Hamilton

BioForest RESOURCES GROUP KBM DILLON CONSULTING

URBAN FOREST STRATEGY

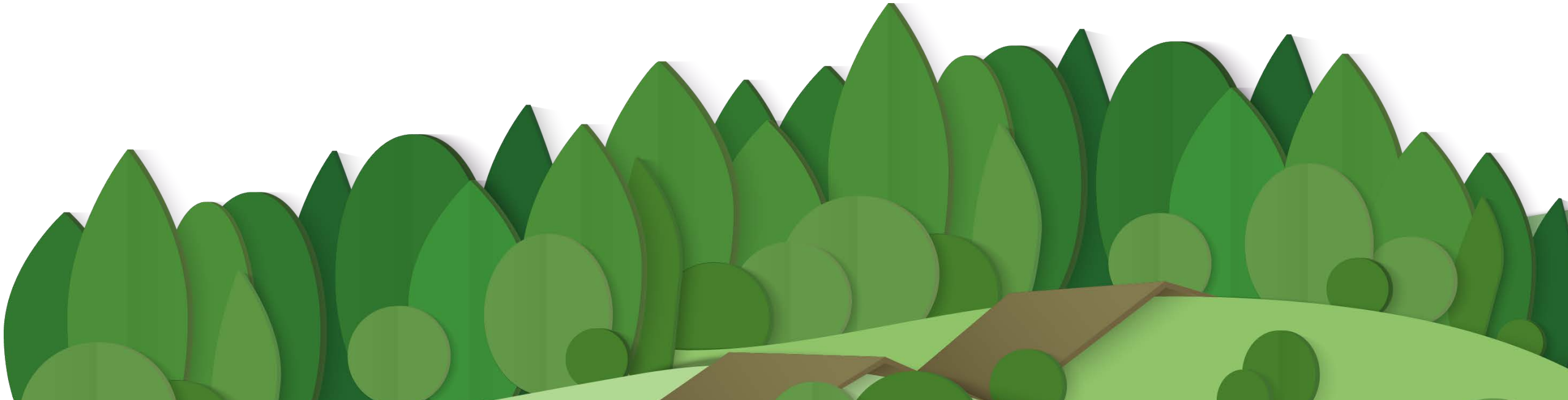
DRAFT GOALS & ACTIONS

Public Workshops
June 5, 19, and 24, 2019

Project Update

Hamilton’s Urban Forest

Results & Trends



2018 iTree Eco Study – Value of Urban Forest in Hamilton

- Estimated cost to replace trees within Hamilton's urban forest: $2.13 billion
- Pollution Removal: 393 metric tons/year ($1.59 million/year) - calculated for ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide and particulate matter less than 2.5 microns
- Storm Water Management - Avoided Runoff: 815 thousand cubic meters/year ($1.896 million/year)
- Climate Change Mitigation - Building Energy Savings: $3.63 million/year
- Carbon Sequestration: 13.41 thousand metric tons ($1.54 million/year)

Software from the USDA Forest Service that stores and analyses urban forest data; calculates value of services trees provide

*www.itreetools.org

Canopy Cover Target

- Canopy cover is the area of leaves and branches (tree crowns) measured, when viewed from above, as a proportion of total land area.
- It is usually expressed as a percent of total ground area covered by tree crowns.
- Hamilton has 21.2% canopy cover (2018)
- The City's Official Plan target is 30% - based on the minimum amount of forest cover needed to sustain basic watershed function.
- Forestry has a target of 35%.

Existing Conditions

- Uneven distribution of forest cover across Hamilton.
- Most common species were black walnut, white cedar, and Norway maple.
- 20-25% of leaf area is invasive trees.
- Ash species still represent ~5% of total leaf area.
- Hamilton has about 168,000 street trees.
- Though no longer planted, Norway maple still make up 19% of the street tree population.
- Maple species represent 28.2% of the street tree population.

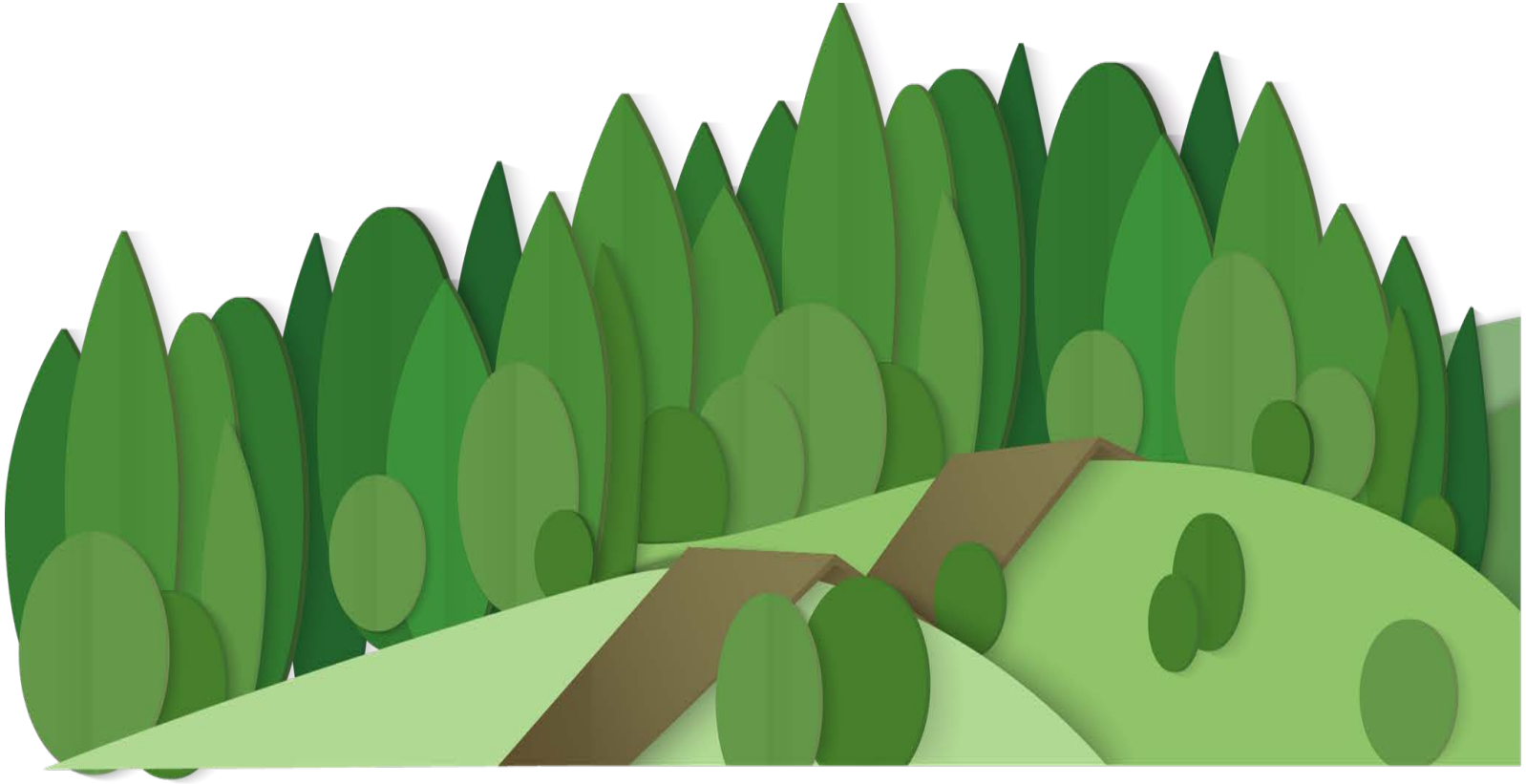
Draft Vision Statement

- Hamilton’s urban forest is resilient and sustainable.
- It contributes to the health and well-being of citizens, and enhances the livability of the City.
- The City and all residents value the urban forest as an essential shared asset that should be intentionally planned and maintained for all future generations.

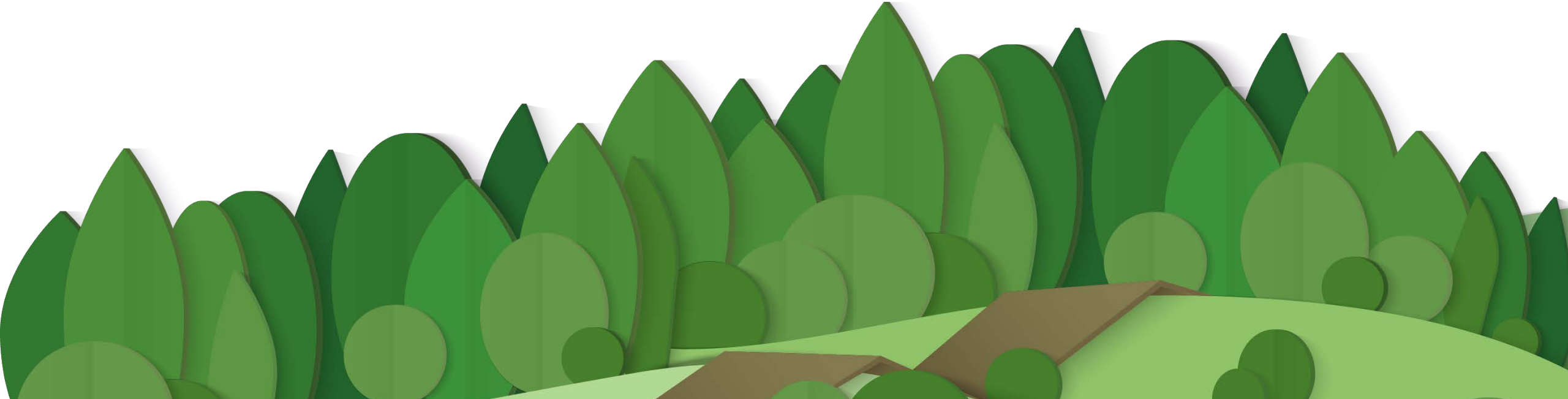
Draft Goals

6 Goals have been identified:

1. Plan & Act
2. Protect
3. Plant
4. Maintain
5. Communicate
6. Monitor & Adapt



Goal 1: Plan & Act



Urban Forest Planning Tools
Canopy Cover and Planting Area Analysis

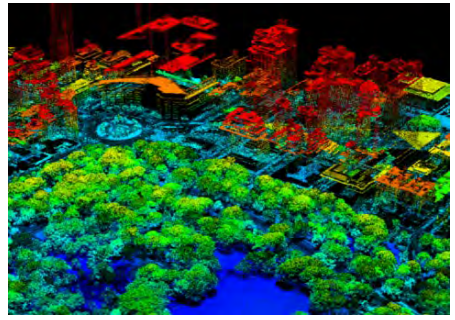
Land cover classification produces tree cover data which can be used to:

- Identify canopy cover by neighbourhood, ward, watershed, etc.
- Develop land use targets for tree cover
- Detect change in tree and land cover over time
- Prioritize planting areas

Tree canopy mapping was last done in 2009; should be updated

Land cover

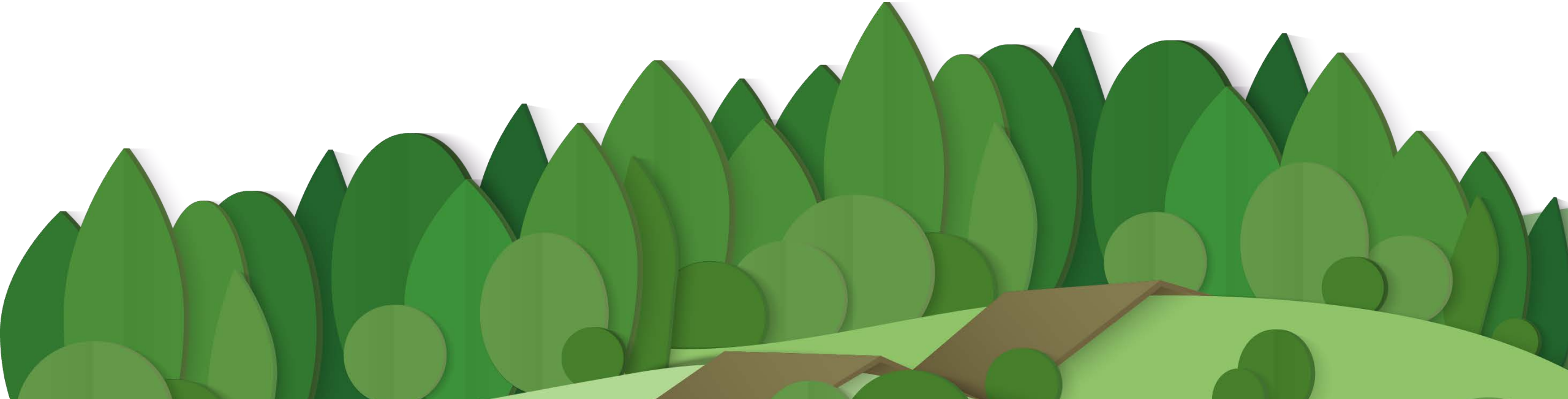
Enhanced by LidAR (3D model)



Goal 1: Plan & Act
Urban Forest Strategy Draft Actions

- Complete a canopy cover/planting area analysis for Hamilton, using spatial data.
- Use urban tree canopy data to develop land use targets for tree cover - integrate targets in development processes.
- Forestry & Parks staff should actively participate in policy, plan, and guidelines review to integrate the City’s urban forestry goals.
- Develop urban forestry ‘best practices’ to share with City departments whose activities affect the urban forest.
- Update and actively maintain street tree inventory. Include assessment of tree condition/risk.

Goal 2: Protect



Known Causes of Tree Removal

- 18,189 ash trees have been removed due to Emerald Ash Borer as of 2018.
- Many private trees are also being removed for development and other landowner interests.
- Approximately 60% of the City's urban tree canopy is located on private land.
- Larger trees provide the greatest ecological and economic benefit; size distribution was skewed to smaller trees.
- Protection of private trees is important for the long-term preservation and growth of the tree canopy.

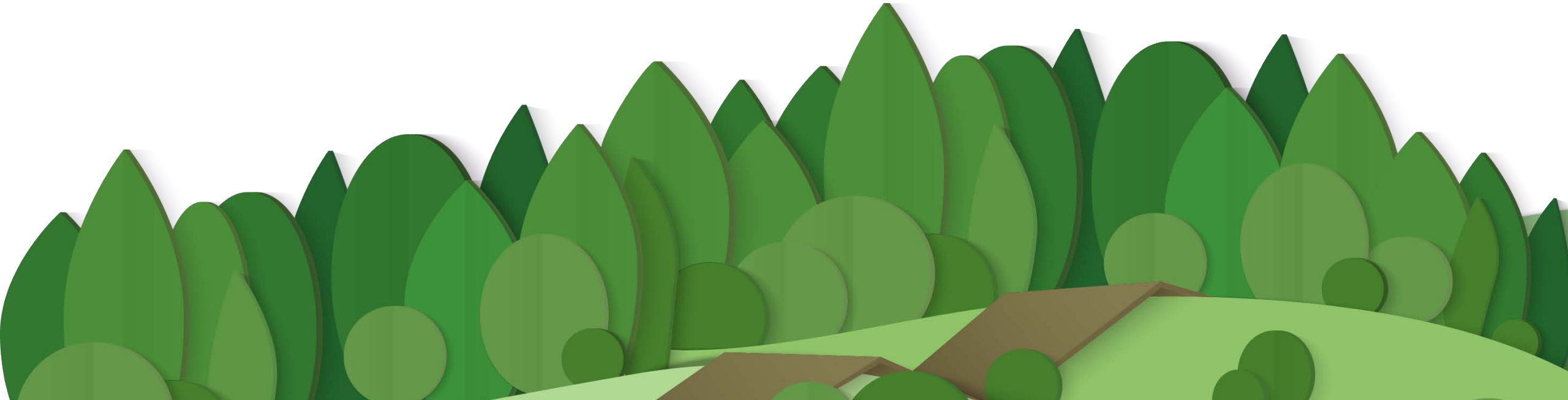
Protecting Trees on Private Property

- Comprehensive tree cutting by-law which regulates individual trees.
- Education and awareness programs, public outreach.
- Design with nature incentives to include existing trees into development (recognition program).
- Updates to existing policies on tree protection.
- Better monitoring of Tree Protection Plan implementation on development sites.
- Monitor and plan for pests, diseases, invasive plants.

Goal 2: Protect
Urban Forest Strategy Draft Actions

- Implement a private tree by-law for Hamilton’s urban area that includes individual trees on private property.
- Collect data to identify the root causes of change/loss in the urban tree canopy.
- Require a calculation of canopy balance (leaf area of trees removed vs. proposed planting) as part of arborist reports for development applications.
- Report on canopy balance as a performance indicator for Hamilton.

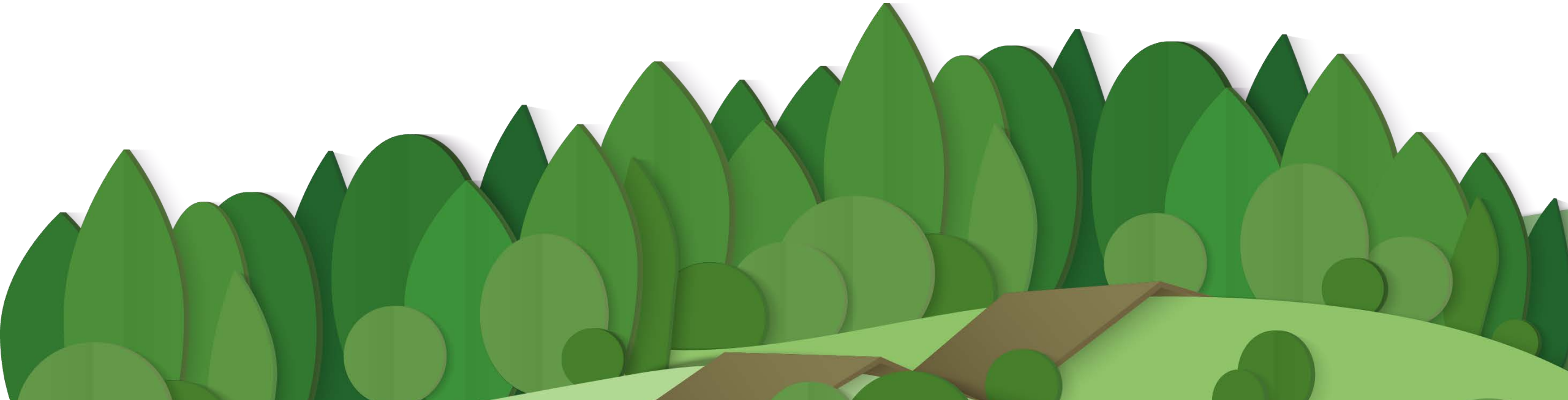
Goal 3: Plant



Goal 3: Plant
Urban Forest Strategy Draft Actions

- Identify the number of trees required to be planted in Hamilton over the next 20 years to meet canopy cover target and increase funding for tree planting to meet target.
- Reduce the use of maple species in street tree planting.
- Review planting lists periodically to ensure species diversity.
- Use standard specifications in all City of Hamilton plantings.
- Examine tree planting budgets and programs to identify how to plant more trees over the next 5 years.
- Prioritize tree planting locations, outreach and partnership efforts in different land uses.
- Identify available planting space for street trees. Prioritize planting on higher quality sites and in areas of low & mature canopy.

Goal 4: Maintain



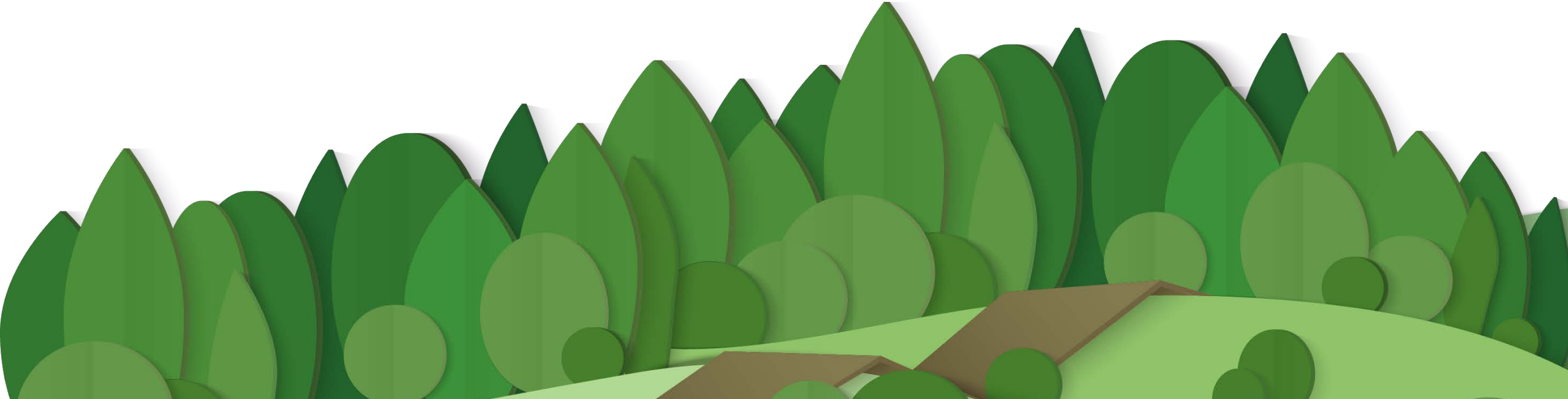
Tree Condition

- 87% of street trees are in ‘Good’ condition, however 6% are either ‘Poor, Dead or Dying’.
- Hamilton has a regular grid pruning program in effect; achieved a 7 year pruning cycle.
- Majority of ‘dying’ and ‘dead’ trees were in open space land uses.

Goal 4: Maintain
Urban Forest Strategy Draft Actions

- Update and actively maintain a street tree inventory.
- Focus on the removal of ‘poor, dead or dying’ street trees.
- Develop an invasive species management policy for Hamilton.
- Work with Conservation Authorities to prioritize areas where forests will be managed to improve their health.
- Examine opportunities to control invasive species under property standards regulations (e.g. Yard Maintenance By-law).
- Develop a policy on how the City will monitor & manage forest health threats in Hamilton.
- Develop service standards for hazard trees and other forestry service requests.

Goal 5: Communicate



Communications and Outreach

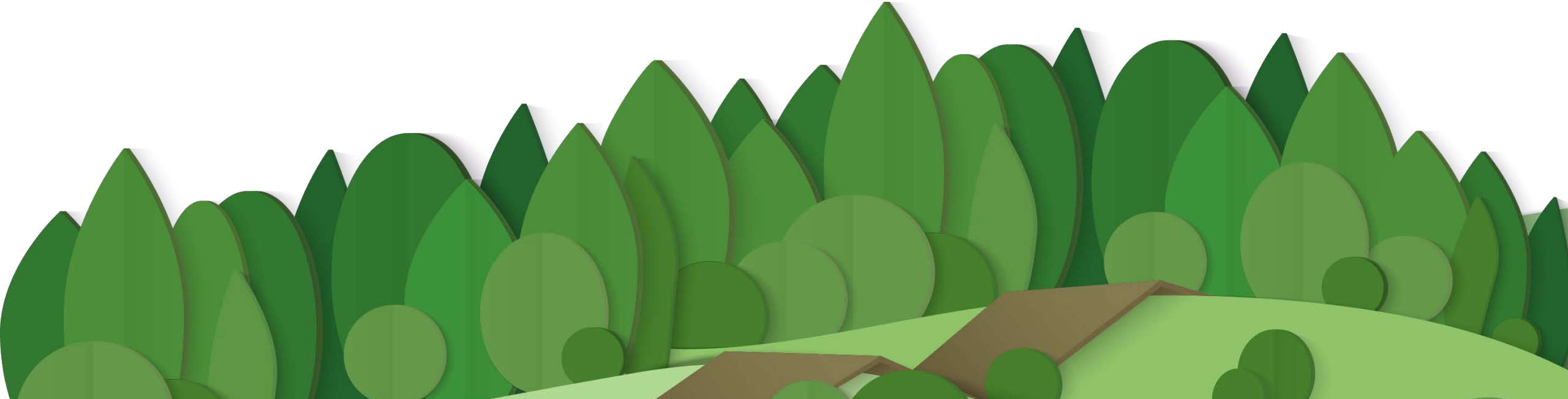
Source: Trees Hamilton

- Hamilton has established outreach and communications programs.
- Challenge - lack of understanding of urban forest benefits and attitudes toward trees (e.g., trees considered to be an easily replaceable resource rather than a long-term asset worthy of investment).
- The power of maps - spatial data is a powerful communication tool.
- Hamilton has an engaged non-profit community – citizen science has already gathered data on the City's urban forest.

Goal 5: Communicate
Urban Forest Strategy Draft Actions

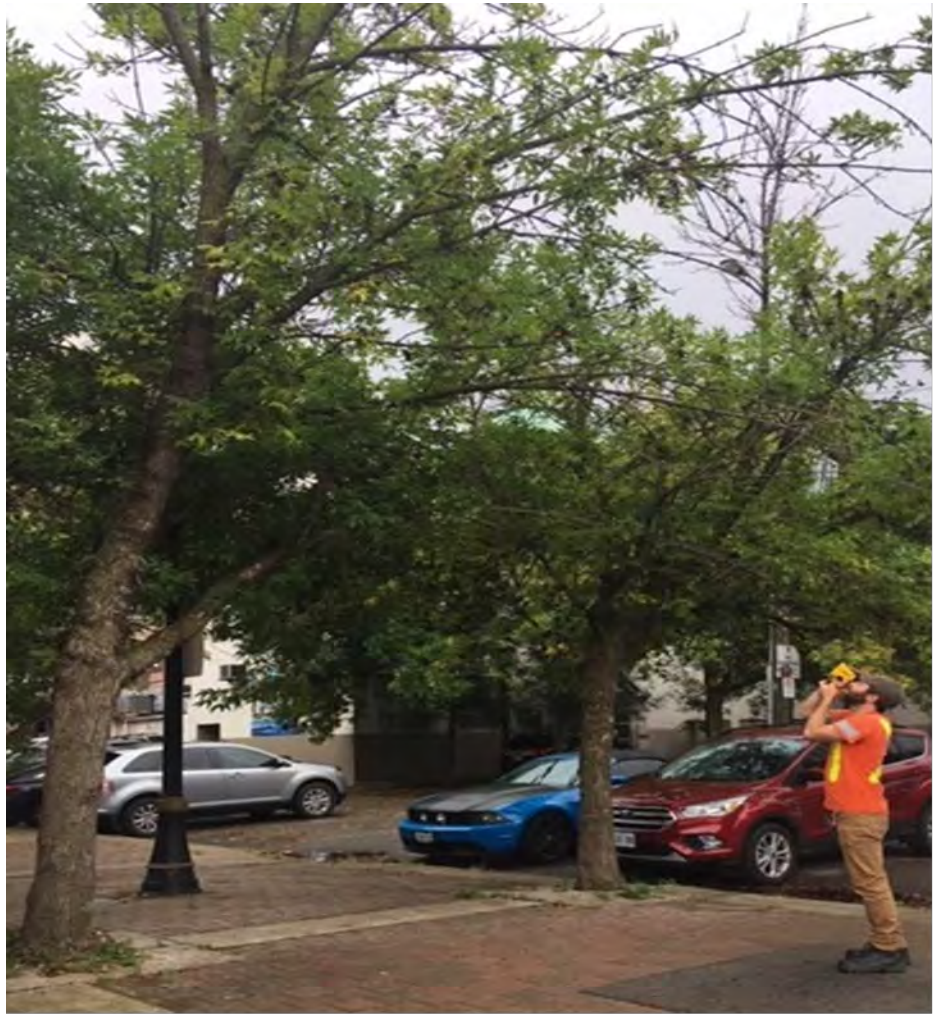
- Complete a detailed study to identify the attitudes towards trees, and other opportunities and barriers to growing the urban tree canopy.
- Use the results of the study to prepare a targeted outreach strategy.
- Build online mapping tools to communicate the location and condition of Hamilton urban forest, based on available spatial data.
- Work with local non-profits to explore applications in citizen science that will support the Urban Forest Strategy goals.

Goal 6: Monitor & Adapt



Adaptive Management

- The City needs an up-to-date inventory of trees and spatial data.
- Tools can help with change detection and monitoring (e.g. iTree).
- Data can be used to apply the right solutions and adapt to changes (pests, diseases, climate change).



Souce: BioForest

Goal 6: Monitor & Adapt
Urban Forest Strategy Draft Actions

- Monitor land cover to assess changes in canopy cover.
- Report to Council on the best options for a forestry data management system.
- Update the Urban Forest Strategy (every 10 years or in response to significant environmental change).
- Use available tools (iTree) to assess change in canopy cover every 2 years.
- Monitor change using Urban Forest Strategy Criteria and Indicators.
- Using Criteria and Indicators, report to Council on progress toward meeting urban forest goals (every 5 years).
- Select three corporate indicators to report on progress toward urban forest goals.
- Monitor street tree mortality using data management system to determine if planting program is effective.

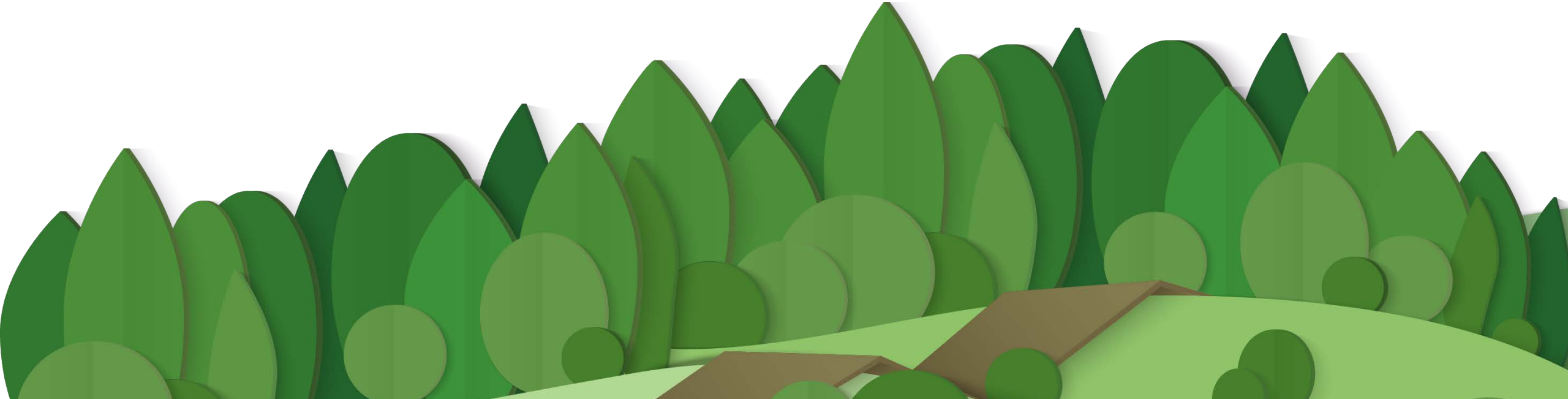
Group Activity

1. Do you agree with the Draft Goals?

2. Do you agree with the Draft Actions?

3. Which Actions are most important? (if time permits)

Questions?



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Thank You for Attending!

https://www.hamilton.ca/city-initiatives/strategies-actions/urban-forest-strategy