



Butterflies: Canaries of the Meadows

by Beth Herr

Butterfly numbers are declining. At least in this corner of New York, the count of species and overall numbers are dropping. Butterfly habitats continue to disappear and butterflies face many predators and diseases; add freak weather events, predatory wasps, humans with nets, and birds on the wing, then multiply those dangers by the different threats each phase of its life cycle brings and butterfly lives can be as ephemeral as they look.

In the Northeast there could be an even greater threat literally gnawing at butterfly diversity: white-tailed deer. Recent studies in the Northeast, prompted by concern over lack of forest regeneration, decline in species diversity, deer/car collisions, Lyme disease of

which the deer is a vector, and damage to suburban landscapes, demonstrate the detrimental environmental impacts of white-tailed deer.

Burgeoning deer populations cause damage to forest systems by severely overbrowsing the understory vegetation. This leads to reduced plant species diversity, restricted height development, a shift in the plant community to species tolerant of repeated browsing, and a change in the physical structure of forest habitat. (Horsely, Stout, and DeCalesta 2003). Once browse-resistant

species become established, they can minimize the reestablishment of less browse-resilient species through plant inference, e.g. competition, allelopathy. Increase in fern abundance, a browse resistant species, has caused particularly strong interference with regeneration of hardwood trees. (Horsley and Marquis, 1993).

The long-term impact of such a scenario is the creation of “deer savannas” or “deer parks.” These aesthetically pleasing but biologically destitute areas are characterized by higher densities of ferns and grasses (species not preferred by deer) or park-like habitats of large trees completely lacking an understory, allowing extensive visibility for long distances (Rooney, 2001).

Thus it has been shown that overbrowse by the white-tailed deer has lasting, devastating effects on forests and regeneration. Little work, however has been done to quantify the impact of white-tailed deer on butterfly numbers, and it may be time to take a closer look. Parks and preserves can provide a laboratory for this butterfly science. Butterfly watchers can inventory and monitor populations, providing valuable data to assess the ongoing health of their natural communities. One such park has done a little of both.

It is a magnificent park, too. Ward Pound Ridge Reservation in Cross River, New York, is a 4,300 acre biodiversity preserve managed by the Westchester County Department of Parks, with open, wet meadows, forests,

Opposite page: A pond in summer at Ward Pound Ridge Reservation.
Below: Might makes right! Deer push the birds aside.

