

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

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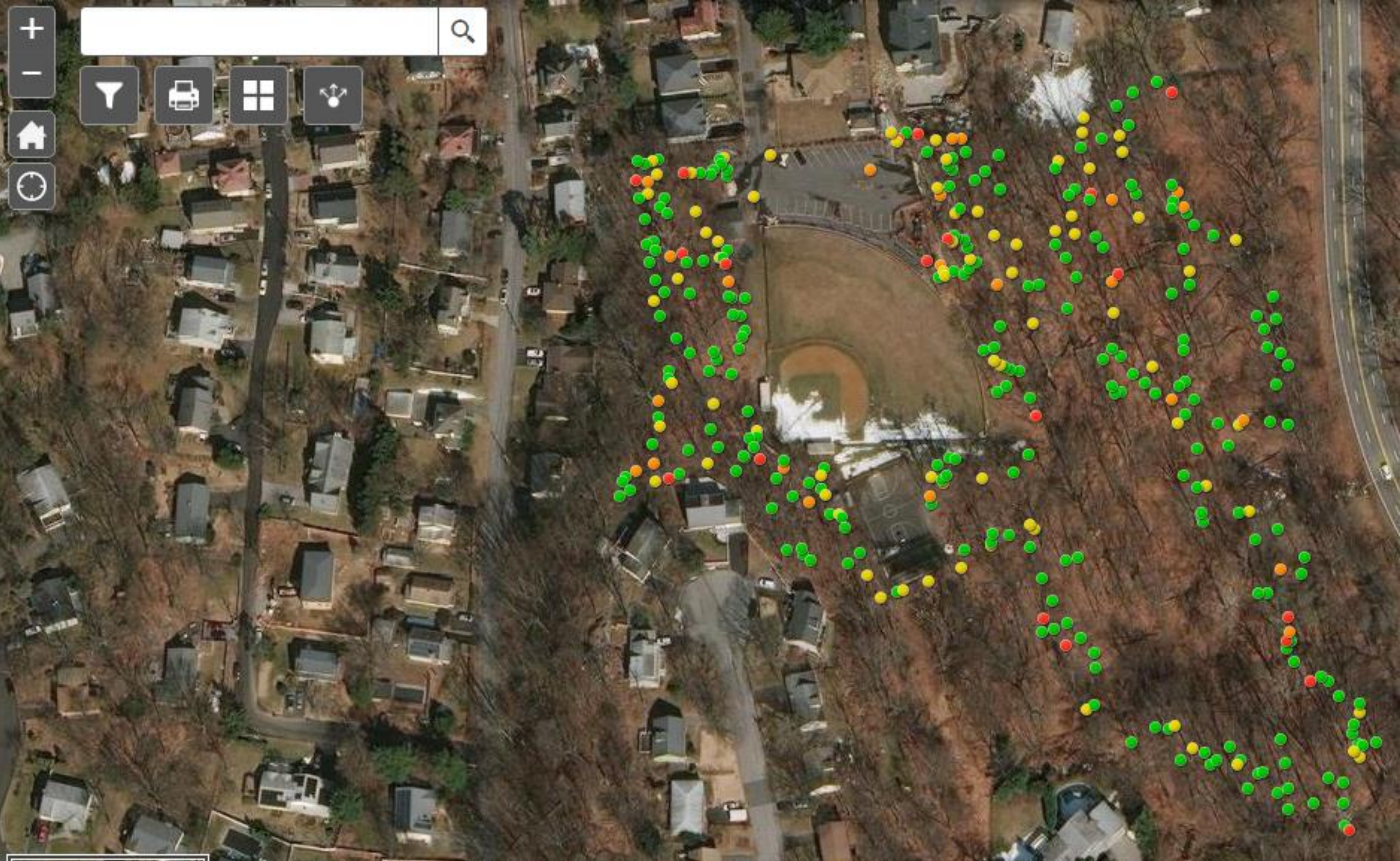
- OUTLINE
 - Assignment
 - Tree Inventory results
 - i-Tree Eco
 - Going Forward

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

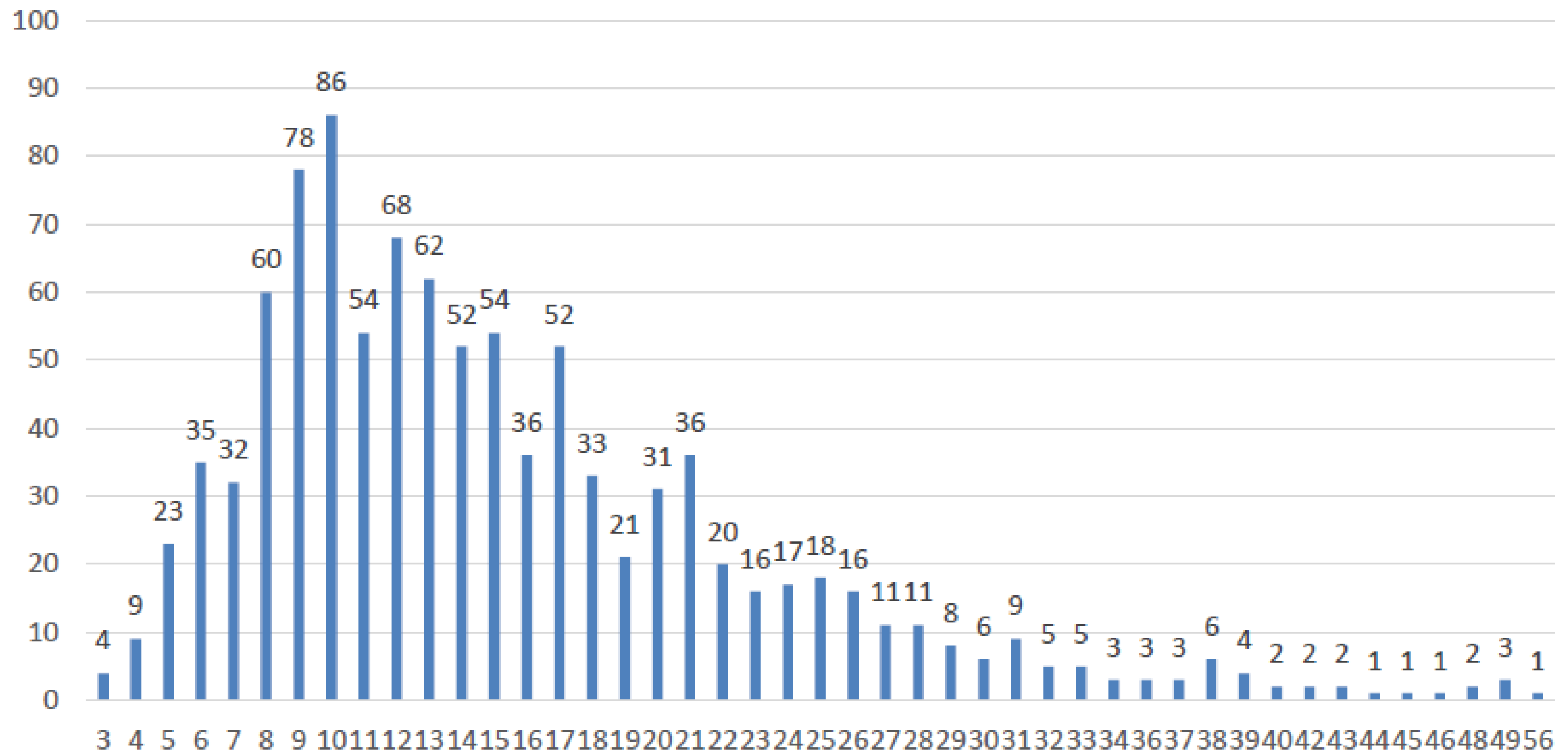


- Rowley's Bridge Trail: 232 trees inventoried

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

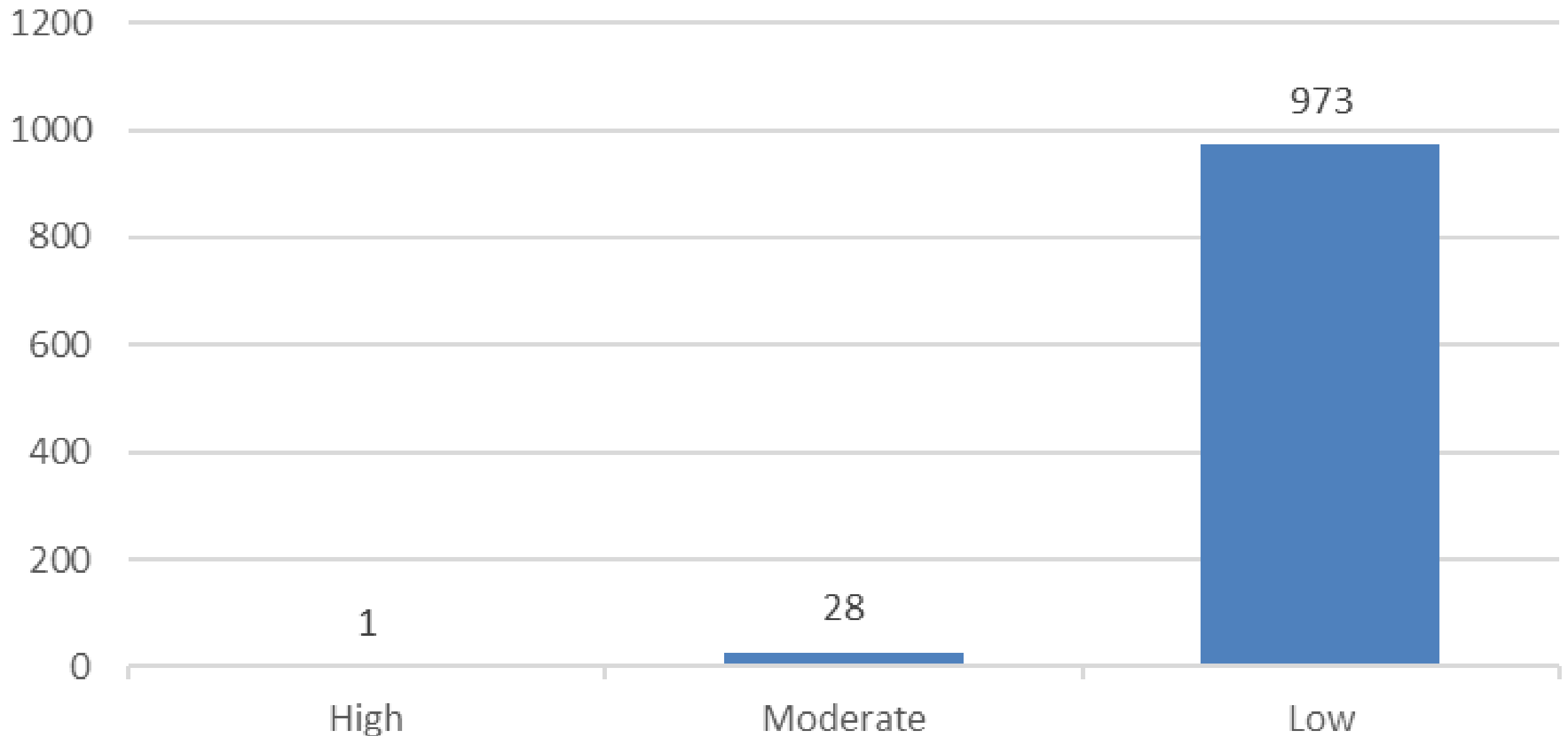
Probability x Consequences = Risk

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Likelihood of Failure and Impact	Consequences			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

ISA Qualitative Risk Ratings

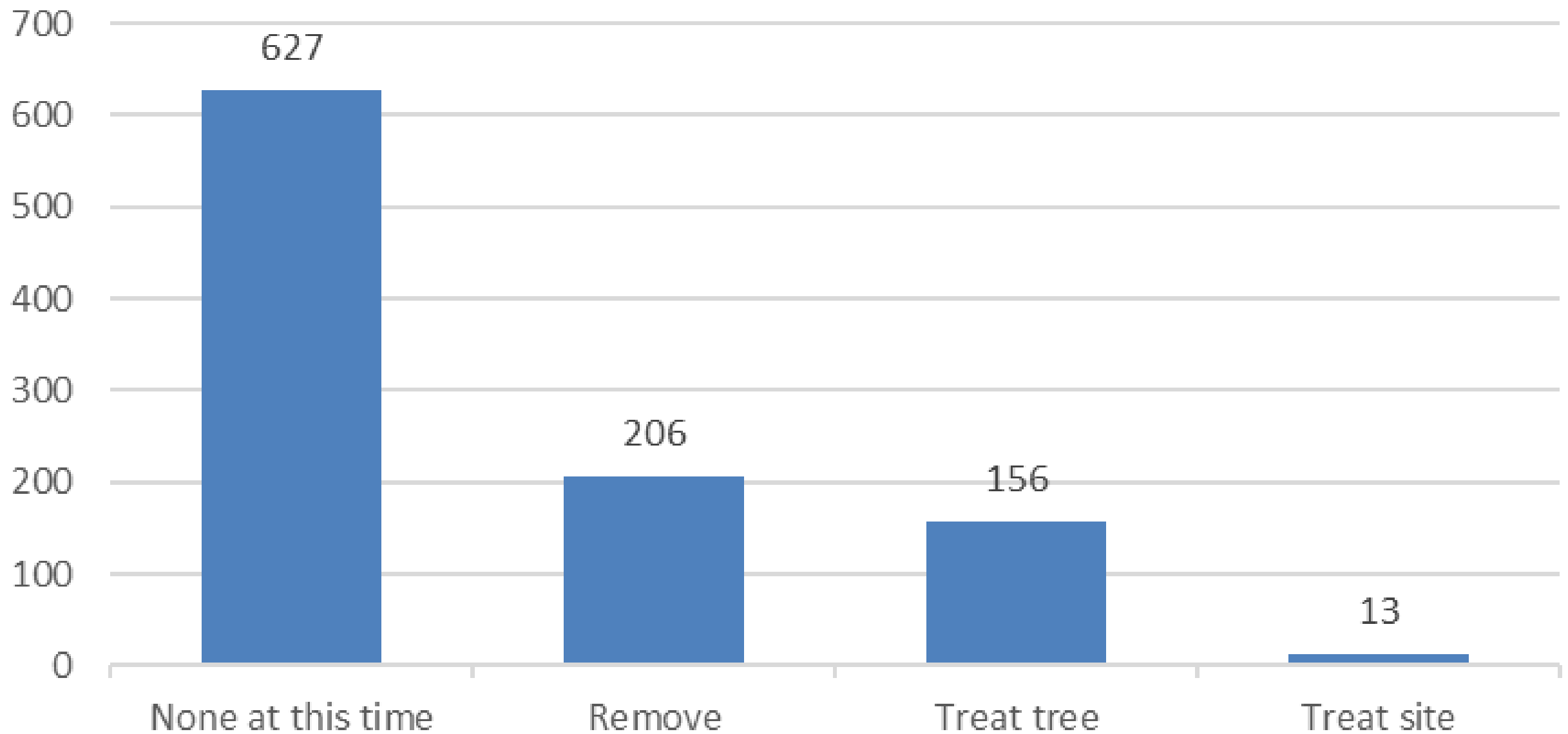
Count of Tag



ISA Risk Rating ▼

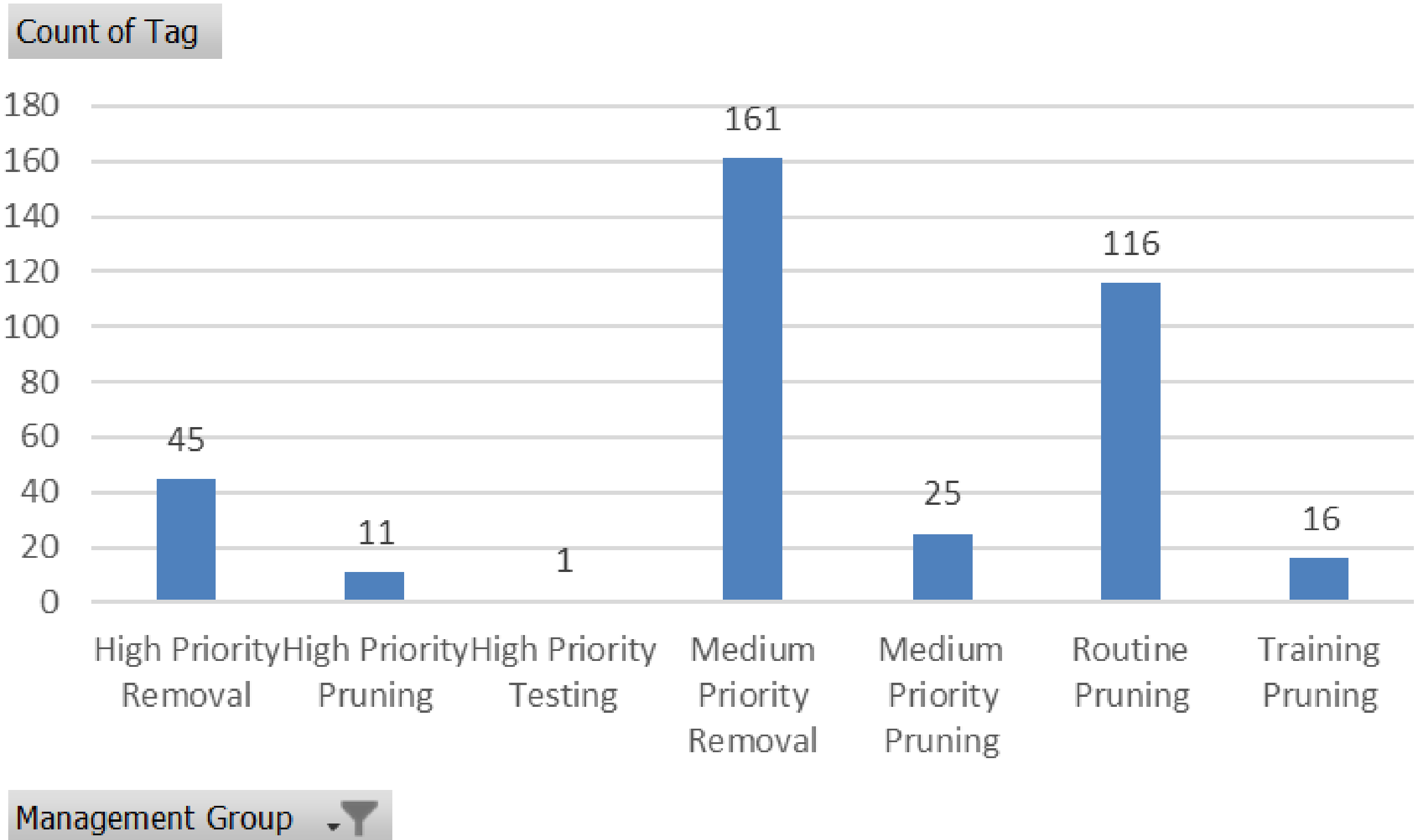
Tree Management Recommendations

Count of Tag



Tree Maintenance Type ▼

Tree Management Recommendations



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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