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Ecologists drag pillowcases to collect and count ticks to evaluate best park trail tick-control strategies.

Tick Control: Leaf Blowing Trails To Protect Visitors

By Nicolette Malinowski and Blaine Rothauser

Lyme disease. Anaplasmosis. Rocky Mountain Spotted Fever. Tularemia. For land managers, these are just some of the many tick-borne illnesses that their park visitors dearly want to avoid taking home from a walk or hike through the woods.

Just how park and facility managers can best maintain their grounds to protect visitors from ticks is a critically important question. Typically, the answer has come down to determining which mix and frequency of mowing, trimming and clearing trails with leaf blowers will work best to keep tick populations under control and at a safe distance from visitors.

Research we've recently completed at a popular New Jersey park indicates that, beyond an annual or semi-annual mowing to keep trail edges well delineated, the most effective approach may not be frequent mowing — but, rather, regular blowing of trails to push leaf-litter habitat for ticks well away from walkers and hikers.

Testing Strategies

GZA GeoEnvironmental Inc., with support from partners, was retained by the Township of Hazlet, New Jersey, to conduct a comprehensive analysis of Natco Lake Park. This property is a beautiful 286-acre park, surrounding the 14-acre namesake lake, with more than six miles of popular trails.

Along 25-meter stretches of trail in three kinds of habitat, the Hazlet Township Department of Public Works (DPW) conducted four kinds of trail maintenance to compare approaches to tick management:

- Mowing the center and both sides of the trail.
- Leaf blowing the trail.
- A combination of mowing and blowing.
- Leaving a fourth stretch of trail unmaintained as a "control transect."

This approach created a total of 12 "treatment sections" to compare. Each was separated from the others by at least 33 meters to prevent any cross-contamination of results caused by overlapping maintenance types. We conducted a search for ticks in the central 10 meters of each treatment section, finding anywhere from four to 23 ticks within each section.

Findings

We observed that trail sections that had been leaf blown had about 70 to 80 percent fewer ticks than the unmaintained sections, which we can be 90 to 98 percent confident was a statistically significant difference, not just random sampling variation.

Mowing alone led to no statistically significant reduction in tick populations in those sections compared to the control transects. Also, and perhaps even more surprisingly, supplementing blowing with mowing failed to achieve any statistically significant reduction in the presence of ticks compared to "blow-only" sections.

Because this experimental design looked at a combination of habitat types and we still observed the same significant difference between the control measures and the "blow-only" treatment, we can expect that this treatment would achieve similar results across a variety of habitats. Additional studies in other geographies would help confirm or refine our findings and recommendations.

Recommendations

Our recommendations would be to:

1. Use a powerful air blower mounted on a trail-sized vehicle to blow off all or selected portions of the trail network monthly outside of bird nesting season.
2. On wetland trails where the trail vehicle could cause ruts and soil compaction, deploy a layer of wood chips, uncontaminated by soil, at least four inches thick to smother grass and other herbaceous plants that harbor ticks.
3. Trim overhanging vegetation from trail sides once or twice per year.
4. Make clear to the public which trails and trail segments are, and are not, being leaf blown for tick control. Remind them that no place can be guaranteed to be tick-free, so vigilantly checking for ticks will always be recommended.

Periodically leaf blowing trails to reduce the risks of ticks latching on visitors will, in most cases, be considerably easier, less disruptive, less polluting and less costly than frequent mowing. There are also strong indications that blowing, not mowing, will better protect your visitors.

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