

Whitpain's Woodlands and the Impact of Deer

by, Edgar David 1/29/2021

Rational for Supporting the Long-term Sustainability of Whitpain Township's Woodlands through Deer Management

Overview

Deer are a natural part of life in Pennsylvania, but when their population remains unchecked, they can have devastating impacts on our ecosystems and our health. As one of the only townships in the area without active management of the deer population, Whitpain is seeing a decline in the quality of woodlands and woodland regeneration and an increase of deer-related car accidents. These impacts lead the Shade Tree Committee to recommend a humane deer management program for the Township.

Health and Safety Risks

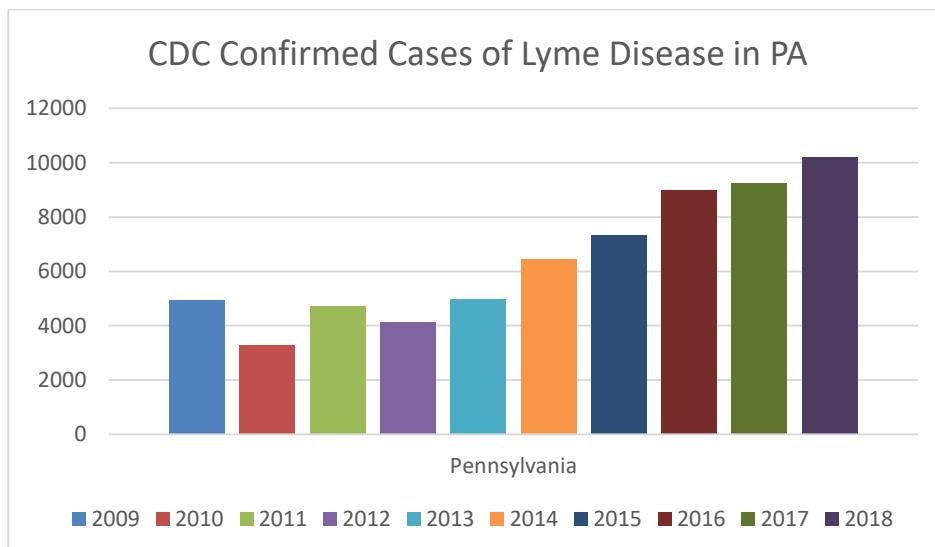
Increased Car Accidents

Pennsylvania has the second highest rate of deer-related accidents in the country, with residents having a one in 70 chance of being involved in an accident caused by deer.ⁱ And PA Insurance Department data from 2016, showed that Montgomery County had one of the highest rates of deer-related accidents in the state.

In Whitpain Township, police records show 884 deer accidents/incidents over the past 5 years or 176 per year, one every other day. This is a tragic and costly way to directly manage deer in Whitpain.

Carriers of Deer Ticks

Though deer ticks are carried by many small animals and birds, the adults primarily feed and mate while on deer.ⁱⁱ Pennsylvania has one of the highest rates of confirmed Lyme Disease in the country, which increased to 10,000 cases per CDC data (data available until 2018).ⁱⁱⁱ Reducing deer population won't guarantee a reduction in Lyme Disease cases, but it can be one tool to disrupt the tick lifecycle.



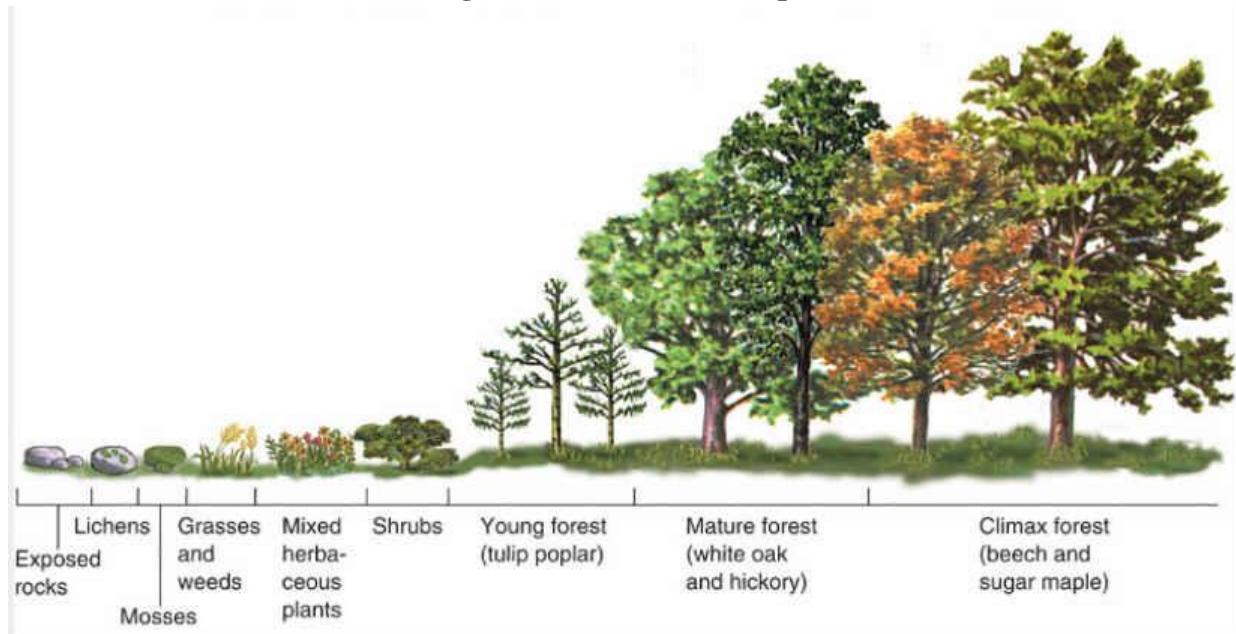
Ecological and Environmental Declines

When the deer population goes unchecked, communities can experience a collapse of their native forest. This, in turn, leads to lower biodiversity and an increase of invasive species that bring limited to no resources for animals, birds, and insects.^{iv}

Native Succession and Sustainability

The long-term health and sustainability of Whitpain Township's woodland landscapes depend on a natural succession of trees to replace themselves or allow for the natural succession to the next stage until the 'climax' association, or community, is achieved. The climax community is a plant community that is able to regenerate itself without being displaced and can take 100+ years to develop. When deer populations are too high, this cycle of growth is disrupted by overgrazing of young trees and saplings.

Ecological Succession Development



truevista, 2014

In the Eastern Deciduous Forest, Whitpain's physiographic plant region, the American Beech forest is considered the Climax Plant Community. The Armentrout Preserve has the best example of a Beech Forest in Whitpain Township. In parts of Armentrout, 18"-24" caliper Beech trees persist in the understory of 36" towering oaks representing the classic succession of Oak to Beech. Healthy native Eastern Deciduous Forests are structured with multiple layers typically described as Canopy, Understory, Shrub and Ground Plain. In the Beech succession forest the Oaks, still present, can be described as forming a Super Canopy layer. A diverse, well-stratified forest provides the maximum ecosystem services and the maximum habitat to support the greatest diversity of birds and mammals.



Oak – Beech Climax Community Forest at Armentrout Preserve

Arrested Succession by Deer

Throughout Whitpain, this natural forest succession is severely compromised by deer. Over abundant deer with limited food sources browse any and all new seedlings that naturally germinate in ground plain. Seedlings that would one day replace the current canopy trees are no longer present to regenerate the future forest in a natural succession process. Excessive grazing by deer results in ‘arrested succession,’ where native trees are unable to regenerate themselves and therefore cannot sustain the future forest.

As trees in the canopy die and fall over, they create a ‘canopy gap’ that would otherwise naturally fill in quickly with native trees that persist in the understory waiting for light to allow them to grow and replace the canopy in natural succession. This does not happen in forests over-populated by deer, which impacts all wildlife in the area and leaves room for less beneficial invasive species to flourish.

Invasive Species

Invasive non-native species, resistant to deer browse thrive in these stressed canopy gap situations where they form dense colonies that further suppress canopy regeneration. Native birds and fauna disappear when the stratified native forest has collapsed. The land becomes a barren wasteland, which provides very limited ecosystem services which the native woodland provides in abundance. This collapse of our native forest is clearly evident in lands adjacent to Center Square Park in Whitpain Township. Forest throughout Whitpain are in varying states of decline as a function the deer population.



Forest Collapse adjacent to Center Square Park

Advocacy for Humane Deer Management

For these reasons the STC advocates for deer population management in Whitpain Township using programs that complement those currently implemented by our neighboring Township communities and environmental organizations.

Though traditional hunting programs are low cost and provide food resources for families in the area, we recognize that this is not a palatable option for many animal lovers. We recommend the use of porcine zona pellucida (PZP), which is an injectable fertility control that can last two-three years and is approved by the EPA. The Humane Society advocates the use of this option^v, highlighting the naturally-occurring protein as a healthy way to manage deer populations without harming the animal (it does not contain hormones). The contraceptive is injected into female deer either by hand or by dart gun, and many communities have utilized this option with 80-90% effective rates. Based on online research, the cost per injection is not clear with some sources claiming \$20 and others claiming \$100.

ⁱ [Pennsylvania Insurance Department](#)

ⁱⁱ [PA Game Commission](#)

ⁱⁱⁱ [CDC Lyme Disease Site](#)

^{iv} [PennState Extension](#)

^v [Humane Society](#)