

# Biologist aims to reintroduce at-risk butterflies to Pinery



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Sarnia & Lambton County THIS WEEK



Toronto Entomologist Association president Jessica Linton (centre) speaks to audience members after her presentation to Lambton Wildlife Inc. on Sept. 30. Carl Hnatyshyn/Sarnia This Week

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Butterflies are Jessica Linton's business.

The Waterloo-based biologist, environmental consultant and president of the Toronto Entomologist Association has spent a lifetime studying, researching and observing butterflies in various parts of Canada as well as in locations around the world.

After years of writing recovery strategies for butterfly species at risk in Ontario, undertaking important research projects regarding butterflies' migration patterns, their

behaviour and their habitats as well as establishing monitoring programs for the insects, Linton is now spearheading a collaborative, province-wide effort – as part of the Ontario Butterfly Species-at-Risk Recovery Team – aimed at the recovery of the endangered Mottled Duskywing butterfly population and a restoration of the oak savanna and woodland habitats that support the creatures, including swaths of land in and around Pinery Provincial Park.

Linton was the guest speaker during a meeting of Lambton Wildlife Inc. at Sarnia's YMCA Career and Learning Centre on Sept. 30. She provided an overview of her past and current efforts to help protect and recover populations of at-risk butterfly species, while also providing her own "good news" forecast about the future of the endangered Mottled Duskywing and other at-risk species in Ontario.

A lifelong lepidopterist, Linton was bitten by the butterfly bug as a teen when she had the chance to see the creatures up close.

"Butterflies are something I've always been interested in from the time I was a kid," she said. "When I was about 15, I went to a guy's house who collected butterflies – he raised them in his backyard in a greenhouse – so I got to see live specimens and mounted specimens up close. After that, I was totally hooked.

"Eventually I took environment and resource studies in university, but I always focused everything on butterflies. And then when I was in my first year at the University of Waterloo in the co-op program, I went to Costa Rica and worked at a butterfly education centre there, which really fuelled the fire, and I also used to work at the Cambridge Butterfly Conservatory as well," Linton added. "Anything to do with butterflies I just pursued it."

Her passion led her to investigate the reasons behind why several butterfly species in Ontario have either been extirpated from the province– species such as the Karner Blue or the Frosted Elfin that once lived in Ontario but no longer exist here – or put on the province's at-risk list, species such as the Mottled Duskywing, the West Virginia White or the current celebrity of the butterfly world, the Monarch.

Several reasons have contributed to the elimination or near-destruction of these populations, Linton said.

Land conversion to agriculture wiped out much of the province's oak savanna habitat, which once thrived in both here in Ontario and across North America. Linton said that at one time there were 11 million hectares of oak savanna habitat located across North America; now there is less than one per cent of that total.

Fire, moreover the absence of fire – both wildfires and controlled fires once commonly set by First Nations peoples, both of which rejuvenated oak savanna habitats and allowed the species to flourish – has had an impact in reducing the butterflies' numbers and their natural habitat.

Invasive species, climate change and the use of pesticides have all also been important factors in extirpating or diminishing the population of numerous butterfly species in Ontario as well, Linton said.

**Monarch butterfly spotted in a Sarnia backyard. Carl Hnatyshyn/Sarnia This Week**

One way to re-establish populations of butterflies, Linton said, is to preserve existing oak savanna habitats such as the one located in Pinery Provincial Park.

"I think one of the biggest things is protecting what we have left and restoring connections between those," she said. "Over 85 per cent of oak savanna that we have left are less than five hectares, but most of them are less than one hectare, they're just these tiny little fragments. So things like the Nature Conservancy are doing – buying up areas of land and reconnecting and re-establishing larger chunks of habitat is really what needs to happen."

After several years of developing strategies, undertaking research and speaking with other like-minded individuals and groups, in 2017 Linton helped bring together an array of organizations – organizations essentially moving in the same direction, she said – to establish the Ontario Butterfly Species-at-Risk Recovery Team.

The team's goals include supporting activities that protected populations of Mottled Duskywings and their habitat, re-establishing the species in select locations across the province, conducting research as well as creating oak savanna habitat.

The spark that lit the fire to create the team was simply a collective realization that these organizations would be more effective working in tandem rather than working on their own, Linton said.

"Well I think it was just the fact that I was working with different land managers and different organizations throughout the province and I was talking to a lot of them but not a lot of them were talking to each other," she said. "So instead of me being the middle man, we thought why don't we all get together and talk about all the challenges. Because if one group is struggling with one issue, chances are the other groups were too."

With a successful 2018 and an even more successful 2019, Linton said – which included a very successful Mottled Duskywing rearing pilot project – the team has set the goal of

trying to reintroduce the Mottled Duskywing into Pinery Provincial Park in 2021, pending the acquisition of a five-year grant from the Natural Sciences and Engineering Research Council of Canada.

Mottled Duskywings were once plentiful at the Pinery's oak savanna habitat, but eventually driven out due to canopy closure and fire suppression, Linton said, as well as an aggressive deer population.

"Once the deer population was under control and they started doing prescribed burns, the habitat came right back," Linton added. "So we're hoping to establish a population there and then walk away."

"That project will likely involve the release of adult butterflies into the Pinery, where we just release them into specific area and then we'll have a rigorous monitoring program to monitor the population," Linton continued.

"And that will likely be a series of releases over several years – so we start with captive rearing at the conservatory, transport to the Pinery and release with the idea that most population reintroductions take several years to get established, but eventually the become self-sustaining and don't require management anymore."

Asked why the reintroduction of the Mottled Duskywing in places such as the Pinery as well as in created habitat in Norfolk County (scheduled a few years later) is so important, Linton said butterflies are a barometer of sorts for biodiversity and for what's going on in the eco-system.

"My master's research focused on butterflies as biological indicators," she said.

"Butterflies are very sensitive to changes in their environment – they're sort of like the canary. If something is going wrong with the butterfly community then it's likely to have a trickle down effect.

"Similarly, if we conserve butterflies, it's likely to have a conservation ripple effect because they are so sensitive. It's just protecting and preserving biodiversity as a whole, which leads to healthy eco-systems which leads to healthy people, really."

For more information, visit the Toronto Entomologist Association website at [www.ontarioinsects.org](http://www.ontarioinsects.org)