

Monitoring and Management—a sensible pairing

Richard Bong State Recreation Area is a heavily used 4,515 acre property in the Wisconsin State Park system. It is located in western Kenosha County. The area is oak woodland, savanna, wetland, sedge meadow, old field and restored and remnant prairie. Surveys of many kinds and for many species are done on the property—frog and toad, drift fence, phenology, plants, ephemeral ponds, upland sandpiper, black tern, grassland and marsh birds, butterfly, small mammal, waterfowl, muskrat and wood ducks to name a few. Moths, except for the showy and easy-to-identify species, have been ignored.

That is until volunteer moth surveyor, Steve Bransky, came onto the scene. Steve had done a few moth and butterfly surveys here and there on the property. But that changed in 2013. Armed with mercury vapor lights, bait and a Wisconsin scientific collector's permit, along with our permission, he began surveying in earnest.

He chose five sites in woodland, prairie and savanna habitats. He came out many nights in the months moths might be flying. After finding that moth populations seemed to cycle every 3-5 days, he came out more frequently. His enthusiasm, dedication and never-ending energy have wielded some surprising results. Those results have in turn, guided us in our habitat management practices.

Of the 2,000 moth species found in the state, Steve confirmed close to 700 on the property, and he isn't done yet! He found one of the biggest populations of the endangered *Papaipema silphii* moths (Silphium borer) in the state as well as 36 species of *Catocala* moths (underwings), one of the densest and most diverse populations in the state. Six confirmed state records, over one hundred range extensions and over sixty county records make the monitoring even more impressive.

So what does all that have to do with management? Obviously the way we have managed in the past has created appropriate habitat for these species. Mowing and prescribed burning and invasive species removal is our management regime. We try to burn each habitat unit on a three-year cycle but due to budgets and weather that often turned into 5-7 years which as it turns out, was beneficial to the insects.

There has long been a balance in prescribed burning, native habitat must be maintained and burning is the most efficient way to do that but you also don't want to burn too much and negatively affect the insect life. What the monitoring has helped us do is change and fine-tune our management strategies to better benefit the insects as well as the habitat.

We now make sure we have unburned habitat around the edges for recruitment. We mow some of the higher quality remnants more frequently than we burn them. We will also purposely try to leave unburned spots around host plants in places these populations are or could be. The monitoring data has also affected our brushing decisions for instance, *Catocala crataegii* (Hawthorn Underwing) needs hawthorn, which is present but not in large numbers. To that end, we are focusing on planting and keeping larger blocks of hawthorn.

They say that knowledge is power and I think that is true. We were lucky before in our management but now that we know the amazing diversity of moths on the property, we can

consciously and effectively manage for *all* the resources. You have to know your site, whether it's birds, plants, mammals or insects before you manage it, not just burn it all. Now, I realize not everyone is lucky enough to have access to a moth expert but perhaps you could contact a local university or museum or resource expert to do some monitoring, or you could bait and take photographs for identification. Just get out there and collect data to help guide your decision making, it makes good sense.

Beth Goepfinger, WI DNR Naturalist
Richard Bong State Recreation Area

Note: Steve Branskey is a member of Wisconsin Entomological Society