Griffy Lake Nature Preserve Park
Bloomington's Natural Treasure

Griffy harbors excellent diversity

- Around 570 species of vascular plants were documented during 2019 surveys including 50 native species new to the park.
- Provides habitat for an abundance of birds, reptiles and amphibians, and small mammals

Threats to Griffy Lake Nature Preserve

- Overpopulation of deer which threatens plant communities and is a public health threat due to tick-borne diseases
- Invasive plants displacing native plant communities
- Fire suppression causing a shift to less diverse plant communities
- Climate change altering plant communities

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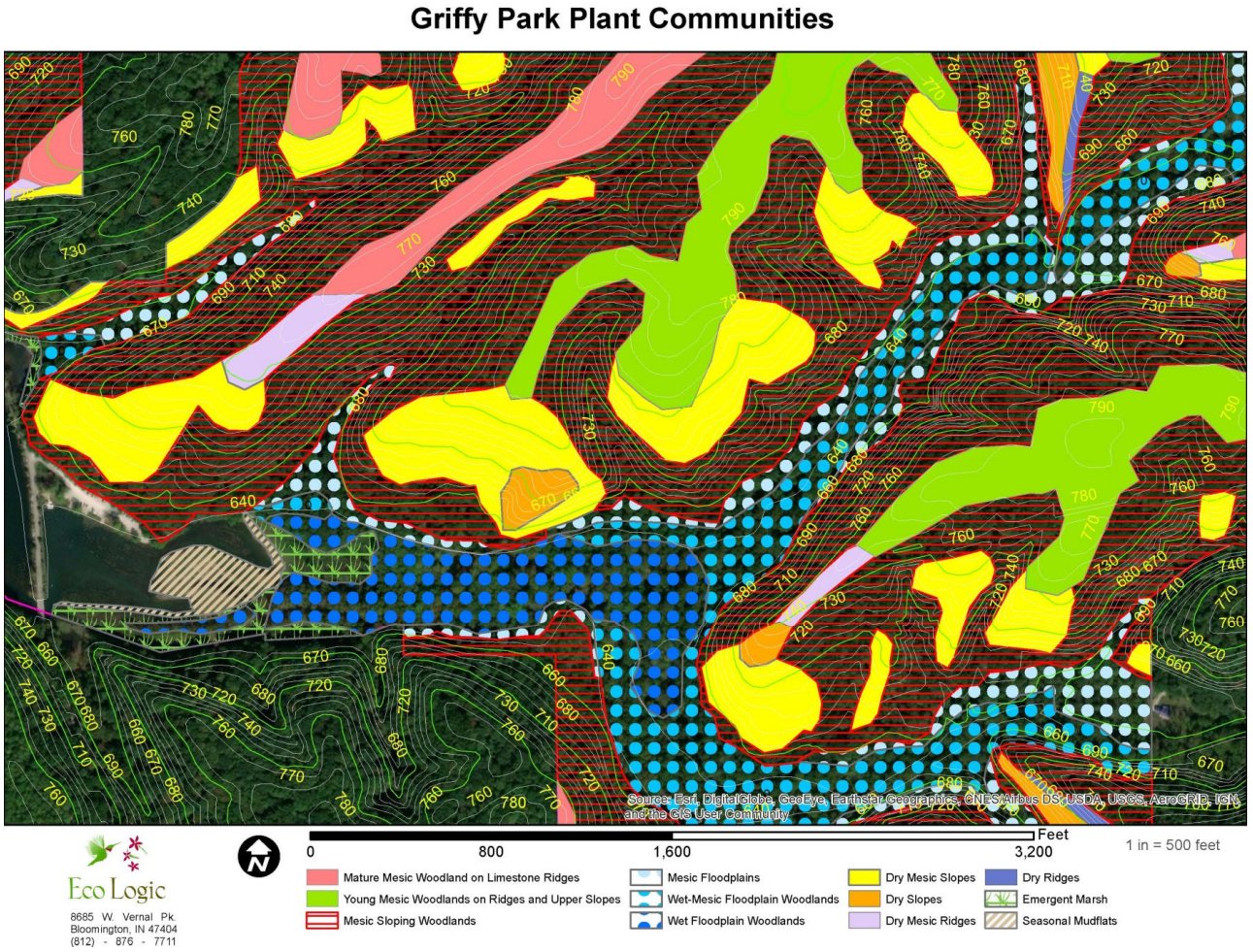
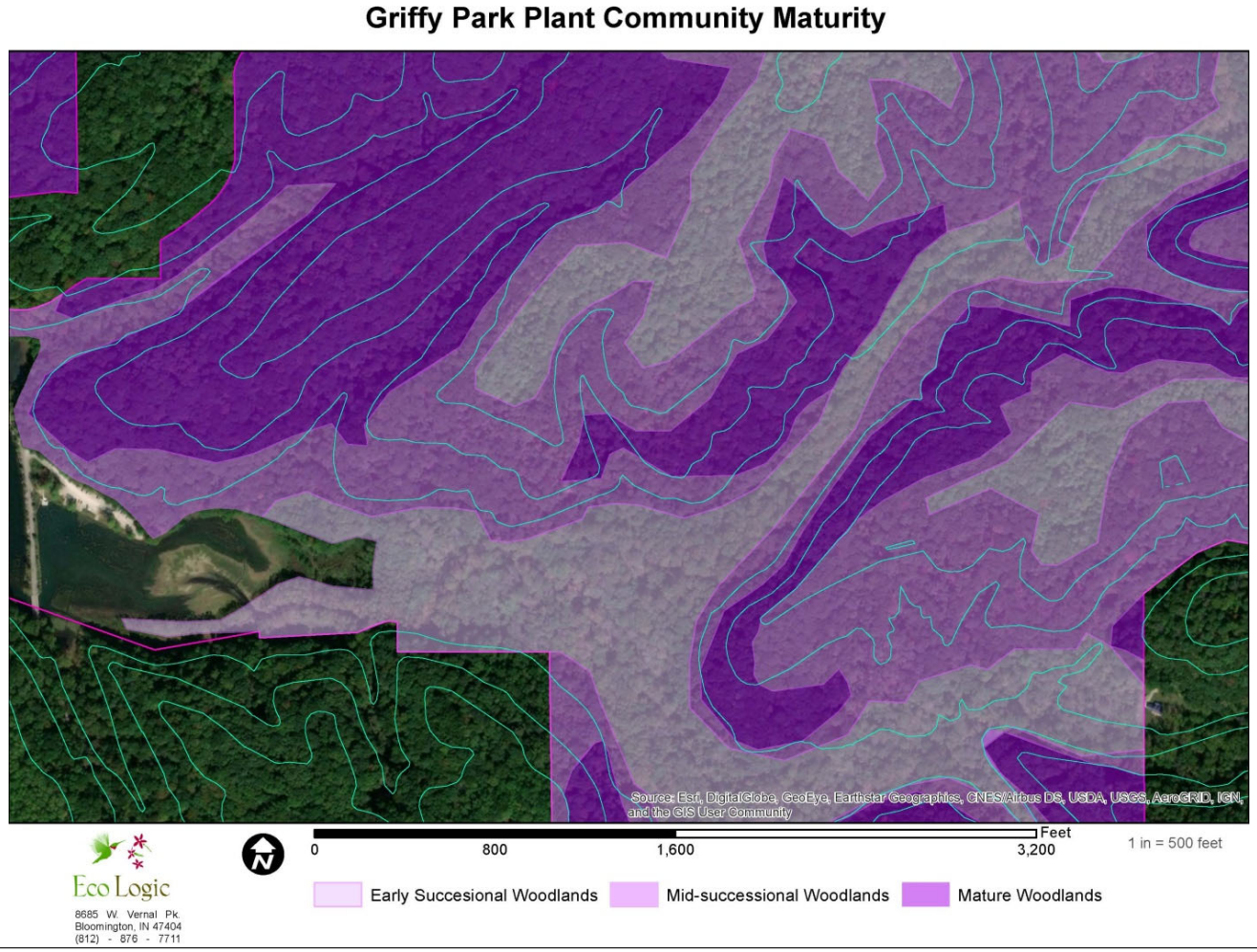
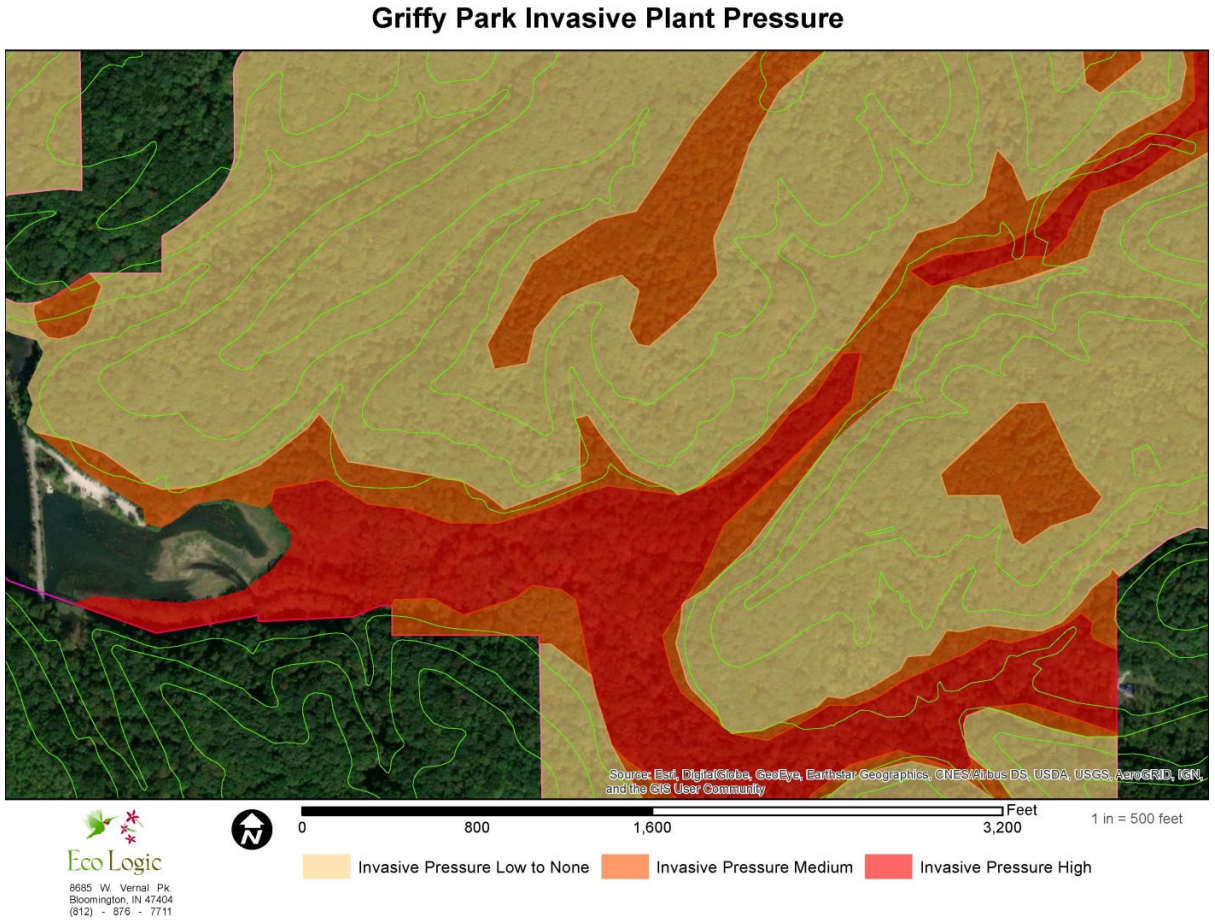
Plant Communities found in the Park



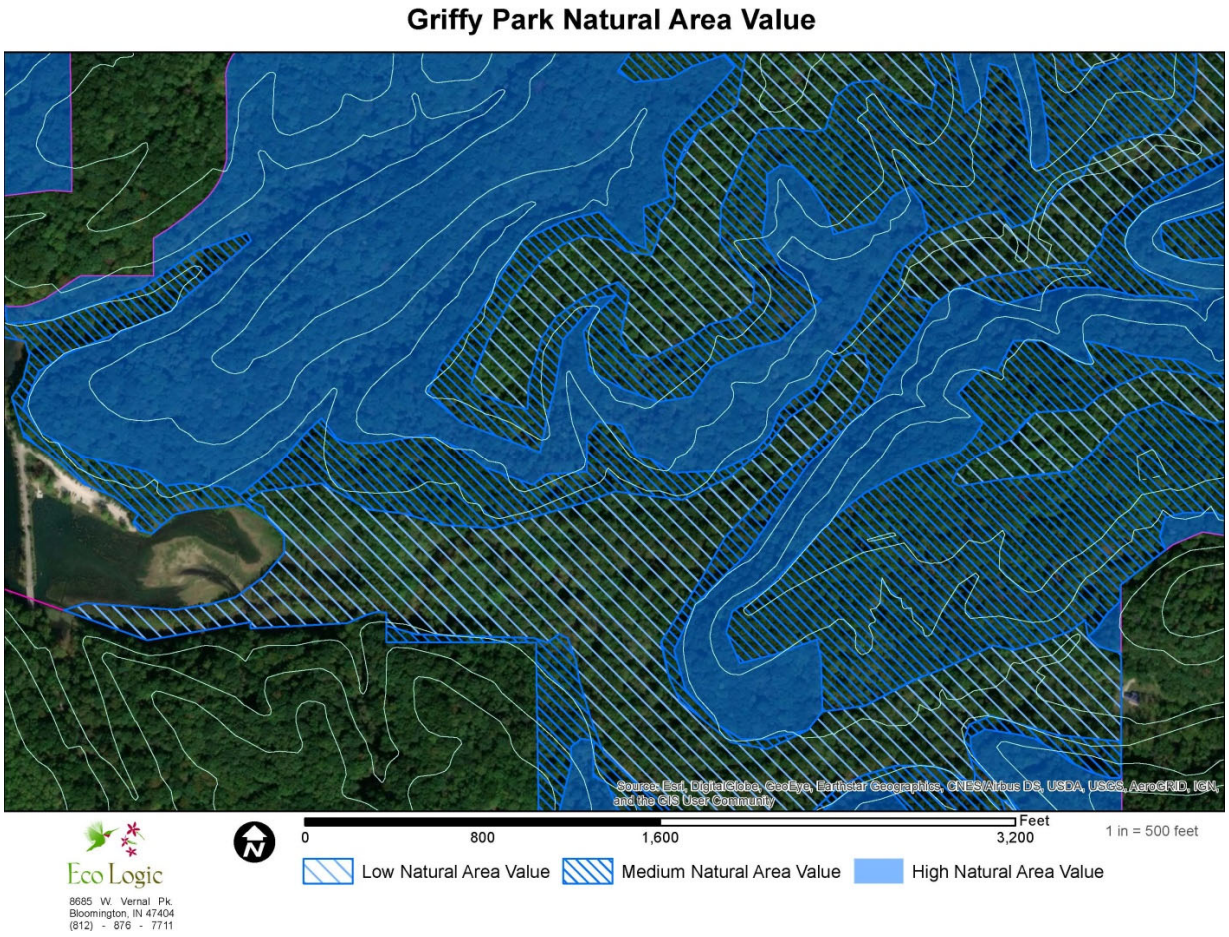
Forest Community Maturity



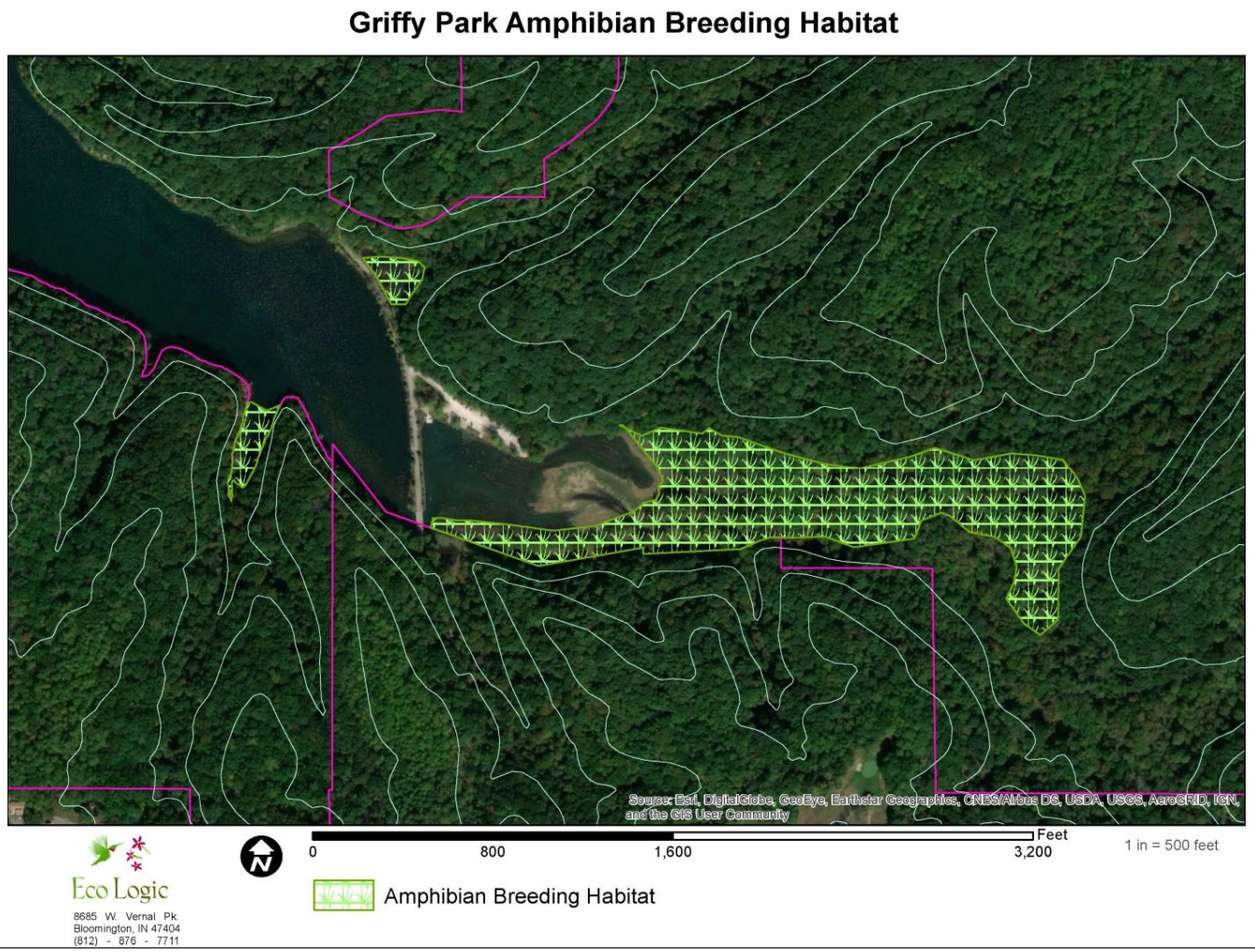
Invasive Plant Pressure



Resemblance to Presettlement Communities



Amphibian Breeding Habitat



Deer Effects on Plant Communities

- Deer selectively browse certain favored plants, threatening their existence in the park
- A browse line is evident on favored plants throughout the park
- Deer spread invasive herbaceous plants such as garlic mustard and Japanese stilt grass by carrying seed on their hooves and creating a seed bed with the soil disturbance along their paths

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Deer and Ticks

- Deer are an important host for the life cycle of all Indiana tick species
- Deer are the preferred host for the adult black-legged or deer tick that transmits Lyme disease

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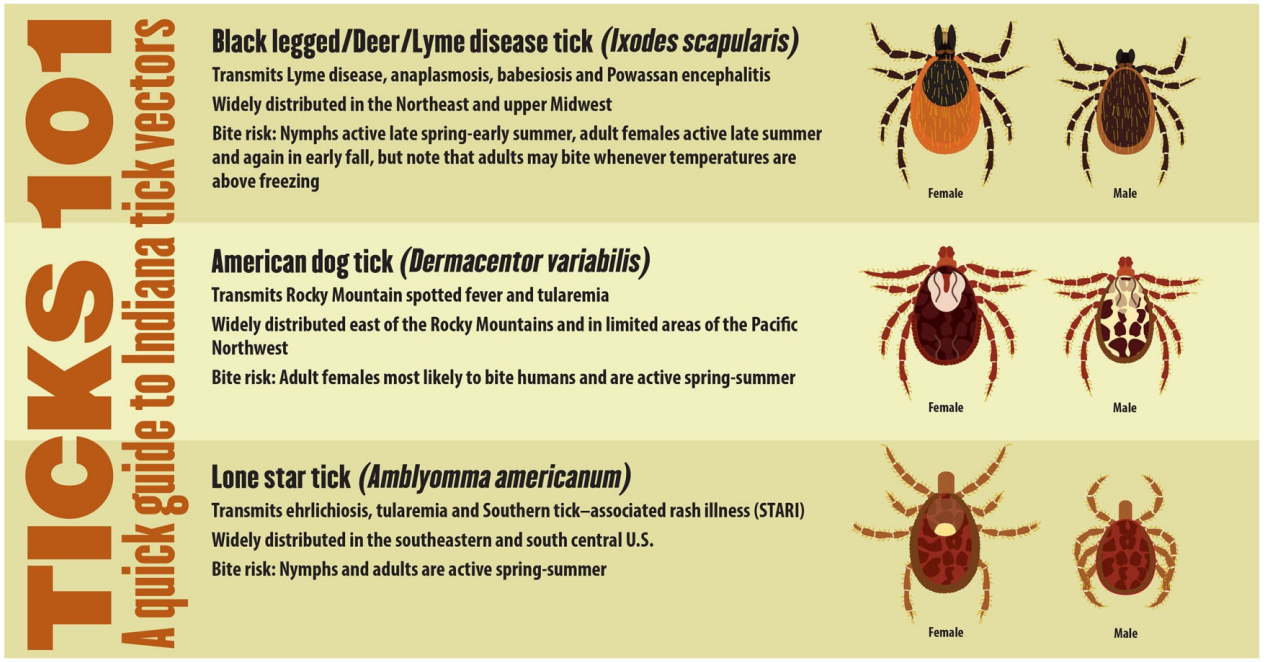
Ticks transmit a variety of diseases in Indiana



Images are not actual size. This information is intended as a general guide only. Please consult the CDC, your state or local Department of Health or Extension Specialist for further information regarding tick identification and risks associated with exposure to ticks and tick-borne diseases. *Sources: Catherine Hill, Professor of Entomology/Vector Biology, Purdue University; Centers for Disease Control and Prevention, http://www.cdc.gov/ticks/geographic_distribution.html*

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Alpha-gal syndrome

- Lone star ticks transmit a sugar molecule call alpha-gal into the body
- Alpha-gal triggers an immune system reaction that later produce mild to severe allergic reactions following the consumption of red meat
- Three Eco Logic employees suffer from this syndrome in spite of considerable preventative measures

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Successive years of deer harvest are necessary to bring the herd down to sustainable levels.

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Vegetation monitoring will tell when the deer population is down to sustainable levels

Percentage of Woody Understory Browsed by Year

- 2016- 33.8%
- 2018 - 30.6%
- 2019 – 32.18%

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Browse on Herbaceous Indicator Plants shown by the Average Maximum Height per quadrat

Year	Jack in the Pulpit	Solomon's Seal	Trillium
2016	11.98	7.75	7.65
2018	13.6	11.33	7.5
2019	14.13	10	9.67

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Prescribed Fire Sustains Oak Woodlands

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Developing the Potential of Griffy Park

- Well-designed and professionally constructed trail around the lake
- Commitment to sustained deer harvest and vegetation monitoring
- Map and develop a plan with a budget to tackle invasive plant species
- Develop a prescribed fire plan and burn units for communities whose diversity depends on the disturbance provide by fire
- Develop a protocol to monitor plant communities for long term changes resulting from climate change

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Questions?

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