

# Indiana University Arboretum Canopy Cover

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 School of Public and Environmental Affairs, Indiana University, E422 Spring 2016

## Introduction

After being given to Indiana University's class of 1982, the Jesse & Beulah Cox Arboretum has become a student hub for demonstrations, propagation, and interaction. Arboretums can help protect endangered species, study genetics, perform experiments, and educate the public on how to maintain the environment (The Morton Arboretum, 2016). With the growing importance of canopy coverage, the arboretum is becoming representative of not just Indiana University, but a growing and changing mindset of a greener world.

## Goal

With the University's plans to achieve 40% canopy cover on campus, the arboretum can play a major role in increasing canopy coverage and stimulating community support

## Methodology:

To reach the goal, 75-100 trees should be planted in the arboretum and adjoining areas, and then an estimated 500 additional trees should be planted annually.

## Timeline:

With in the next 30 years, Indiana University should reach their tree canopy coverage goal of 40%

## SWOT Analysis

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>- Plan layout</li> <li>- Preservation of natural features</li> <li>- Campus Development</li> <li>- Policy Enforcement</li> <li>-Ability to partner with student and community organizations</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>-Lack of or insufficient funding</li> <li>-Limited availability of information</li> <li>- Need for educational programming</li> <li>-Need for community involvement</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>-Student and community involvement</li> <li>-Large volunteer base</li> <li>-Alumni Support</li> <li>-Sustainable initiatives and work to green campus</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>-Invasive Species</li> <li>-Natural Disaster</li> <li>-Following 10-20-30 rule</li> <li>-Varying motives of developing infrastructure and sustainability</li> </ul>

## Key Considerations

Dividing the campus between several major schools, facilities, and the library, Indiana University's arboretum is representative of an extension of Indiana University's atmosphere and student wellness. It is important to recognize that while the 40% canopy coverage goal will take time, funding, and work, this goal is not unattainable. IU plans to achieve this goal by planting more trees around campus, in right-of-ways, planting more trees where soil is prone to erosion, increasing the number of trees in parking lots, and increasing their support of tree programs.

## Recommendations

Reommendations correlate strongly with the framework provided by the Bloomington Urban Forestry Research Group at CIPEC. The following table represents key factors and considerations for addressing vegetative development:

Social-Ecological Systems (SES) Framework (Ostrom 2009)	Model of Urban Forest Sustainability (Clark et al. 1997)	OUR FRAMEWORK Urban Forests as Social-Ecological Systems (IU Bloomington Urban Forestry Research Group)
Resource System Resource Units	Vegetative Resource	Biophysical Resource (Trees)
Users	Supportive Community	Community
Governance System	Adequate Management	Institutions

## Management Protocol

- Maintain control of arboretum growth and development with the help of groups and organizations
- Focus University support on greening the campus vs. adding additional construction
- Ensure adequate funding is provided

## Sustainability

- Incorporate foliage with many benefits
- Use the arboretum as a source of encouraging sustainability and green living
- Use tree species that support endangered or threatened species

## Community Support

- Incorporate members of the community on committees and boards involved
- Encourage children and local schools to become involved

## Risk Reduction

- Plant different kinds of tree species and follow 10-20-30 rule
- Ensure proper pruning of trees occurs
- Make sure safety is a priority in tree planting

## Conclusion

As a part of Indiana University's most current master plan, the University seeks to harness the green benefits of urban forestry by increasing canopy coverage to 40%. The master plan includes several options as to how the coverage will be achieved, one of which being increasing tree amount and growth in the arboretum. As an extension of Indiana University's green space and student hub, the Arboretum is a functioning social network and ecosystem that combine to form an enriching atmosphere for students and organisms alike.

## Literature cited

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