



Report to Council

Department: Community Services
Division: Community Services
Date: April 7, 2025
Prepared by: Jake Morassut, Director, Community Services
Report Number: Community Services-2025-01
Subject: Corporate Tree Inventory and Assessment Update
Number of Pages: 13

Recommendation(s)

That Community Services 2025-01 entitled, “Corporate Tree Inventory and Assessment Update” prepared by Jake Morassut, Director, Community Services dated April 7, 2025, be received,

That Council approve a post budget approval in the amount of \$45,234.60 for the capital project “Development of a Tree Nursery” to be funded from a \$30,000 grant from Enbridge Gas and \$15,234.60 from the Green Fund Reserve.

That Council approve reallocating the remaining funds of \$26,784.60 from the capital project entitled “Corporate Tree Inventory and Assessment” (CS-24-0013) to be used for removal of trees that are deemed unsafe,

That Council approve amendments to Schedule A of By-Law 2205, being an approved tree listing for the Town of Essex owned properties.

Purpose

To provide Council with an update on Capital Project entitled “Corporate Tree Inventory and Assessment” (CS-24-0013), to reallocate fees due to savings from the capital project and update the approved tree species list for municipal owned properties.

Background and Discussion

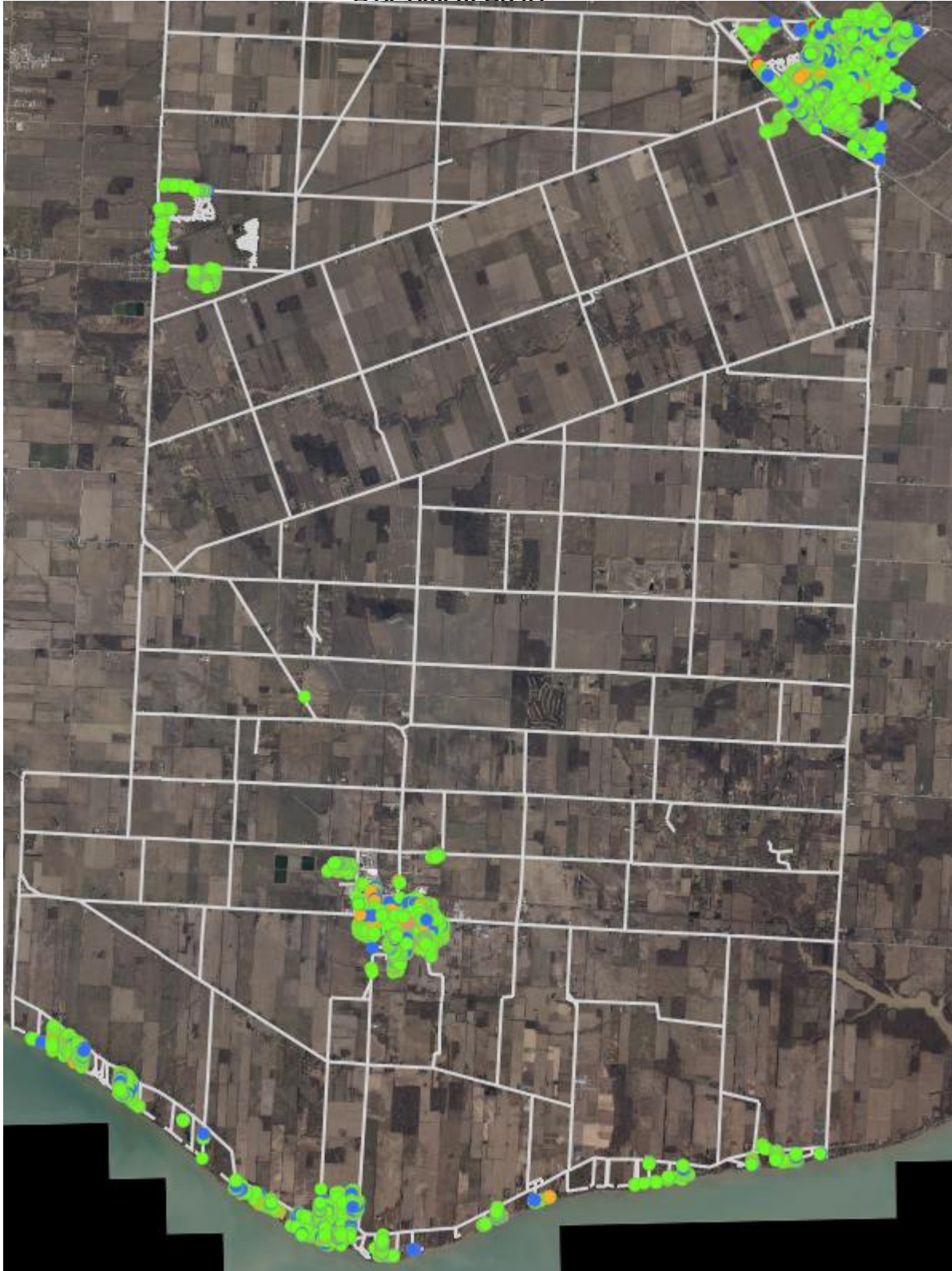
The Town of Essex experienced several circumstances in 2022 and 2023 where trees were damaged due to extreme weather events. As there is evidence that extreme weather events are more common, it was important that the Town look at all trees within municipal property, inclusive of the road allowances, to determine the overall health and safety of our trees. In accordance with our Climate Change Adaptation Plan, the below objectives are relevant to this study:

- Section 2.1 – Ensure tree and plant species established are native, diverse, disease resistant, and have high climate adaptability.
- Section 3.4 – Include climate vulnerability and risks (e.g. power outages, capacity limitations, health and safety impacts, road drainage, failure) in infrastructure planning and asset management.
- Section 6.1 – Promote tree planting opportunities within the community.

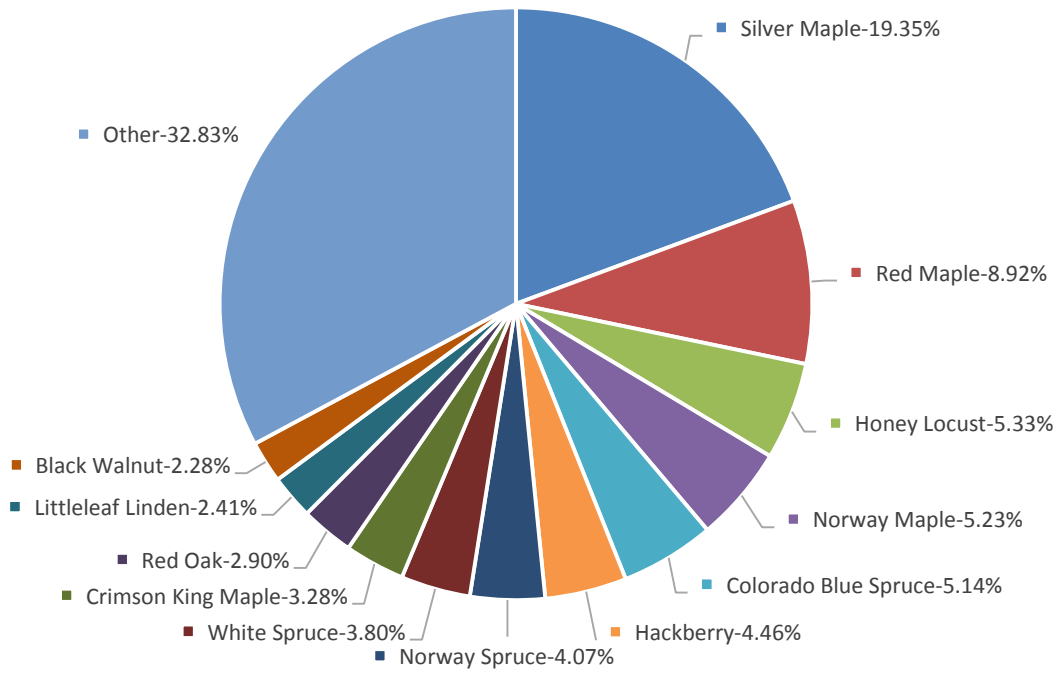
Through initiating this inventory project, information from 4,688 trees was gathered for all urban centres. This information includes location, species, condition, tree size, obstructions, and ownership.

Below is a series of charts showing information that was created based on the inventory assessment.

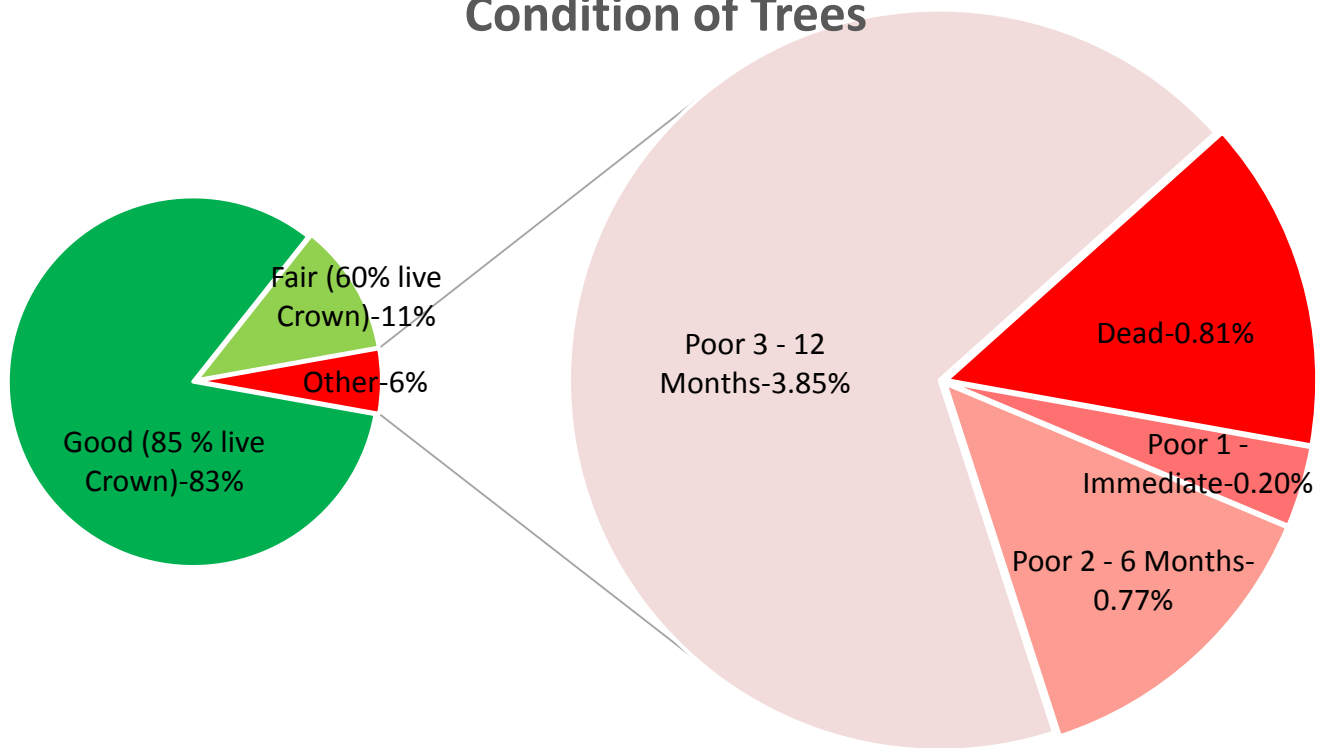
Assessment Areas

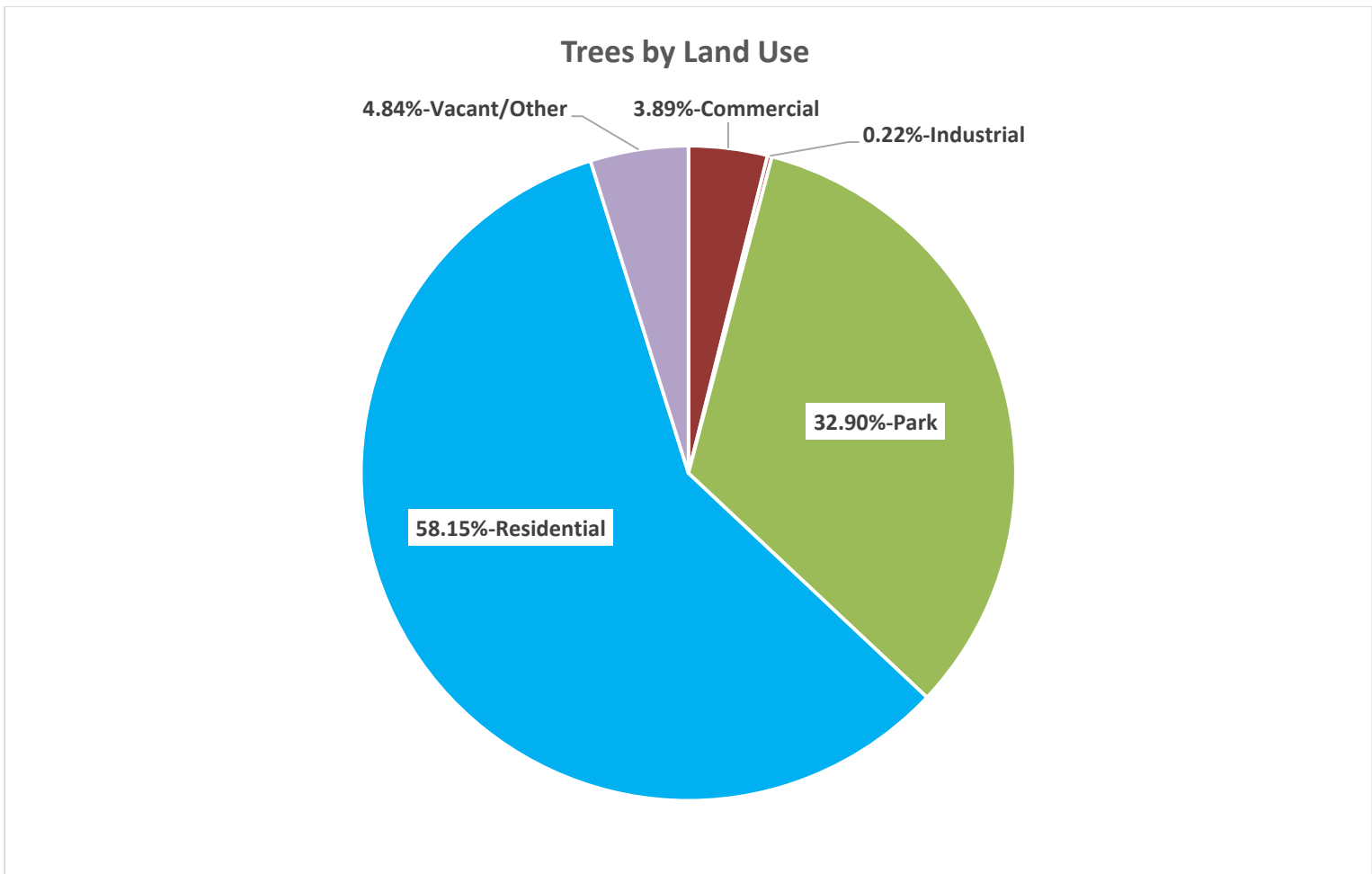


Tree Species Percentage (Top 13)



Condition of Trees





Maple Concerns

Unfortunately, the Town of Essex, like many municipalities in Ontario, have little diversity in the term of species. The predominant tree species in the Town of Essex is the Silver Maple. The various varieties of Maple trees make up 40.1% of the inventoried tree population. This lack of diversity makes for a vulnerable tree population. The recent Emerald Ash Borer infestation has highlighted the need for a diverse tree population. For this reason, Maples are no longer a desirable tree, and many municipalities no longer plant them. Aside from being overused, Maples have inherent health issues. The Maples commonly suffer from a fungal infection called “verticillium wilt” which usually causes a slow decline in the tree until it deteriorates and requires removal. A second common problem with Maple trees is that they are susceptible to girdling roots, meaning that the roots of this species often tend to encircle the trunk of the tree. As the

tree grows, the roots eventually strangle the tree resulting in partial or completed death of the tree.

Species Diversity

As highlighted above, there is a concern with species diversity in the Town of Essex. An ideal tree inventory will have no one species representing more than 10% of the population. Species diversity could be better addressed if the Town amended the Approved Tree Species list as part of By-Law 2205, being the Tree Management By-Law. The Town of Essex has taken over the responsibility for developments with the planting of trees. The Town now collects money as part of the development and picks the species and the location of tree planting. These initiatives will assist with diversity of tree species within the municipality.

Shared Ownership Trees

During the survey, trees that touched the boundary of municipal property were marked as municipally owned. In accordance with By-Law 2205, all trees that are planted within municipal property, or become part of municipal property, become the responsibility of the municipality. These trees exist on the property line that delineates the municipal property and the private property. Recent court cases regarding shared ownership trees have demonstrated that if any portion of the trunk extends over an abutting property, the tree becomes a shared tree co-owned by both owners. In light of the above, Administration recommended to Council that the Town maintain trees of shared ownership in an effort to limit the Town's liability should claims arise related to these particular trees. This was approved by Council through the implementation of By-Law 2205.

Maintenance Plan/Inspections

Municipal trees benefit from a good maintenance program. Unfortunately, most municipalities have more of a reactive maintenance program, instead of a proactive program. Proactive work, such as trimming young trees every 5-6 years, would ensure that proper clearances for vehicles and pedestrians, while also retaining the tree's health.

Trees should be routinely monitored to check for structural issues, disease, physiological issues, as well as issues related to clearances. Currently, the Town has an arborist within the Parks and Facilities division. Having this expertise is not only a benefit to the Town trees, but it also helps with liability issues by identifying trees that need attention in a timely manner. Routine inspections also show the Town is exercising due diligence when it comes to its tree inventory, but it is important to ensure this tree inventory is monitored and maintained by all departments that oversee trees.

Maintenance Schedules

The Town's tree population is moderate in age. Due to their age and size, the urban area trees should be inspected regularly, looking for signs of significant decay and other structural issues such as storm damage. Trees that present a hazard to property or persons should be removed as soon as possible and new trees should be planted the following season.

The survey data lists 256 (6.62%) of the inventoried trees as dead or priority 1/2/3, which all require removal. It should be noted that there will always be issues that will necessitate tree maintenance or removals in any given year (i.e. storms, disease, drought); however, it is not anticipated that the number of removals should change significantly in the foreseeable future. If a pro-active trimming program is adopted, the number of removals, in fact, may be reduced as decay issues may be averted.

To reduce future tree maintenance costs, this can be achieved by the Town undertaking a routine tree trimming program every five years for its trees with a diameter of 30cm or less. Once the trees reach a diameter greater than 30cm diameter at breast height (DBH), proper clearances should be in place and regular trimming cycles can be reduced. This type of work will also eliminate the need to remove large limbs from mature trees which ultimately leads to decay and the subsequent removal of the tree. Ideally, trees having a diameter more than 30cm DBH should be trimmed every seven years. Trees of this size should need minimal trimming for clearances and work would likely be limited to removing limbs that are dead or have structural issues.

Of the 4,688 trees surveyed in the Town of Essex, 2,584 have a DBH of 30cm or less, and the balance 2,104 have a DBH over 30cm.

Based on a five-year pruning cycle of the 30cm or less trees, the Town would need to trim 517 trees on an annual basis. Larger trees would need to be trimmed at a rate of 301 trees per year to achieve the desired seven-year pruning cycle. It should be noted that pruning of trees that are greater than 30cm would need to be outsourced since the Town does not have the required equipment or staff to complete the work.

There could be considerable savings if the smaller trees are trimmed by Town staff; however, this will be a duty the staff would take care of outside of their regular daily operations—the number of trees that would require trimming may not be attainable in a given year due to existing workload.

Value of Trees

Trees provide a number of qualitative and quantitative benefits which include:

- producing oxygen while storing carbon
- reducing temperature
- reducing storm runoff
- removing particulate matter from the air
- reducing noise pollution
- increasing property value
- providing habitat for animals, and
- reduce heating and cooling costs if strategically planted around homes.

Other less known benefits are as follows:

- Crimes rates are less in areas of higher tree cover
- People recuperate from surgeries quicker if their room has a view with trees, and
- Trees reduce soil erosion.

Most people are not aware that trees also have a monetary value. Just like all other assets owned by the Town, trees have a dollar value that can be determined by a qualified person. The value

is determined by factors such as species, tree location, size and condition. Values of an individual tree can exceed \$30,000.00.

An estimate of the value of the trees in the Town of Essex urban areas is approximately \$18,696,523. Many municipalities now consider their tree population as part of the municipal infrastructure. This “*Green Infrastructure*” often has a value comparable to other types of infrastructure such as roads and sewers.

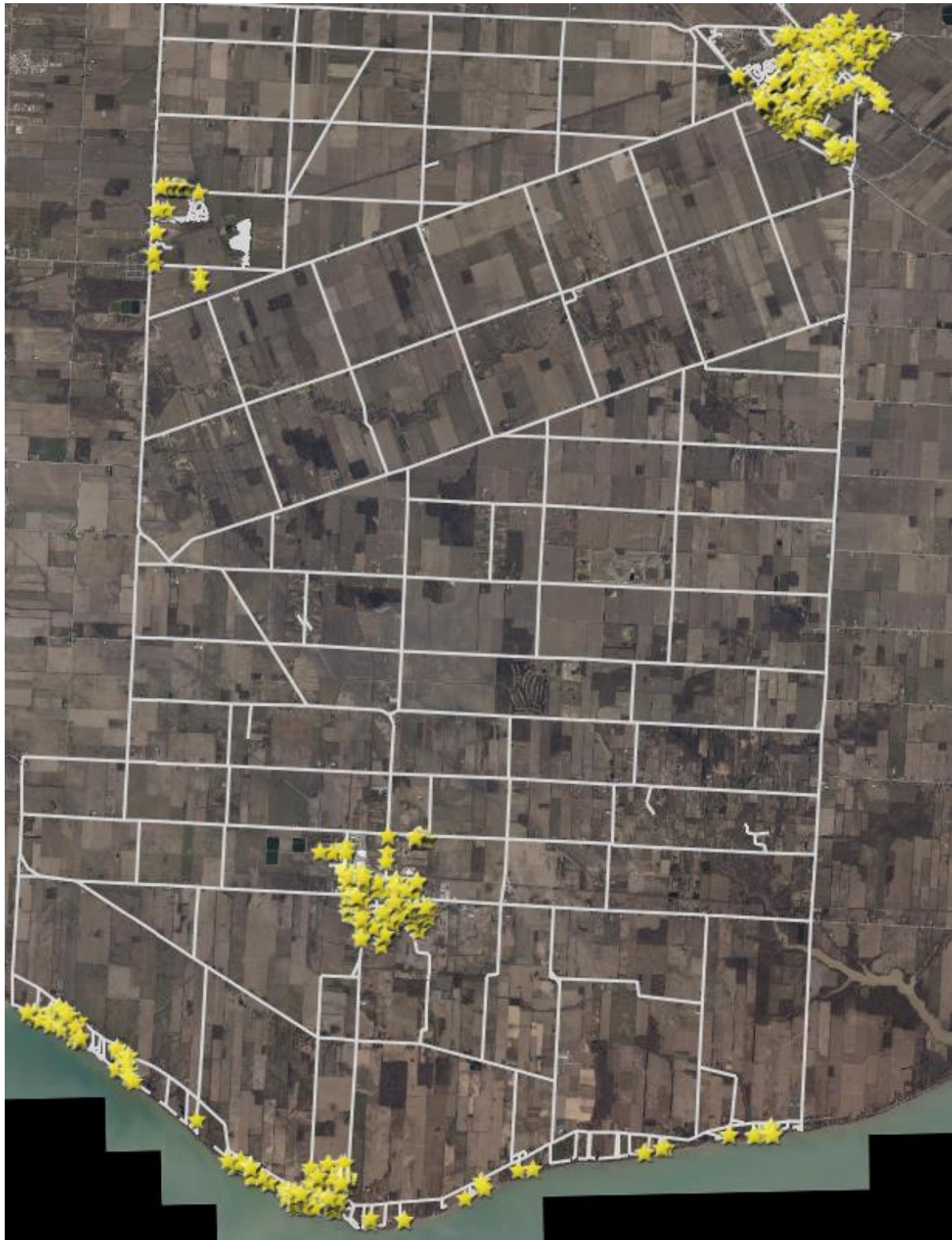
Future Trees

In addition to the inventory of existing trees, we ensured to gather data on potential future trees. Vacant locations that could use a tree were marked on a map, with a suggested tree species. The species was determined based on the location, diversity of trees in the area, and functionality (e.g. no tall trees planted under overhead obstacles).

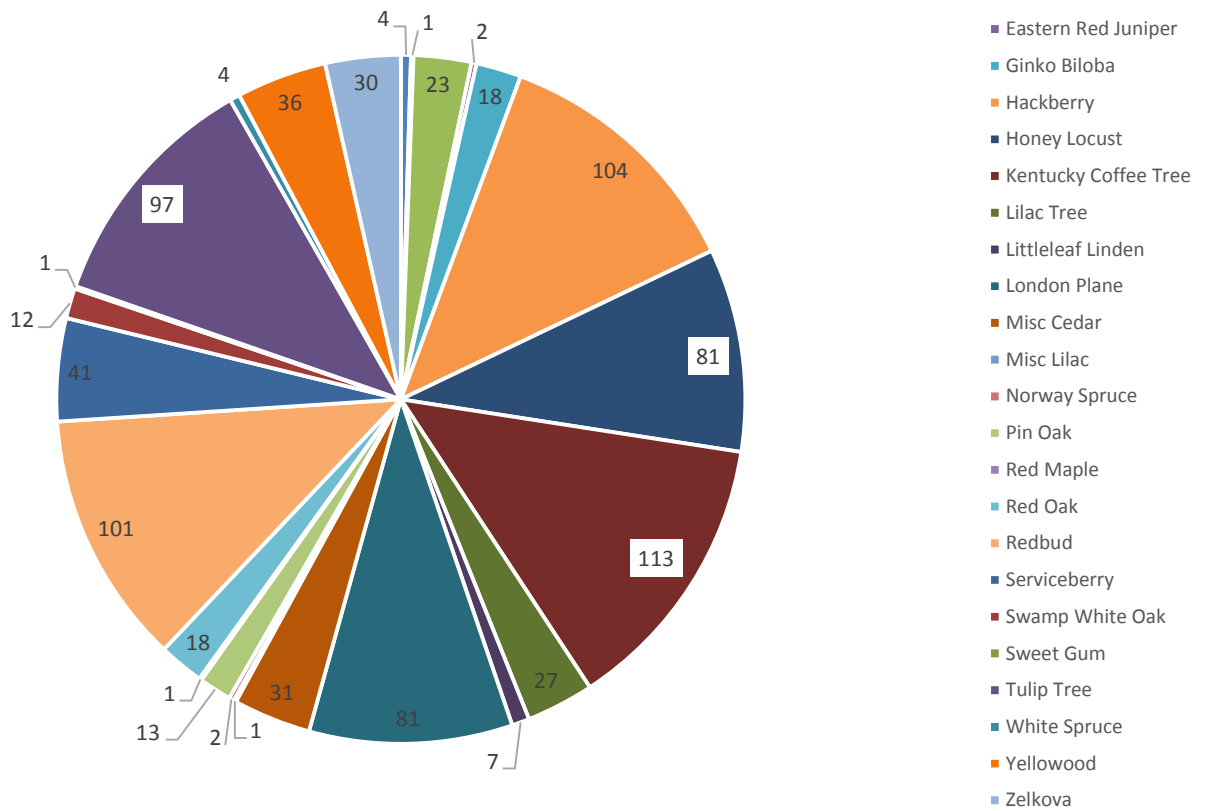
While an effort to use native tree species is always preferred, sometimes it is not functional as there are more appropriate tree species that better fit the location.

When practical and possible, the Town will attempt to relocate a tree rather than simply removing it. In either case, in accordance with By-Law 2205, at least one tree will be replanted if a tree is removed from municipal property; due to functionality and practicality, location may not be exactly the same and may be related to another area within the municipality.

Below you will see a map with locations that could use additional trees, and a chart indicated the recommended tree types to increase our diversity.



Future Tree Species



Financial Impact

Tree Removal by Contractors

The total net worth of the street trees is estimated at \$18,696,523.00. There will be 256 trees slotted for removal, to take place in priority sequence. The cost to remove these trees, if completed in full by an external contractor, is estimated to be \$384,000.00 which will be completed over time within the annual operating budgets. The cost to replant the trees being removed is approximately \$128,000.00.

Tree Removal by Internal Staff

Cost savings could be realized if internal staff is utilized to complete the removal and trimming of the 111 trees under 30cm DBH and the associated tree re-plantings. This would result in a total savings of \$166,500.00, therefore reducing the budget required for removal to \$217,500.00.

Current staffing levels in the Parks and Facilities Division and the Operations Division could assist with some additional work associated to the tree maintenance program without service levels in other areas being adversely affected; however, this would mean spacing the removals out over

a long period of time. Due to the high budget impacts, administration recommends monitoring the safety of the trees that need to be removed with prioritization to those with health and safety impacts on an annual basis, utilizing municipal staff where possible and contractors where needed.

Future Tree Nursery

The Town of Essex recently received a grant in the amount to \$30,000.00 from Enbridge Gas to develop a tree nursery at the Harrow Soccer Complex. In addition, in the 2025 budget deliberations Council resolved to transfer \$15,234.60 from the 2024 Council Contingency Fund/Council Discretionary Funds to be allocated toward tree plantings, totalling \$45,234.60.

These trees will take five to ten years to grow large enough for planting on municipal properties but will have the benefit of cost savings over that decade as well as the positive environmental impact of additional trees in the municipality.

Tree Removals

The capital project for the Corporate Tree Inventory and Assessment (CS-24-0013) had an approved budget of \$50,000.00 and resulted in a cost savings of \$26,784.60. Administration recommends reallocating these funds to fund the removal of unsafe trees.

Consultations

Doug Sweet, Chief Administrative Officer

Kate Giurissevich, Director, Corporate Services/Treasurer

Kevin Girard, Director, Infrastructure Services

Rodney Klie, Manager, Parks and Facilities

Vince Murphy, Assistant Manager, Parks and Facilities

Norm Nussio, Manager, Operations

Dave McBeth, Manager, Capital Works

Link to Strategic Priorities

- Embrace asset management best practices to build, maintain, and continuously improve our municipally owned infrastructure.
- Leverage our Town's competitive advantages to promote jobs and economic investment.
- Take care of our natural environment and strengthen the sense of belonging to everyone who makes Essex "home".
- Deliver friendly customer service in an efficient, effective, and transparent manner while providing an exceptional working environment for our employees.
- Build corporate-level and community-level climate resilience through community engagement and partnership and corporate objectives.

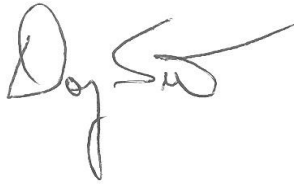
Report Approval Details

Document Title:	Tree Inventory Update - Community Services-2025-01.docx
Attachments:	- Approved Tree Species - Amended April 7, 2025.pdf
Final Approval Date:	Mar 31, 2025

This report and all of its attachments were approved and signed as outlined below:

No Signature - Task assigned to Kate Giurissevich, Director, Corporate Services was completed by assistant Ann Marie Unis

Kate Giurissevich, Director, Corporate Services - Mar 31, 2025 - 4:22 PM



Doug Sweet, Chief Administrative Officer - Mar 31, 2025 - 4:23 PM