

# Urban Forest Management in the 21<sup>st</sup> Century; A Novel Approach

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## If forested natural areas are not restored

Aggressive non-native vegetation will dominate the urban forest unless removed. In 100 years, the trees will be gone. City officials estimate that potentially billions of dollars in services such as stormwater control will be lost.

### PRESENT

Forested natural areas are dominated by deciduous trees, mainly big-leaf maples and alders, nearing the end of their life. After decades of neglect, non-native invasive plants, such as English ivy and wild clematis, cover the ground and grow up into the tree canopy.

### IN 20 YEARS

Invasive plants outcompete and grow over existing native vegetation, blocking the sunlight plants and trees need to thrive. English ivy now dominates the tree canopy, making the trees weak, top heavy and susceptible to windfall. Eventually, trees die or fall over.

### IN 50 YEARS

The trees are gone. Only a few native shrubs struggle to survive the stress of competition with invasive plants.

### IN 100 YEARS

The forest is destroyed. Native trees can no longer establish on their own. We are left with a dense "ivy desert." Very few plant species can live, and forest biodiversity is gone. Such conditions provide homes for rats and scarce habitat for more desirable urban wildlife.



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# Novel Ecosystems

Novel ecosystems result when species occur in combinations and relative abundances that have not occurred previously within a given community.



Those combinations of species that arise through **human action**, **environmental change**, and the impacts of the deliberate and inadvertent **introduction of species** from other regions.

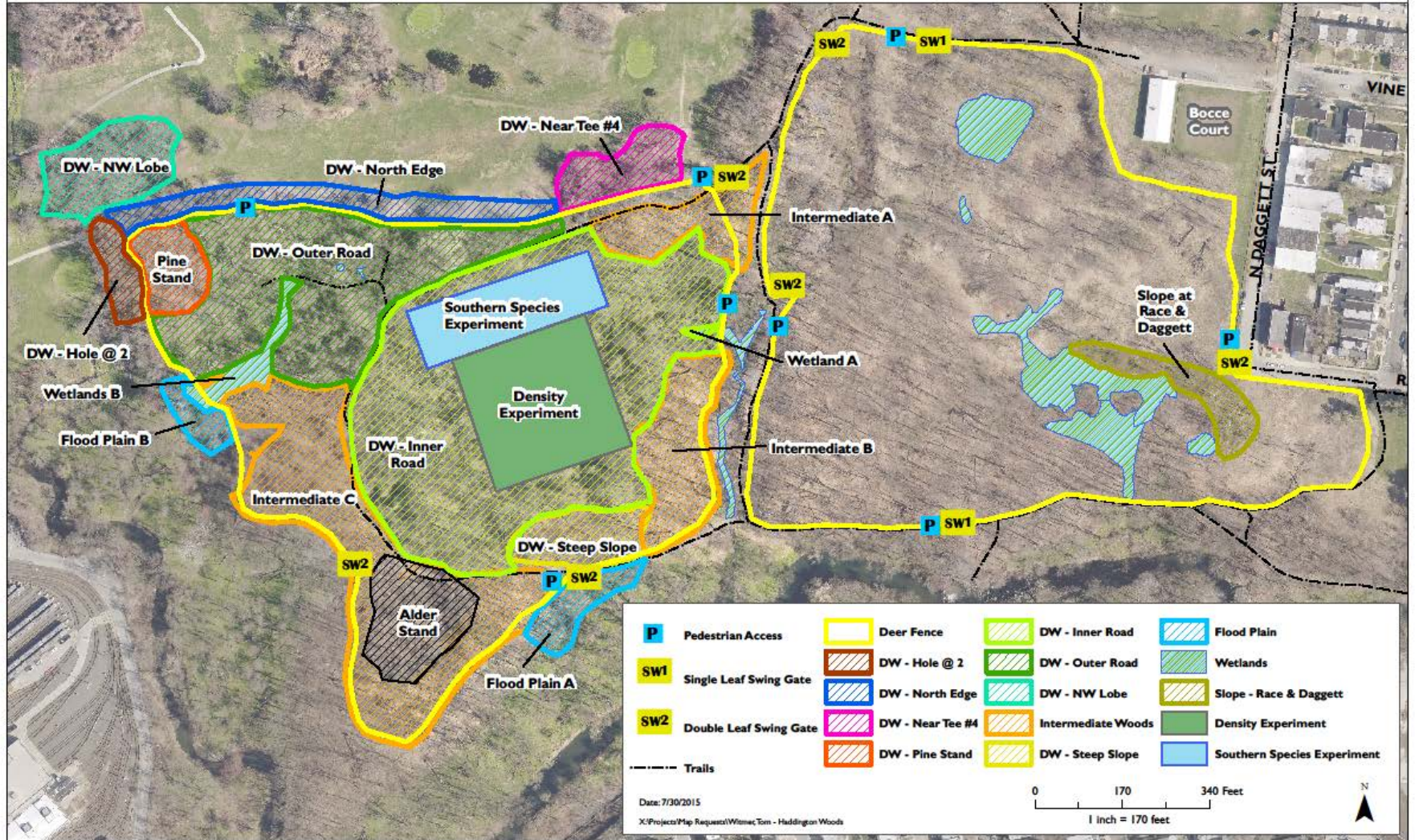


(Hobbs et al 2006).



# Haddington Woods

## Access and Planting Plan



“In managing novel ecosystems, the point is not to think outside the box, but to recognize that the box itself has moved, and in the 21st century, will continue to move more and more rapidly.”

(Harris et al . 2006)



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