0	0	0	0	0	0	0	1
Shuniah									252 Copenhagen Road	Hwy 11/17 Four-laning	
Total	0	0	0	0	0	0	0	0	1	1	2
Conmee											
Total	0	0	0	0	0	0	0	0	0	0	0
Gillies											
Total	0	0	0	0	0	0	0	0	0	0	0
Dorion										Hwy 11/17 Four-laning	
Total	0	0	0	0	0	0	0	0	0	1	1
Rural Planning Board											
Total	0	0	0	0	0	0	0	0	0	0	0
Monthly Total	2	8	0	0	0	0	0	0	1	2	13



Development, Interference with Wetlands and Alterations to Shorelines and Watercourses O.Reg. 180/06
Year: 2021

Permit #	Category	Fee	Applicant Name	Municipality	Subject Property Address	Type of Work	Key Dates				
							Rec'd at LRCA	Permit Issued	Days to Issue Permit	Reason for Timeline	Approved by:
#1/21	Standard Works	\$300.00	Chad Sharp	City of Thunder Bay	120 Fenwood Dr	Garage Construction	23/2/2021	04/03/21	7		Staff
#2/21	Standard Works	\$300.00	Pierre Gagne Contracting	City of Thunder Bay	490 Maureen St	Dredging -Midcontinent Terminal	10/3/2021	17/03/21	5		Staff
#3/21	Small Works	\$150.00	Jordan Calonego	Municipality of Shuniah	1814 Amethyst Ave	Erosion Protection	7/4/2021	23/04/21	11		Staff
#4/21	Large Works	\$0.00	City of Thunder Bay	City of Thunder Bay	Edward St. Bridge & Riverview Dr	Multi-Use Trail & Erosion Protection	20/4/2021	22/04/21	2		Staff
#5/21	Large Works	\$0.00	City of Thunder Bay	City of Thunder Bay	Edward St. Bridge over Neebing River	Bridge Replacement	20/2/2021	23/04/21	3		Staff
#6/21	Standard Works	\$300.00	Trevor Packota	City of Thunder Bay	345 Beaver Ave	Dwelling Construction	29/4/2021	30/04/21	2		Staff
#7/21	Standard Works	\$300.00	Enbridge	Municipality of Oliver Paipoonge	Maki Rd, John St. Rd, McNally Dr	Gas Main Extention/Site Grading	13/4/2021	05/05/21	8		Staff
#8/21	Standard Works	\$300.00	Devon Veldhuis	City of Thunder Bay	2185 Gregor Rd	Dwelling Addition- Deck Construct	11/4/2021	06/05/21	2		Staff
#9/21	Large Works	\$600.00	Zachery Donatis	City of Thunder Bay	Lot 17 Paquette Rd	Dwelling Construction	29/4/2021	06/05/21	4		Staff
#10/21	Standard Works	\$300.00	Superior Elevator	City of Thunder Bay	140 Darrel Avenue	Rock Reventment Repair	20/04/2021	11/05/21	9		Staff
#11/21	Standard Works	\$0.00	City of Thunder Bay	City of Thunder Bay	Hazelwood Drive (near #280)	Culvert Replacement	11/5/2021	12/05/21	1		Staff
#12/21	Standard Works	\$300.00	Robert Gresko	City of Thunder Bay	6340 Mapleward Rd	Garage	11/5/2021	17/05/21	6		Staff
#13/21	Standard Works	\$300.00	Ron Jaspers	Municipality of Neebing	5566 Hwy 61	Culvert & Driveway	30/04/21	18/05/21	11		Staff
#14/21	Standard Works	\$300.00	Leif Dyson	City of Thunder Bay	2725 Government Rd	Dwelling & Garage Construction	17/05/21	26/05/21	6		Staff
#15/21	Small Works	\$150.00	Jeff Wituluk	Municipality of Shuniah	452 E. Floral Beach Rd	Retaining Wall Replacement & Stairs	21/05/21	01/06/21	5		Staff
#16/21	Standard Works	\$300.00	Francis Hodder	Municipality of Shuniah	155 West Loon Dr	Reconstruction of East Section of Cottage	6/7/2021	06/09/21	2		Staff
#17/21	Standard Works	\$300.00	Dwayne Bryne	Municipality of Shuniah	1223B Grandview Beach Dr	Erosion Protection & Dock Construction	6/4/2021	15/06/21	11		Staff
#18/21	Standard Works	\$0.00	City of Thunder Bay	City of Thunder Bay	146 Hinton Ave	Storm Sewer & Catchbasins	1/6/2021	10/06/21	9		Staff
#19/21	Large Works	\$0.00	City of Thunder Bay	City of Thunder Bay	401 Wardrope Ave	Reconstruction of Multi-Use Trail	1/6/2021	11/06/21	10		Staff
#20/21	Standard Works	\$300.00	Corey Beaucage	City of Thunder Bay	224 Bishop Court	Garage Construction	15/06/21	16/06/21	1		Staff
#21/21	Standard Works	\$300.00	Dennis Siczkar	Municipality of Shuniah	757,759,761, 764 Wild Goose Bay Rd	Erosion Protection	16/06/21	21/06/21	4		Staff
#22/21	Large Works	\$600.00	Dominic Figliomeni	City of Thunder Bay	Lot 5, Paquette Rd	Dwelling Construction	18/06/21	21/06/21	2		Staff
#23/21	Small Works	\$150.00	Paul Giardetti	City of Thunder Bay	1219 & 1221 Grandview Beach Rd	Erosion Protection/Rock Placement	16/06/21	22/06/21	4		Staff
#24/21	Small Works	\$150.00	Julie Besse	Municipality of Neebing	60 Margaret St. N.	Erosion Protection & Shed Construction	23/06/21	24/06/21	1		Staff
#25/21	Standard Works	\$0.00	Mun. Oliver Paipoonge	Mun. Oliver Paipoonge	820 & 839 Candy Mountain Rd	Culvert Replacement	18/06/21	25/06/21	5		Staff
#26/21	Standard Works	\$300.00	Jaeger Ulok	City of Thunder Bay	Lot 4, Paquette Rd	House Construction	28/06/21	30/06/21	2		Staff
#27/21	Small Works	\$0.00	City of Thunder Bay	City of Thunder Bay	4049 Garden Ave	Bank Repair	23/06/21	30/06/21	5		Staff
#28/21	Small Works	\$300.00	Dena & Chris Rooney	Municipality of Shuniah	461 East Floral Beach Rd	Deck Construction	30/06/21	30/06/21	1		Staff

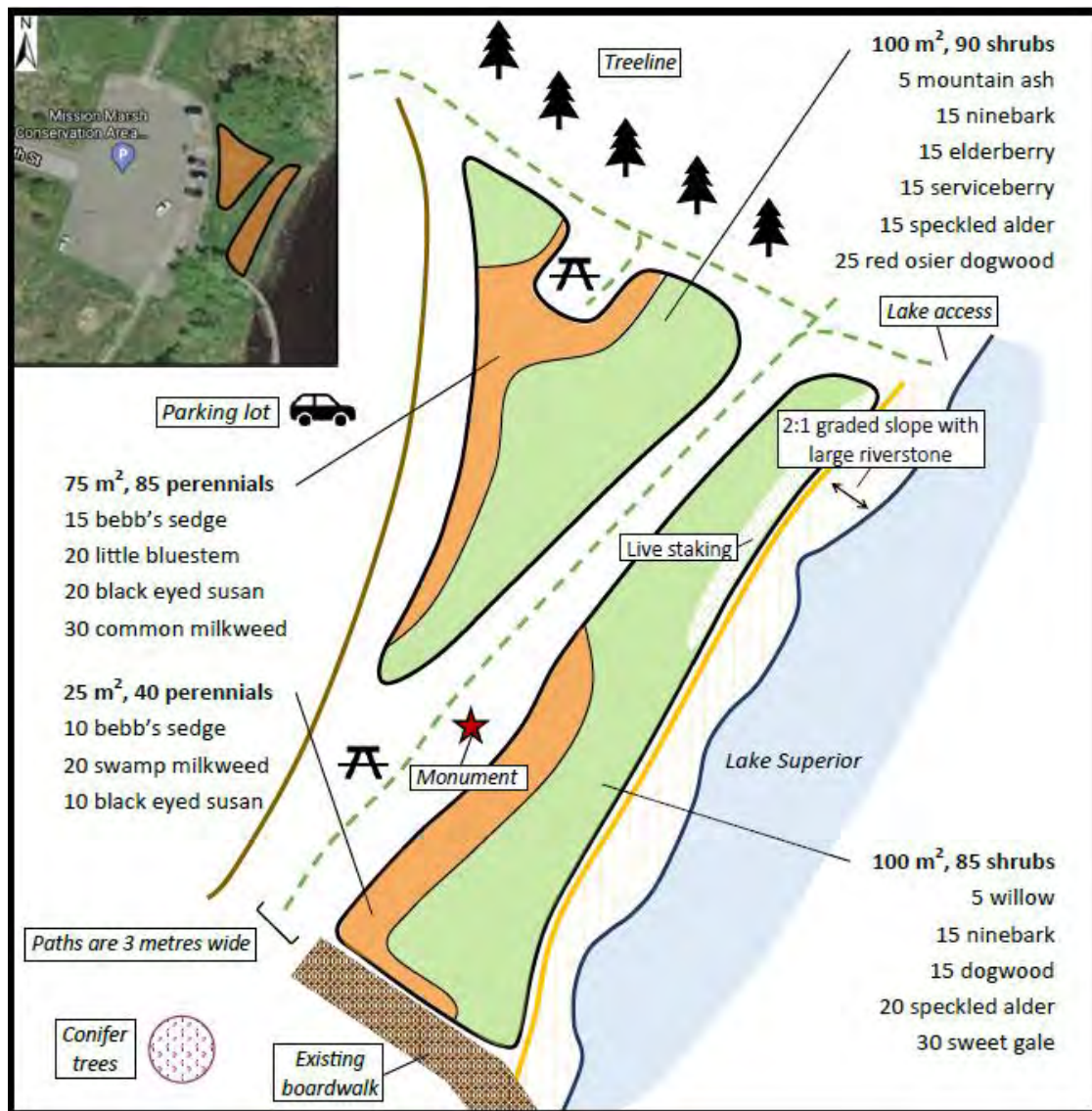
#29/21	Small Works	\$0.00	City of Thunder Bay	City of Thunder Bay	180 Castlegreen Drive	Reconstruction of Multi-Use Trail	1/6/2021	06/07/21	6	Staff
#30/21	Standard Works	\$0.00	City of Thunder Bay	City of Thunder Bay	321 Madeline Street	Reconstruction of Multi-Use Trail	9/6/2021	06/07/21	6	Staff
#31/21	Small Works	\$150.00	Steve McAuley	Municipality of Shuniah	612 Pebbly Beach Rd	Retaining Wall Construction	30/06/21	07/05/21	3	Staff
#32/21	Small Works	\$150.00	Nathan Sims	Municipality of Shuniah	574 East Loon Rd	Sauna Construction	29/06/21	07/07/21	5	Staff
#33/21	Small Works	\$0.00	City of Thunder Bay	City of Thunder Bay	Koivu Rd near Mapleward Rd	Culvert Replacement & Erosion Protection	7/2/2021	13/047/21	7	Staff
#34/21	Large Works	\$600.00	G3 Canada Limited	City of Thunder Bay	200 Darrel Ave	Maintenance Dredging	7/5/2021	07/08/21	4	Staff
#35/21	Large Works	\$0.00	City of Thunder Bay	City of Thunder Bay	443 Belton St	Culvert Replacement & Erosion Protection	25/6/2021	13/07/21	10	Staff
#36/21	Small Works	\$300.00	Kevin Cannon	Municipality of Shuniah	679 Grann Dr	Shoreline Erosion Protection	7/8/2021	07/09/21	1	Staff
#37/21	Standard Works	\$600.00	Glen Duce	City of Thunder Bay	Unaddressed Parcel Lot between 1915 & 1931 Mountain Rd	Fill Placement	13/7/2021	13/07/21	1	Staff
#38/21	Major Works	\$0.00	City of Thunder Bay	City of Thunder Bay	5405 Mapleward Rd	Constuction of Aerated Lagoons	22/6/2021	14/07/21	16	Staff
#39/21	Standard Works	\$300.00	Bryan Hartley	City of Thunder Bay	3321 Government Rd	Driveway Culvert Replacement	15/7/2021	15/07/21	1	Staff
#40/21	Standard Works	\$300.00	Jack Bisby	Municipality of Shuniah	Floral Beach Rd Adjacent to 475 Floral Beach Rd	Culvert Replacement	12/7/2021	15/07/21	3	Staff
#41/21	Small Works	\$150.00	North Shore Steelhead Asso	Municipality of Shuniah	Birch Beach Rd	Creek Alteration for Fish Passage	14/07/21	20/07/21	4	Staff
#42/21	Standard Works	\$300.00	Roger Strickland	Municipality of Oliver Paipoonge	4565 Oliver Rd	Shed Construction	20/7/2021	21/07/21	1	Staff
#43/21	Small Works	\$300.00	Charmaine Miller	Municipality of Shuniah	464 East Floral Beach Rd	Deck Construction	21/7/2021	22/07/21	1	Staff
#44/21	Small Works	\$300.00	Jorden Gagnon	Municipality of Shuniah	2601 Birch Beach Rd	Culvert Extension & Fill Placement	14/07/21	23/07/21	6	Staff
#45/21	Standard Works	\$600.00	Thane Gagnon	City of Thunder Bay	1300 Victor Ave	Site Grading - Erosion Protection	22/07/21	22/07/21	1	Staff
#46/21	Standard Works	\$300.00	Gary Ramsdale	City of Thunder Bay	4049 Garden Ave	Culvert Installation	21/07/21	27/07/21	4	Staff
#47/21	Small Works	\$150.00	Robert Martin	City of Thunder Bay	102 Brentwood Dr	Deck Construction	28/07/21	29/07/21	1	Staff

Mission Island Marsh Conservation Area

Proposed Plantings

Mission Island Marsh Conservation Area is surrounded by Provincially Significant Wetland and sees **frequent use by migratory birds and species at risk**. Human visitation and other disturbances to the shoreline threaten the existing wildlife habitat at Mission Island Marsh Conservation Area. Selectively planting native trees, shrubs, and perennials will re-establish habitat and address shoreline erosion concerns.

Shoreline plantings are required to stabilize the shoreline at Mission Island Marsh Conservation Area. Native shrub and perennial plantings proposed between the parking lot and Lake Superior will offer **shoreline stabilization** as the shore continues to recede. Lawn paths 3 metres wide will separate plantings and maintain access to the lakefront, with a large area of shoreline open for the launch of various water sport equipment. Paths will be angled along the slope to **reduce erosion**. Shrubs planted in this location will be low-lying so as not to impede views of the Sleeping Giant.



Planting of tree seedlings along the shoreline near the boardwalk will help redirect foot traffic to the boardwalk. **Conifer seedlings** will allow the area to return to wildlife habitat, important in maintaining the health of the adjacent Provincially Significant Wetland. Conifers will be used due to beaver activity in the area, and a dense planting of larger seedlings is planned.

Along the Kaministiquia River at Mission Island Marsh Conservation Area, some non-native and invasive species have been documented. **Invasive species management** includes both removal of the non-native plants and revegetation with native species. Spreading a native wildflower seed mix in the existing meadow habitat at Mission Island Marsh Conservation Area, and along the Kaministiquia Riverbank, will support native species in outcompeting the invasive species.

Return to the Lakehead Region Conservation Authority webpage to take the survey and give us your feedback on the concept plan proposed for Mission Island Marsh Conservation Area.



Below are some examples of the plants proposed for revegetation at Mission Island Marsh:



Common ninebark



Black-eyed susan



Sweet gale



Mountain ash



Swamp milkweed



Serviceberry

