

# The Penstemon

## Newsletter of the Nebraska Native Plant Society



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### From the Presidents Notebook

Blowout Penstemon, pictured left, is an endangered plant endemic to the sandhills of Nebraska and has been the logo of the Nebraska Native Plant Society since its inception. It was also the subject of my Ph.D. research in 2008. I just received an email from the author of a new publication, Bonnie Heidel, regarding the status of blowout penstemon in Wyoming, the only other state where this species exists. From my field research and my last statewide survey (in 2016) of the species in Nebraska, I concluded the species is declining in Nebraska and at a much more rapid pace than even my earlier population modeling had indicated. Bonnie Heidel's population figures in Wyoming also show a very steep decline leading into 2016 but with a rebound into 2022. The Wyoming populations are now roughly half of what they were in 2006 when they were originally counted. While I am not aware of any newer population statistics for Nebraska, I suspect additional declines in most populations here. The Wyoming populations are at a higher elevation with lower rainfall and a wider expanse of moving sand. The plants are shorter in Wyoming as she reports and as I witnessed myself in 2008. Additionally there are some genetic differences which are still being studied. Blowout stabilization in Nebraska is chief among the issues for our declines, while Heidel suggests that disturbances to natural habitat fluctuations including energy development may pose the greatest threat there. A very large percentage of the populations of blowout penstemon in Nebraska are in private ownership, while in Wyoming a larger percentage occurs on public land. Fortunately Jim Locklear, a former NENPS President, has collected seed from both Wyoming and Nebraska and has stored it in a seed bank at the Lauritzen Gardens in Omaha.

The blowout penstemon is one plant, but entire native ecosystems are in peril. Since leaving academia for the private sector several years ago, I still collect data on native plants, but to provide information for the direct use of land managers and land owners. I can tell you unequivocally that landowners, informed by science, have the greatest ability to effect real change where it is needed on a landscape scale. It is also evident as a consultant, researcher, ecologist and landowner that the roads to biodiversity and landowner profits often diverge. The desire for preservation and biodiversity is NOT why land prices are so high.

This brings me to another point that I never hesitate to make and that is that we often leave the onus of change to the few. We cannot leave the fate of biodiversity to scientists alone. It requires all of us. The majority of climate scientists agree that we have about 7 years to make some very big changes. Native plants are the anchors for above and below ground biodiversity which are key to a stable climate. Armed with science and aware of our personal impact on biodiversity, let's make the change.

Part of the mission of the Nebraska Native Plant Society is to encourage research of native plants. Please see the request for proposals on our website and encourage a researcher you know to apply for our research grant.

## Research in Review:

### Milkweed plants bought at nurseries may expose monarch caterpillars to harmful pesticide residues Halsch, et al, Sept 2022, Biological Conservation Vol 273

Review by Kay Kottas, Ph.D.

Full Disclosure: I own and operate a native plant nursery where we do all we can to prevent exposure to pesticides.



Monarch on *Monarda citriodora* (Lemon Beebalm)

This research paper was carried on multiple news sources. The article is readily available online if you google the title. The gist is that 235 milkweed plants purchased at 33 nurseries around the US were tested for 92 pesticides. Of those plants tested, all had multiple pesticides and 38% had pesticide at least one pesticide concentrated enough to have some effect on the growth or reproduction but none were of a lethal concentration.

The study found that those plants which were labeled as wildlife friendly were twice as likely to have a harmful level of pesticide. Fungicides were the more harmful pesticides found. "One-hundred samples ...contained ...a synergist that inhibited the caterpillars ability to metabolize pesticides". In conclusion, the study asks nurseries to use appropriate protocols to grow pesticide free plants and consumers are advised to ask nurseries to source material from nurseries that minimize their use of pesticides. I am sure we can all agree that this should be the case,.

It is concerning of course that multiple pesticides were found in every plant, and in one plant, as many as 28 compounds were found! This is obviously not acceptable. The fact that at least one pesticide had been found in every plant was not surprising to me. Although this was an observational study and not an experimental study, I would be interested to see a control such as testing of plants from a remnant prairie or of plants grown using the protocols suggested by the authors. Pesticide drift is a known and common problem in both urban and rural areas and it would be interesting to see how many pesticides one would find. I volunteer my nursery and native prairie, for testing; not because I believe they will show no pesticides, but because I am certain there is drift. I am also certain that I have inadvertently purchased contaminated media and that seed collected from remnant prairies near agricultural land is likely to contain pesticides.

Unfortunately, pesticides have become ubiquitous. They are in lawns, homes, agriculture, sports complexes, manufacturing, etc., These uses are all part of the problem. They are found in our drinking water, our food and our children (CDC). People who insist that plants for purchase have no sign of insect damage or disease are part of the problem. I agree that we should be asking for pesticide free plants, but remember, if you see some insect damage, then you know you have what you came for.

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NENPS Website : <https://nebraskanativeplantsociety.weebly.com/>

For Membership: <https://nebraskanativeplantsociety.weebly.com/join.html>

Membership in the Nebraska Native Plant Society is open to anyone with an interest in native plants of the state. Print the application from the website and mail it to the address provided on the form with your \$10.00 annual dues (January to December).

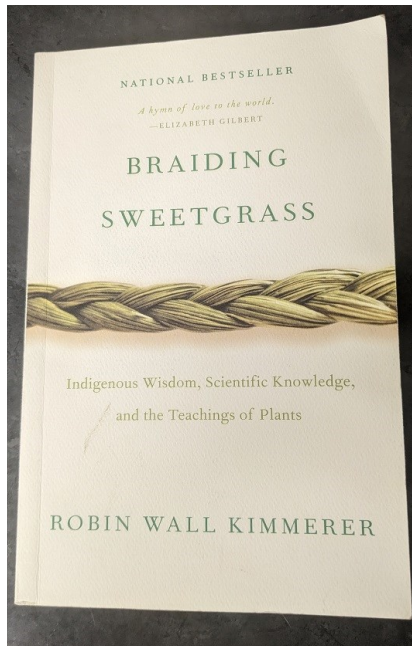
A large portion of dues are used to fund grants for research projects related to native plants.

## Book Review:

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants.

By Robin Wall Kimmerer

Review by Alicia Admiraal



For Christmas, my oldest son gave me a copy of Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants. Little did he know, the author Robin Wall Kimmerer had been a plenary speaker at the 2022 Natural Areas Conference in September in Duluth, and I'd recently listened to a recording of her keynote address. I had been intrigued by the Indigenous stories and interpretation of the land and was eager to explore her writing.

Braiding Sweetgrass, published ten years ago, is a thoughtful reflection that weaves indigenous traditions, science, and Kimmerer's personal story. A trained scientist, the author relates her journey as she rediscovers the traditions, language, and knowledge of her native people. Through her own story she describes an Indigenous interpretation of how the natural world is valued and how humans interact with its creatures. Recognizing a spiritual nature within each creature changes one's approach to scientific discovery as well as to ecological restoration and management. In one section, Kimmerer faults the scientific community as being versed merely in the mechanics of botany. She relates a story of a plant scientist exploring a rainforest. The scientist compliments the Indigenous guide on his knowledge of so many plant names.

"The guide nods and replies with downcast eyes. "Yes, I have learned the names of all the bushes, but I have yet to learn their songs.'" (p. 43). Kimmerer helps readers consider scientific knowledge in the context of Indigenous wisdom, urging us to pause, observe, and listen, and learn the songs of the natural world around us.

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## UPCOMING EVENTS:

- February 8

NENPS will have a booth on UNL East Campus at the Natural Resources and Environmental Sciences Career Information Day

- February

Nebraska Statewide Arboretum Plant Talks

[Plant Talks : Events : Resources & Events : Nebraska Statewide Arboretum \(plantnebraska.org\)](https://plantnebraska.org)

- Feb 23-March 2 Wildlife Society Annual Meeting

[Nebraska Chapter: Annual Meeting - The Wildlife Society](https://www.wildlifesociety.org/nebraska)

- March

Look for a new podcast called **Plant Native Nebraska** hosted by Stephanie Barrelman of Bellevue, NE She is lining up guests now and we will keep you posted

- April 25

NENPS will have a booth at Arbor Day Festival at Omaha's Lauritzen Gardens