Town of Oromocto
Urban Forest Management Plan
Phase I - 2020

Our Urban Forestry Management Team

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Project Goal

UFMP Project Goal 2020

Provide an urban forestry management plan that will:

- Help town officials in strategic planning and development of maintenance plans for the urban forest
- Educate residents about their urban forest
- Highlight the economic, social and environmental values from the Town's urban forest in response to climate change and insect and disease over time

Urban Forest Inventory Results

Table 1. Number of trees inventoried per area, in the Town of Oromocto, collected by UNB students in October 2019.

Area	Number Of Trees Inventoried	% Of Total
Parks	265	9%
Street Trees	547	18%
Golf Course (Single Trees)	780	25%
Golf Course (Forested Plots)	1372	44%
Visitor Center	131	4%
Single Tree Total	1723	56%
Grand Total	3095	100%

Urban Forest Inventory Results: Species Composition
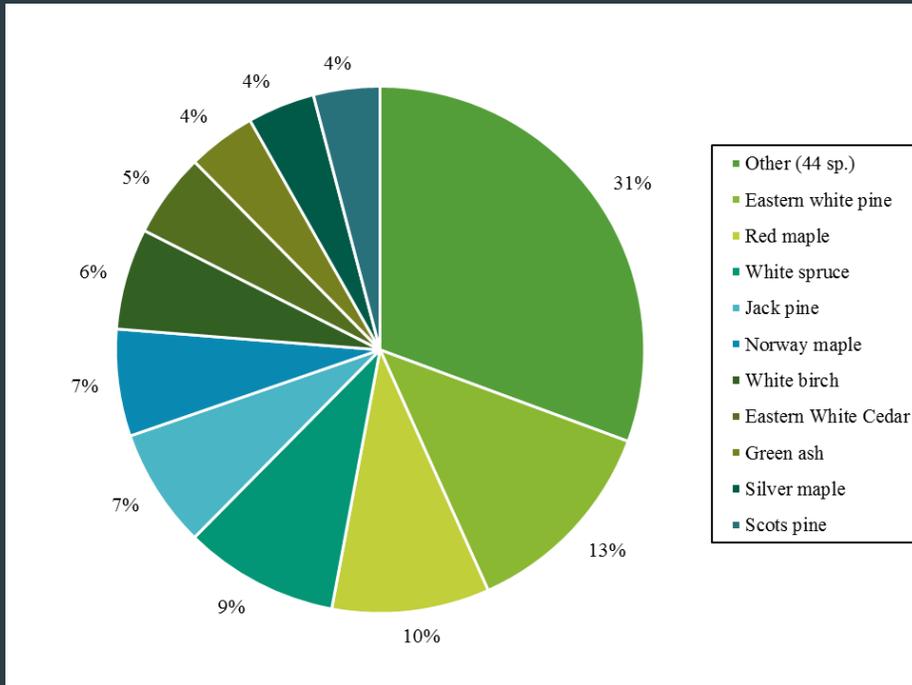
Figure 1. Species composition of the individually inventoried trees in the parks, golf course, visitor center and streets of the Town of Oromocto in fall 2019 by the 2020 UNB 4020 student group.
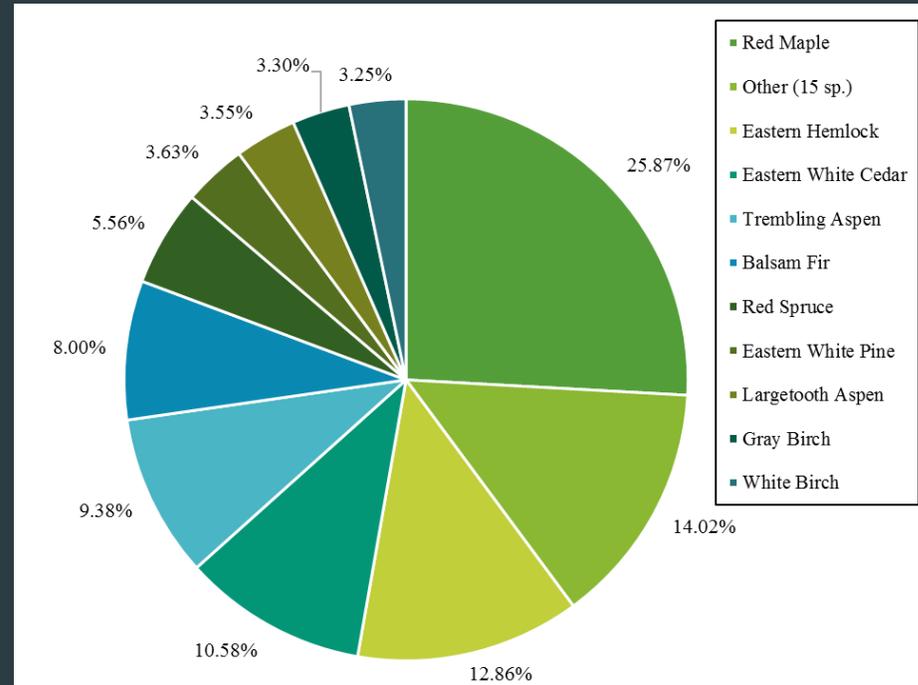
Figure 2. Species composition of the 17 stands located on the Gage golf course in the Town of Oromocto in fall 2019 by the 2020 UNB 4020 student group. Species composition was calculated from stems per hectare.

Urban Forest Inventory Results: Diameter and Height Class
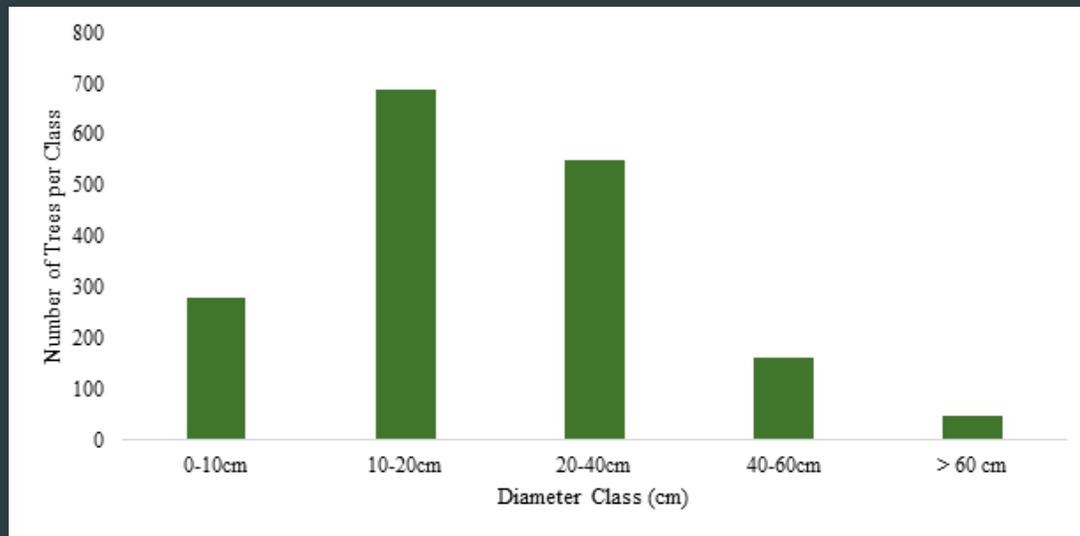
Figure 3. Diameter (cm) distribution of all individually inventoried trees in the Town of Oromocto in fall 2019 by the 2020 UNB 4020 student group.
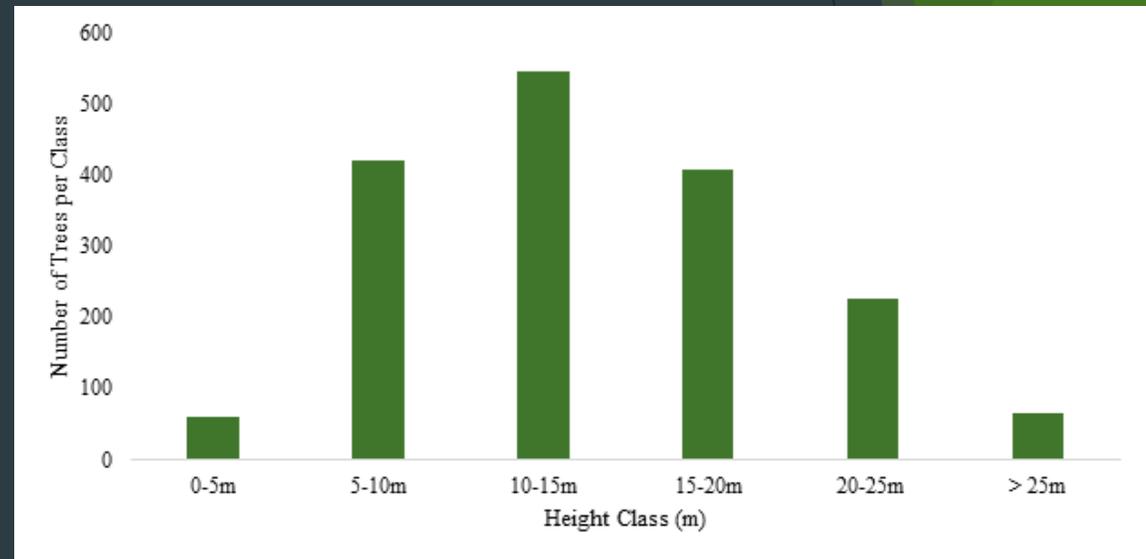
Figure 4. Height (m) distribution of all individually inventoried trees in the Town of Oromocto in October-November 2019 by the UNB 4020 student group.

Urban Forest Inventory Results:
Health Condition
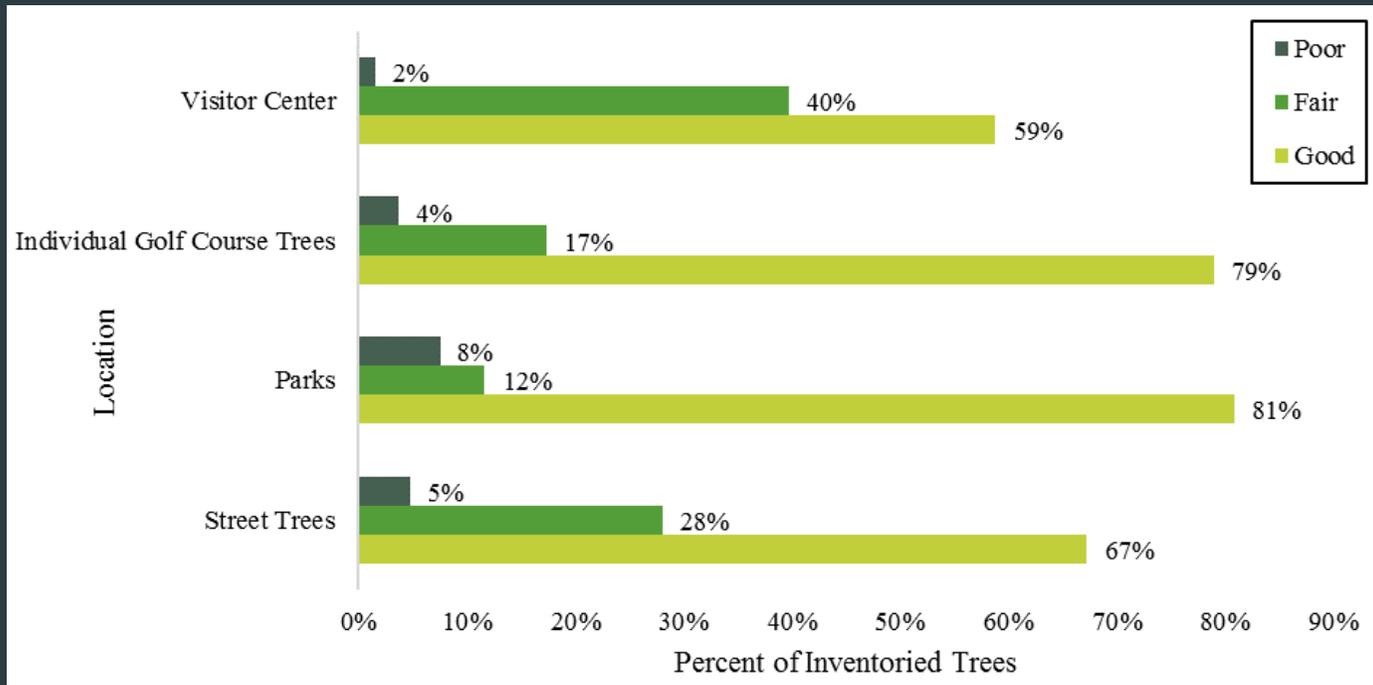
Figure 5. Percent of individually inventoried trees separated into three health classes for trees inventoried in the Town of Oromocto in fall 2019 by the 2020 UNB 4020 student group.
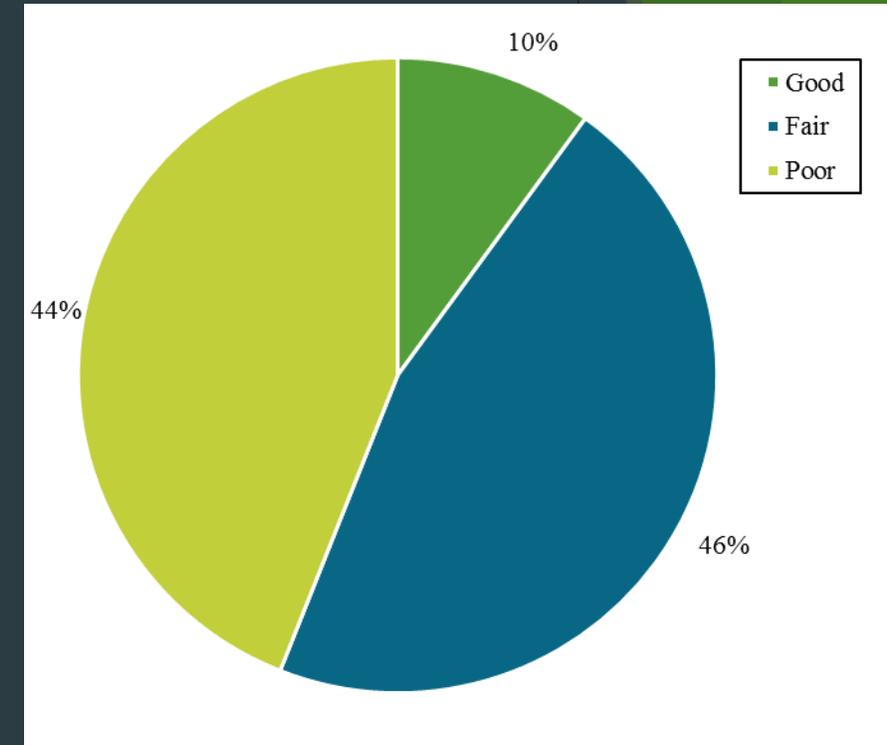
Figure 6. Health condition of 100 ash trees inventoried in the Town of Oromocto by the 2020 UNB 4020 student group in October-November 2019.

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Urban Forest Inventory Results: Maintenance
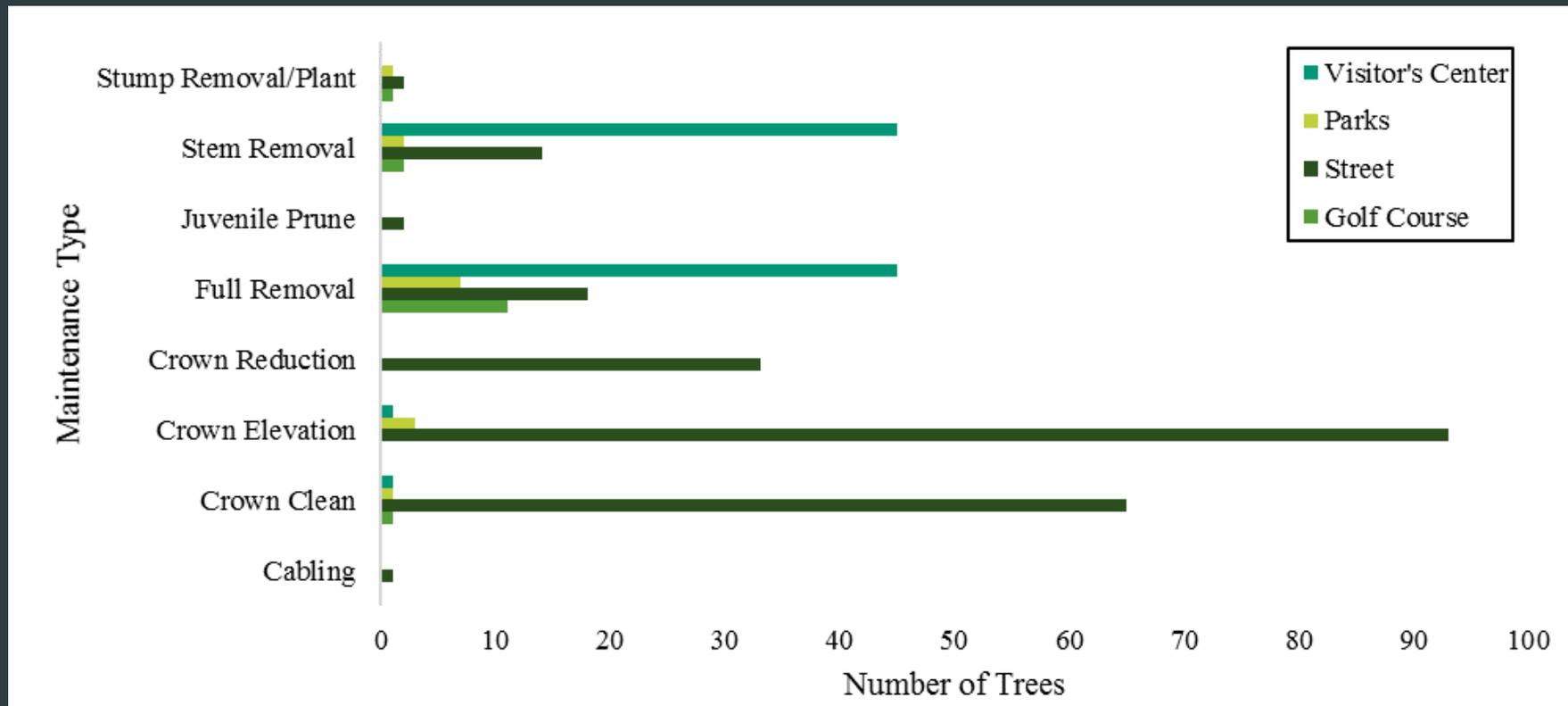
Figure 7. Maintenance options recommended for individually inventoried trees in the Town of Oromocto in fall 2019 by the 2020 UNB 4020 student group.

Figure 8. Trees audited in in the Town of Oromocto represented with blue dots and yellow representing the original inventory.

Asset Value

Table 2. Estimated asset value of individually inventoried trees of the Town of Oromocto in fall 2019 by the 2020 UNB 4020 student group.

Location	Estimated Value
Street Trees	$ 5,353,000.00
Park Trees	$ 2,104,000.00
Golf Course	$ 17,209,000.00
Visitor Center	$ 1,577,000.00
Total	$ 26,245,000.00

► Total estimated value of urban forest is $55.1 million

► Ash trees were valued at $262,000 (0.47% of inventory)

► Forest value will drop by $325,600 after 41 ash trees removed to $54.8 million

► Trunk formula method

► (Tree circumference / new plant circumference) X Specie rating X Tree Health X Tree location

► Larger the tree, higher replacement cost

Management Strategy

▶ Recommended strategy to meet the goals and objectives of the Town of Oromocto.

▶ **Objectives 1 & 9:**

   ▶ **Increase forest value and resistance to climate change, pest and disease**

      ▶ Species recommended for planting are native and non-native species that were selected based on their drought, wind, frost and salinity resilience, are predicted to withstand climate change and are less susceptible to pest and disease

▶ **Objectives 2, 3, 7, 8:**

   ▶ **Decrease storm water management costs, increase property value, reduce summer cooling costs and increase CO_2 sequestration**

      ▶ Plant 175 trees/yr for 10 years

▶ **Objective 4:**

   ▶ **Increase public engagement**

      ▶ 7 strategies: Tree planting program, public survey, geocaching, first nations outreach, guided walks, informing homeowners, citizen science

▶ **Objectives 5 & 6:**

   ▶ **Increase public safety and maintain large trees for aesthetics**

      ▶ Remove all hazard trees in the first year

      ▶ Future pruning can be established on a schedule to improve and maintain tree health and structural integrity.

      ▶ Unscheduled maintenance will occur as needed

Operations Plan: Tree Maintenance (Continued)

▶ Until the Town of Oromocto can build an operational urban forestry department, it is assumed that contractors will carry-out the work for the first five years of this plan. As such, contractor rates were used to provide cost estimates for all tree maintenance.

Table 6. Estimated costs to implement tree maintenance using a contractor.

		Year				
		1	2	3	4	5
Option 1	Number of Hazard Trees Removed	18	-	-	-	-
	Total Cost to Remove Hazard Trees ($)	$ 18,700	-	-	-	-
Option 2	Number of Ash Trees Removed and Stumped	41	-	-	-	-
	Total Cost of Ash Maintenance ($)	$ 57,700	-	-	-	-
Option 3	Number of General Tree Maintenances	91	63	82	79	79
	Total Cost of Unscheduled Maintenance ($)	$ 91,600	$ 91,900	$ 91,600	$ 91,800	$ 91,800
Option 4	Scheduled Maintenance Costs ($)	$ 79,800	$ 82,200	$ 80,500	$ 79,700	$ 80,800
Additional Management Costs	Planting Costs ($)	$ 63,060	$ 63,060	$ 63,060	$ 63,060	$ 63,060
	Number of Ash Trees Inoculated	5	0	5	0	5
	Inoculating Costs ($)	$ 1,300	$ -	$ 1,300	$ -	$ 1,300
	Public Outreach Costs ($)	$ 13,500	$ 4,700	$ 4,700	$ 4,700	$ 4,700
Total Cost ($)		$ 325,600	$ 242,600	$ 242,900	$ 247,000	$ 249,400

Conclusion

▶ The overall goal was to provide the Town of Oromocto with a comprehensive urban forestry management plan.

▶ The inventory data collected allowed appropriate research and forest modelling to be conducted to ensure a suitable plan was provided to the Town of Oromocto.

▶ The recommended plan meets or exceeds all objectives and is the best option to balance multiple objectives that are important to the Town of Oromocto.

▶ By following the recommendations provided in this urban forestry management plan, the Town of Oromocto can increase the health and longevity of their urban forest now and into the future.

Acknowledgements

We would like to thank

The Town of Oromocto

&

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