Hastings-on-Hudson Parks
Tree Inventory and i-Tree Assessment

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OUTLINE

• Assignment
• Tree Inventory results
• i-Tree Eco
• Going Forward
Assignment

• Inventory of trees in maintained areas and along trails at four parks in Hastings-on-Hudson:
  • Uniontown Park
  • Zinsser Park
  • Pulver’s Woods
  • Rowley’s Bridge Trail
Assignment

- The following data points collected for each tree:
  - Species
  - Diameter at breast height (DBH)
  - ISA Qualitative Risk Rating
  - Condition
  - Defects
  - Risk mitigation recommendations
  - Priority
  - Location
- Uniontown Park: 352 trees inventoried
• Zinsser Park: 249 trees inventoried
• Pulver’s Woods: 169 trees inventoried
- Rowley’s Bridge Trail: 232 trees inventoried
Tree Inventory Results
Sustainability analysis

Diameter (Age) Diversity
Sustainability Analysis

- Species Diversity
  - 57 different species inventoried
  - Norway maple most common (30% of pop)
  - Red oak (17%) and black locust (8%) next
  - Over-abundance of maple trees in study area (40%)
  - Ten species are considered invasive by NY
    - Norway maple, black locust, callery pear, boxelder, mulberry, paulownia, sycamore maple, sweet cherry, Siberian elm, & ailanthus
    - Invasives are 50% of the population
Probability x Consequences = Risk

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<tr>
<th>Likelihood of Failure</th>
<th>Likelihood of Impacting Target</th>
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<tr>
<td></td>
<td>Very low</td>
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<td>Imminent</td>
<td>Unlikely</td>
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<td>Probable</td>
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<td>Possible</td>
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<tr>
<td>Improbable</td>
<td>Unlikely</td>
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<table>
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<tr>
<th>Likelihood of Failure and Impact</th>
<th>Consequences</th>
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<tr>
<td>Very likely</td>
<td>Low</td>
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<tr>
<td>Likely</td>
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<td>Somewhat likely</td>
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ISA Qualitative Risk Ratings

Count of Tag

- High: 1
- Moderate: 28
- Low: 973
Tree Management Recommendations

- None at this time: 627
- Remove: 206
- Treat tree: 156
- Treat site: 13
Tree Management Recommendations

- High Priority Removal: 45
- High Priority Pruning: 11
- Medium Priority Removal: 161
- Medium Priority Pruning: 25
- Routine Pruning: 116
- Training Pruning: 16
i-Tree Eco

- i-Tree is a suite of tools developed by the US Forest Services in association with industry partners
- Outputs based on peer-reviewed research
- i-Tree Eco provides an estimate of the ecological benefits of trees included in the inventory
Estimated Costs to Perform Recommendations

- Year 1: $49,735
- Year 2: $86,300
- Year 3: $45,575
- Year 4: $47,590
- Year 5: $11,715
- Total: $240,915
i-Tree Eco

i-Tree Eco is a tool developed by US Forest Service and industry partners that provides analysis of ecological benefits of trees based upon peer-reviewed research. Outputs include:

- Pollution removal and human health impacts
- Carbon sequestration and storage
- Avoided storm water runoff
- Oxygen production
- Canopy coverage
- Many others!
i-Tree Eco outputs

- Tree cover: 11.77 acres
- Pollution removal: 617.6 pounds/year ($4.6K/year)
- Carbon storage: 705 tons ($120K)
- Carbon sequestration: 15.01 tons/year ($2.56K/yr)
- Oxygen production: 40.02 tons/year
- Avoided runoff: 24,000 cubic feet ($1.6K/year)
Going Forward

• Use the inventory and management plan to address highest priority actions first, then move through priorities as budget allows.

• Pursue resources to perform regular tree assessments and/or structural pruning in-house
  • ISA and Tree Risk Assessment Qualified Arborist
  • Post-storm assessments to identify imminent failure points
  • Structural/young tree pruning reduces long-term maintenance costs and extends life expectancy of trees.

• Future tree plantings should avoid maples and oaks to extent possible.
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