

Green

Ecologists Work to Preserve the Ponds at Lord Stirling Park



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BASKING RIDGE, NJ - The vast expanse of biodiverse marshes, meadows, and forests encompassing the hundreds of acres around Lord Stirling Park may appear to many as a self-sustaining ecosystem. However, because the wildlife refuge is surrounded by suburbia and its runoff, in addition to parts of the park being man-made, near constant maintenance is required to keep the park healthy. While residents are busy enjoying the beauty of the park, ecologists have the responsibility of curating a suitable environment for the broad range of plant and animal species within its borders.

Projects such as mobilizing teams of volunteers to remove invasive species and conducting prescribed burns in the park's meadows are annual operations that aim to preserve the diverse habitats and prevent native species from being outcompeted. Additionally, one of the most substantial maintenance operations in the park to date, the hydro-raking of Branta, Essox, and Lily Pad pond, was carried out last winter.

While actions like hydro-raking can disrupt ecosystems and temporarily displace some animal species and their offspring, such as frogs and dragonfly larvae that overwinter within the ponds, Carrie Springer, Administrator of Leisure and Community Services at the Somerset County Park Commission, described the process as “taking one step back to take two steps forward.”

“This hydro-raking project, which I will admit, is a little bit scary for all of us as ecologists here. You look at it like, ‘Oh my God, what are they doing?’ You know, ‘They’re ruining everything here.’ And I mean it’s a sensitive subject because there’s going to be some loss, right? But it’s in hopes that we’re going to be able to maintain that habitat and keep it healthier in the long run,” Springer said.

Hydro-raking is the process in which machinery, typically a floating barge equipped with an excavator and a floating dumpster, are used to scrape the bottom of ponds and remove excess organic matter resting on the bottom. Two of the three ponds that were raked are man-made and had been suffering from the accumulation of nearly half a century of dead organic matter, and the third, a naturally occurring pond, known as Lily Pad Pond, had become so shallow that it was drying out in the summers.

Consistently used for education, recreation and research purposes, the ponds’ strategic locations strives to offer maximum accessibility to hikers, students, and anyone passing through the Great Swamp.

“We’re using them for paddling programs and for ponding programs to have kids’ schools come out, do the dip netting, catch the dragonfly larva, catch the beetles,

and all that stuff and learn about the aquatic habitat,” Springer said.

“We've been trying to come up with a plan for how to manage our ponds. Because we were seeing that, you know, the one pond's drying up, they're getting shallower, we're having more challenges with them. We've had some challenges with harmful algal blooms over the last couple of years... our ponds had really been neglected over the last several years. and it was time. If we didn't do anything, we risk losing our ponds entirely,” Springer continued.

While the exact cause of the algal bloom in the park has not been confirmed, the decomposition of organic matter, which releases nitrogen and phosphorus, has been shown to be a contributing factor in similar cases. Although it is still too early to assess the full impact of the hydro-raking, it is possible that the removal of the surplus organic matter could help prevent future algal blooms.

The hydro-raking portion of the project concluded at the end of winter; however the cleanup process continues. This task, while typically burdensome and potentially expensive, presents a unique benefit for the Lord Stirling estate.

“We are also lucky because we have so much property here. Lord Sterling Park is divided into sections, so we have the Environmental Education side, which is 500-plus acres. And then we have the stable side, which is 500-plus acres. So we were able to take all the organic matter that they're scraping and truck it just down the road to one of our open fields within the stables property and spread it out ... and it sits and it settles and all and all the water drains out. And then we're able to go back in and seed it. And because we're using it over on the stable side, we're going to be seeding it with a grass mix that's good for horses,” Springer said.

The potentially multifaceted project may not have been visually comforting or provide instant relief, but ultimately aims to align with the EEC's mission statement of; “stimulating awareness and understanding of the natural world in order to foster a sense of responsibility for its care and use through environmental, cultural, and recreational learning experiences, as well as serving as trustees to preserve, maintain, and improve undeveloped and developed natural areas of Somerset County parkland”.