



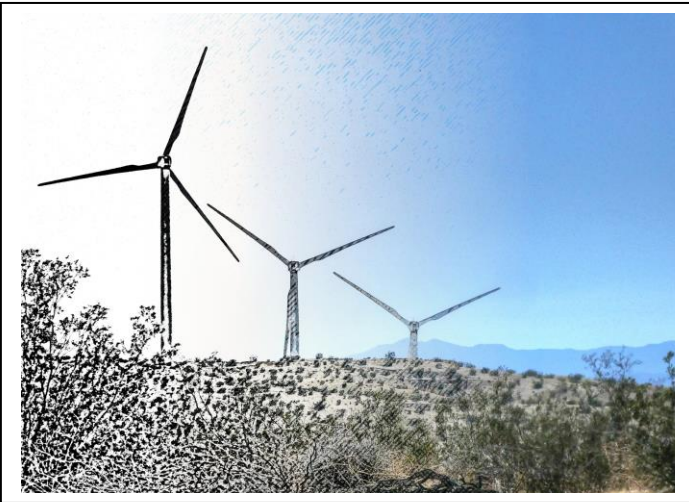
Castilleja linariifolia

Castilleja

Publication of the Wyoming Native Plant Society

Mar 2024, Volume 43(1)

Posted at www.wynps.org



CAN NOISE FROM WIND TURBINES AFFECT POLLINATION AND NATIVE POLLINATORS?

By Michelle Weschler, Brenna Martin and Lusha Tronstad, Wyoming Natural Diversity Database

The emergence of wind energy as a major form of renewable electricity generation in the past decade has reduced the ecological footprint of the United States but poses a unique threat to pollinators. Wyoming is home to some of the best wind resources in the country, so it is no surprise that turbines continue to pop up around the state. In fact, Wyoming currently hosts over 1300 wind turbines (Hoen et al. 2018) and >20% of the electricity generated in the state in 2022 was from wind power (Wiser et al. 2023). Turbines produce fewer emissions and waste than other forms of energy production (Saidur et al. 2011), but there are still concerns about their impact on the environment. Most studies have focused on how wind turbines impact birds and bats, and how these impacts can be minimized through various mitigation techniques (Schuster et al. 2015). Very few studies have investigated the effects of wind turbines on insects and plants. Furthermore, only a handful of investigations have studied the influence of sounds produced by wind turbines on these groups. (Continued p. 5)

HOT SPRINGS COUNTY COURTHOUSE GETS NATIVE PLANT GARDEN

By Kim Bartlett, Red Dirt Master Gardeners

How does one spread the love of native wildflowers? With a seed! WYNPS provided that seed to Hot Springs County's Red Dirt Master Gardeners (RDMG) by awarding a 2022 Markow Small Grant to build two newly designed gardens at the County Courthouse. The Courthouse Garden Committee, consisting of the Head of County Maintenance who had requested the garden redesign (Les Culliton), three Master Gardeners (Brian Strampe, John Fenton and Kim Bartlett) and a Master Gardener Trainee (Susan Blevins), parlayed the WYNPS grant funds and obtained matching funds from the Hot Springs County Commissioners and Red Dirt Master Gardeners.

The garden was designed to be a calming oasis for courthouse employees (both County Clerk and Court Clerk offices are in the same building), for those required to come to jury duty or to testify in court, and for members of the general public. Plant choices were limited by the garden's northern exposure against a 4 story building and the requested height limit of 30" along the building to prevent basement windows from being blocked. Luckily, wildflowers are predisposed to our purple and yellow color scheme (Hot Springs County High School Bobcats colors). 4 varieties of shrubs, 10 wildflower varieties and 5 different grasses were used to begin to fill the space. Plant stakes with both the common and scientific names of plants were placed throughout the garden for educational value. The garden was dedicated on September 5, 2023, and a dedication plaque was added. (Continued p. 4)

In this Issue:

Wind turbine noise and pollination	1, 4
Hot Springs Courthouse native plant garden. . .	1, 5, 6
2024 Annual Mtg	3
Ethnobotany – <i>Chenopodium berlandieri</i>	7
Yellow flag (<i>Iris pseudacorus</i>)	7
Growing Native Plant Resources	10

WYNPS News

2024 Annual Meeting: *Mark your calendar!* We are meeting jointly with the Wyoming Bioblitz and Wind River Tribal Buffalo Initiative in Morton, June 13-16, on the Wind River Reservation (next page).

WYNPS Board – 2024

Co-Presidents: Joyce Evans (wyoslp@yahoo.com) and Mike Evans (iroxranch@yahoo.com), Fort Laramie

Vice-President: Kathy Lichtendal, Clark (kathylich@yahoo.com)

Sec.-Treasurer: Dorothy Tuthill,

Laramie (dtuthill@uwyo.edu)

Board-at-large: Ben Legler, Laramie (blegler@uwyo.edu) (2024-'25)

Board-at-large: Heidi Anderson, Gardiner, MT (heidi_anderson@nps.gov) (2023-'24)

Other Contacts:

Editor: Bonnie Heidel (bheidel@uwyo.edu)

Webmaster: vacant

Sublette Chapter: Jill Randall, President (possum1b@yahoo.com)

Teton Plants: Amy Taylor, Treasurer; (tetonplants@gmail.com). Check the chapter homepage (<https://tetonplants.org/>) for events.

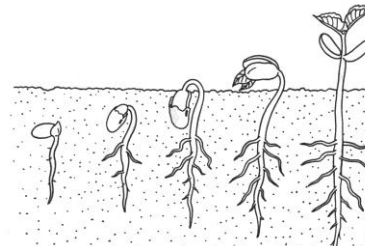
Teton Plants and colleagues feature nature programs every second Tuesday of the month through winter. Check out the schedule at the Teton Plants homepage (<https://tetonplants.org/>).

General questions: wynps@wynps.org

Treasurer's Report: Balance as of 21 Feb: Scholarship = \$3,778; General = \$11,178; Total = \$14,956.

2024 Renewal – It's not too late: You can still renew by filling out and mailing the renewal insert (see December issue), the small form at the back of this issue, *or* online via PayPal (www.wynps.org).

New members: Please welcome the following new members to WYNPS: Deborah BanDrosky, Ravenna, OH; Nancy Barker, Custer, SD; Sunshine Beck, Cheyenne; Diane Birdsall, Jackson; Gwen Crandall, Boulder; Dandelion Farm LLC, Lander; Charlotte Darling, Buffalo; Laura Fernandez, Port Hueneme, CA; Diana Filner, Danville, CA; Martin Hudson, Pinedale; Justice Miller, Boulder; Isabella Norton, Lander; Kathleen Petersen, Pinedale; Barb Van Skike, Pinedale; Jeff White, Driggs, ID.



Message from the Co-Presidents!

As newly elected co-presidents of WYNPS, we want to take this opportunity to thank each and every one of you for your membership and for your shared interest in the indigenous plants of Wyoming. We are so pleased that we can share the admiration of our rich flora with all of you.

This year promises to be an exciting one in the world of native plants. If all things go as planned April will be proclaimed as Native Plant Month in Wyoming, Junior High students will have an opportunity to depict their concepts related to wildlife and native vegetation, members will be able to gather in a novel setting and do some inventory work that will have lasting significance for grazing of large ungulates, and WYNPS will once again support the innovative and valuable work of students and the public - see front page articles! Along the way, we hope to expand our membership base and to allow all of you to teach us. We encourage you to take part in every activity and even to suggest other activities.

Together, let's make this a year when we strengthen our organization and build knowledge throughout our state and region.

~Joyce & Mike Evans

Next issue: Please send articles and announcements for the next newsletter by 15 April to:

Wyoming Native Plant Society
P.O. Box 2449
Laramie, WY 82073

Contributors to this Issue: Kim Bartlett, Joyce and Mike Evans, Bonnie Heidel, Brenna Martin, Meredith Taylor, Lusha Tronstad, Dorothy Tuthill, Michelle Weschler.



Announcing:

**Special opportunity to explore our flora,
June 13-16!!**

This year's Annual Meeting and Wildflower Weekend will be held in conjunction with the Wyoming BioBlitz, hosted by Wind River Tribal Buffalo Initiative (WRBI) in Morton, WY. We will be assisting the WRBI in gathering ecological data related to buffalo reintroduction on their current lands and the 17,000 acre expansion area. Learn about the WRBI here:

<https://windriverbuffalo.org/>. WYNPS expects to contribute substantial botanical knowledge to local researchers and students, to help answer the questions they have identified as of most significance; in addition, we have committed \$1000 to help fund this event, making it possible to hold the event cost-free to Wind River Indian Reservation community members. Registration for the BioBlitz will open in April at <https://rockies.audubon.org/naturalist/wyoming-bioblitz>. Registration is optional but encouraged, as is payment of the registration fee for those who can afford it. Tent-camping space will be available in Morton.

We will be joining Audubon Rockies, UW Biodiversity Institute, WY State Parks, WRBI and others to provide this opportunity to explore biodiversity and traditional ecological knowledge on the Wind River Indian Reservation.

In addition, WYNPS will be gathering Saturday evening and Sunday for our own activities. See the next newsletter and online.

April is Wyoming Native Plant Month!

At the end of the recent session, Governor Mark Gordon signed a proclamation to recognize April 2024 as Wyoming Native Plant Month.

It begins:

WHEREAS, native plants are indigenous species that have evolved alongside native wildlife and occur naturally in a particular geographic region, ecosystem, and habitat, and...

WHEREAS, it is important to encourage public awareness about the benefits of Wyoming's native plants to pollinators and other wildlife, to the economy, and to the health and sustainability of Wyoming's treasured ecosystem,...

This proclamation encourages everyone in Wyoming to participate in the recognition and celebration of the importance of native plants to Wyoming's rich biological heritageby planting native trees and flowers in their yards, removing non-native invasive plants from their communities, and educating themselves about the many benefits of native plants. See the Wyoming Native Plant Society homepage to read the complete text.

In celebration of Wyoming Native Plant Month next month, the Wyoming Native Plant Society is excited to announce a poster contest for all 6th-8th grade students. The theme of the contest is "Help Wildlife: Grow Native Plants" encouraging students to learn and creatively illustrate how native plants are essential to Wyoming's wildlife. Three students and their teachers will each receive a \$250 cash prize and a copy of the Wyoming Native Plant Society Native Plant Poster. The winning students will also receive a framed poster of their original artwork and their posters will be featured on the Wyoming Native Plant Society website and shared on social media. Entries must be postmarked by April 2, 2024. For contest details and entry requirements, see the wynps homepage (www.wynps.org).

Hot Springs Co. Courthouse garden – cont. from p. 1

Funds were used by RDMG to purchase plant materials for the garden from Piney Island Native Plants (Sheridan, WY), High Plains Environmental Center (Loveland, CO) and Fossil Creek Nursery (Ft. Collins, CO); plant stakes from Metal Garden Markers (Belgrade, MT); and a dedication plaque and engraving of both the plant stakes and the dedication plaque by Lasers Edge (Thermopolis, WY). Additionally, the committee was able to obtain free rock for the rock wall, pavers and “sitting rocks” from WYDOT (from a Wind River Canyon rockfall) and Owl Creek Quarry south of Thermopolis. Owl Creek Quarry had supplied the stones used to build the Hot Springs County Courthouse in 1937. The committee also received materials donations of mulch from Aspen Tree Service; sand and gravel from Canyon Concrete & Sand & Gravel; equipment and volunteers from Hot Springs County Road and Bridge, Hot Springs County Maintenance Department, and RDMG members. This project would not have been possible without the generous donations and free labor provided by many in our community.

In addition to the plant stakes, to comply with the educational portion of the grant, RDMG submitted three articles for publication in the Thermopolis Independent Record to prepare the public for the garden redesign. Also, RDMG hosted a free “Basics of Native Plant Landscaping” workshop on September 19, 2023, which was open to the public.

Attendees learned the basics of landscape design, walked to the courthouse garden to see some of those rules applied, and then returned to learn about the importance of native plants, sourcing plant materials, and special concerns when landscaping with natives. Attendees were provided a copy of the 2016 Game & Fish Wyoming Wildscaping book; the Biodiversity Institute’s Milkweeds and Monarchs pocket guide; and a list of plant materials used at the Courthouse garden. A raffle was held for a copy of Doug Tallamy’s Bringing Nature Home, and one guest won a copy of the Biodiversity Institute’s *Plants with Altitude* for answering a question correctly.

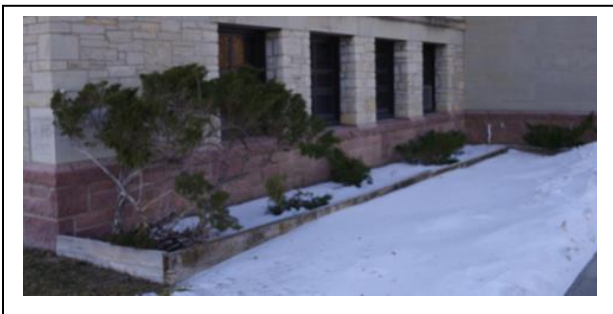
We cannot thank WYNPS enough for offering the Markow Scholarship/Small Grant, and for granting our application. It took us two years until we completed the educational portion of the grant requirements. We have only received the most positive comments from grant stakeholders, courthouse employees, and the general public. We are encouraged that people in our community are interested in adding native plants to their gardens and, in some cases, replacing their lawns with native plants and grasses. The seed WYNPS planted is indeed flourishing in Hot Springs County!

(Editor’s note: The Red Dirt Master Gardeners were one of two 2022 Markow Scholarship/Grant award recipients.)

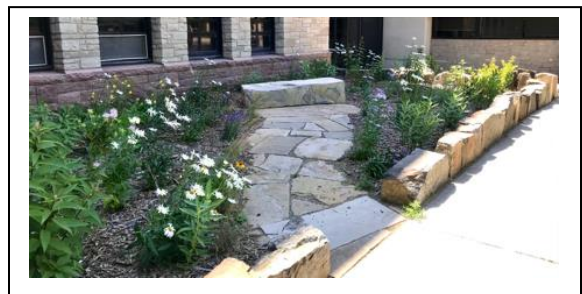
BEFORE

AFTER

EAST Garden



WEST Garden



Wind turbines, cont. from p. 1

Turbines produce sounds from high to very low frequencies that can persist for many kilometers (Zajamšek et al. 2016). Sounds at frequencies below the threshold of human hearing, known as infrasound, can influence wildlife and plant life. Infrasound from turbines may have negative effects on vertebrates, such as badgers (Agnew et al. 2016), and invertebrates, such as earthworms (Velilla et al. 2021). Infrasound also affects pollination of native plants by inducing self-pollination in some species (Crawford et al. in review). Our study sought to determine if infrasound and other abiotic conditions affected by turbines changed the behavior of insect pollinators.

To determine if turbines affected insect pollinator behavior, we recorded videos of insects interacting with native flowering plants at six sites in southeastern Wyoming between May and July of 2022. The six sites were chosen to represent a gradient of potential influence by infrasound based on their distance from wind turbines. One site was an operational wind energy facility. Four other sites were ~4-13 km away from the nearest turbines. Finally, a reference site was located 28.5 km from the nearest turbine to minimize long-range downwind effects. Flowering plants observed and recorded at these sites included thistles and the genera *Erysimum*, *Mertensia*, *Pediocactus*, *Sphaeralcea*, *Opuntia*, *Senecio*, *Cleome*, *Crepis*, *Antennaria*, *Phlox* and *Thermopsis*. We used a GoPro camera to record insects interacting with randomly selected blooming plants at each site for 3 to 6 hours at a time during fair-weather days (Figure 1). During recording, wind speed and air temperature were measured.

We collected, watched, and analyzed 45 hours of footage. We recorded 472 instances of insects interacting with plants in our footage. Most of the insect visitors were bees, ants, and wasps (64%). Butterflies, flies, and beetles were also observed but were less abundant. We found that insects tended to interact with blooms for longer periods of time when located closer to turbines (Figure 2). We also found that specific behaviors, such as insects and blooming plants decreased as the distance from turbines decreased. Insects spent longer interacting with blooms when closer to turbines. Specifically, insects were more likely to crawl into flowers and drink



Figure 1. A GoPro camera mounted to a tripod. The camera is pointed at a flowering thistle plant. A hat has been placed over the camera to protect it from the sun.

nectar when they were closer to turbines. Insects were more likely to rest on plants when they were farther from turbines (Figure 3).

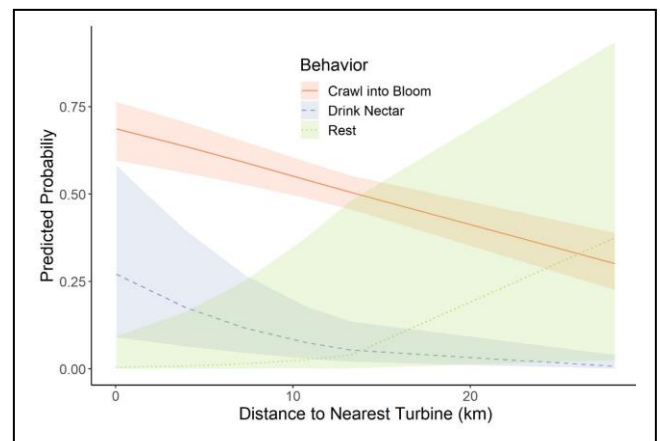


Figure 2. The duration of interactions between as crawling into blooms, drinking nectar, and resting were influenced by the proximity to turbines.

Insect pollinators showed altered behavior when closer to wind turbines. It is hard to know if these differences in behavior are due to differences in infrasound as we were not able to measure sound at our study sites. Because only some of our sites were downwind from turbines, however, we do not believe the differences were purely due to wake effects. Our data show that air temperature and wind speed also significantly affected how long insects interacted with

blooms and the prevalence of specific behaviors. Turbines influence wind speeds and air temperature within and downwind of wind energy facilities (Miller and Kleidon 2016, Moravec et al. 2018). Therefore, it is likely that changes in pollinator behavior are the result of multiple abiotic stimuli (i.e., infrasound, wind, temperature) being altered simultaneously by turbines. Our results show that some species of plants and their pollinators are influenced by proximity to wind turbines. This could have a substantial impact on plant-pollinator interactions.

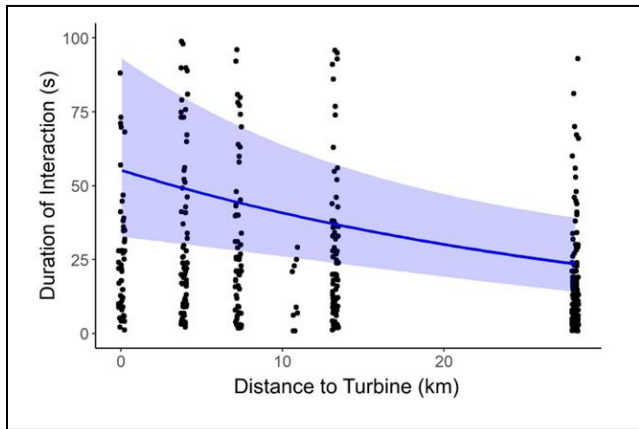


Figure 3. The probability of individual behaviors changed as distance to turbine increased. Insects were more likely to crawl into blooms and drink nectar when closer to turbines. Insects were less likely to rest on plants when closer to turbines.

Previous studies showed that *Opuntia* had increased rates of self-pollination near turbines, likely due to infrasound vibrations (Crawford et al. in review). Plants that rely on self-pollination due to insufficient animal pollination may reduce their nectar supply, flower size, and corolla length, hampering future pollination by insects and reducing floral rewards (Acoca-Pidolle et al. 2023). Furthermore, insect behavior on blooms, such as flower-handling time, may influence the reproductive success of plants (Russo et al. 2017).

Our study highlights the need for continued investigation of plant-pollinator interactions at and around wind energy facilities. Understanding how these relationships may be altered due to human-made changes to the landscape may be important for managing lands to conserve and protect native plant and insect species. Effects on pollinator behavior could be especially important in agricultural land sited near turbines that produce crops reliant on insect

pollination. The Tronstad lab plans to continue investigating turbine effects on insects including the impacts of sound and vibration at wind energy facilities. We thank the Wyoming Native Plant Society for their generous support of this project through the Markow Scholarship award.

(Editor's note: Michelle Weschler was one of two 2022 Markow Scholarship/Small Grant award recipients.)

References

- Acoca-Pidolle, S., P. Gauthier, L. Devresse, A. Deverge Merdrignac, V. Pons, and P. O. Cheptou. 2023. Ongoing convergent evolution of a selfing syndrome threatens plant-pollinator interactions. *New Phytol.*
- Agnew, R. C. N., V. J. Smith, and R. C. Fowkes. 2016. Wind turbines cause chronic stress in badgers (*Meles meles*) in Great Britain. *Journal of Wildlife Diseases* 52:459-467.
- Crawford, M. S., L. Thelen-Wade, D. Dority, A. Lester, M. Weschler, M. E. Dillon, L. M. Tronstad. in review. Turbines may induce self-pollination in plants via wind farm noise. *Nordic Journal of Botany.*
- Hoen, B. D., Diffendorfer, J.E., Rand, J.T., Kramer, L.A., Garrity, C.P., and Hunt, H.E. 2018. United States Wind Turbine Database v6.1 (November 28, 2023). U.S. Geological Survey, American Clean Power Association, and Lawrence Berkeley National Laboratory.
- Miller, L. M., and A. Kleidon. 2016. Wind speed reductions by large-scale wind turbine deployments lower turbine efficiencies and generation limits. *PNAS* 113:13570-13575.
- Moravec, D., V. Barták, V. Puš, and J. Wild. 2018. Wind turbine impact on near-ground air temperature. *Renewable Energy* 123:627-633.
- Russo, L., M. G. Park, E. J. Blitzer, and B. N. Danforth. 2017. Flower handling behavior and abundance determine the relative contribution of pollinators to seed set in apple orchards. *Agriculture, Ecosystems & Envir.* 246:102-108.
- Saidur, R., N. A. Rahim, M. R. Islam, and K. H. Solangi. 2011. Environmental impact of wind energy. *Renewable and sustainable energy reviews* 15:2423-2430.
- Schuster, E., L. Bulling, and J. Koppel. 2015. Consolidating the State of Knowledge: A Synoptical Review of Wind Energy's Wildlife Effects. *Environ Manage* 56:300-331.
- Velilla, E., E. Collinson, L. Bellato, M. P. Berg, and W. Halfwerk. 2021. Vibrational noise from wind turbines negatively impacts earthworm abundance. *Oikos* 130:844-849.
- Wiser, R., M. Bolinger, B. Hoen, D. Millstein, J. Rand, G. Barbose, N. Darghouth, W. Gorman, S. Jeong, E. O'Shaughnessy, and B. Paulos. 2023. *Land-Based Wind Market Report: 2023, US.*
- Zajamšek, B., K. L. Hansen, C. J. Doolan, and C. H. Hansen. 2016. Characterization of wind farm infrasound and low-frequency noise. *Journal of Sound and Vibration* 370:176-190.

Ethnobotany - Part 9. ***Chenopodium* species:**
Lambsquarter, Goosefoot, Pigweed
By Meredith Taylor, Certified Wyoming Naturalist



Chenopodium berlandieri by Ben Legler
(<https://www.wyndd.org/gallery/>)

Chenopodium is a large and diverse genus comprised of about 250 annual species found throughout the world. Wyoming is home to 14 species. *Chenopodium* is a member of the goosefoot subfamily (Chenopodioideae) of Amaranthaceae.

Chenopodium berlandieri (netseed lambsquarter, pitseed goosefoot), is a native species that has been used as an important food source by many cultures in North and Central America as both the leaf and seed. It was one of the first plants to be domesticated in North America, dating back to the establishment of the Eastern Agricultural Complex by 1800 BCE. It is now generally considered a weed of domesticated landscapes, and it is host to the vector of curly top virus of sugarbeets.

This ubiquitous erect plant can grow quickly up to 2 m. The flat petiolate leaves are goosefoot-shaped, 30-50 mm. Inflorescences produce abundant small, inconspicuous, petal-less flowers that are wind-pollinated. Seeds are produced in large numbers in the summer.

Lambsquarter is used as a salad staple. The healthy spring leaves are high in vitamins A and C.

Called quelites in South and Central America, it is eaten at religious meals such as Lent and Easter. The “wild spinach” leaves are used raw as salad or as a rich ingredient added to beans and other culinary dishes for flavor and to reduce gas. The leaves can also be eaten alone as a potherb similar to spinach. This author uses lambsquarter leaves to make pesto and Pico de Gallo salsa.

The seeds are gathered when ripe and dried to grind into a flour to make Navajo flat bread or boiled in water as porridge. Soaking the seeds will help remove the black seed coat and, more important, leach out the bitter-tasting saponins that are mildly toxic. Like its relative quinoa (*Chenopodium quinoa*), lambsquarter seeds can be used as a gluten-free alternative to wheat.

Chenopodium spp. are used medicinally as an anthelmintic anti-diarrheal, an anti-inflammatory for muscle and joint pain, headache, fever, and as a blood cleanser.

Be wary of collecting this goosefoot species – *and wild plants in general* – from any disturbed areas that might be treated with herbicides.

This article is for educational purposes and does not condone collecting of plants that readers can't identify with certainty. The ethics of wild plant collecting is to tread softly through the plant's habitat and only pick the occasional leaf or flower to protect plant sustainability.

References:

- Anonymous. Eastern Agricultural Complex. https://en.wikipedia.org/wiki/Eastern_Agricultural_Complex. Downloaded Feb. 24, 2024.
- Elliott, B.A. 2009. Handbook of Edible and Poisonous Plants of Western North America. Elliott Environmental Consulting LLC, Laramie, WY.
- Kerhshaw, L. 2000. Edible and Medicinal Plants of the Rockies, Lone Pine Press.
- Moerman, D. 1998. Native American Ethnobotany. Timber Press, Portland, OR.
- Nelson, B.E. and B. Legler. 2023. Checklist of the Wyoming Flora. Rocky Mountain Herbarium. Posted at: https://rockymountainherbarium.org/application/files/9816/8245/0749/Checklist_of_Wyoming_Flora_2023.pdf
- Whitson, T.D., et al. 2012. Weeds of the West, 11th Ed. University of Wyoming, Laramie, WY.

Check directly with the agency about their policy if you want to harvest native plants on public land.

One Less Weed in Wyoming?

Yellow flag (*Iris pseudacorus*) – a Garden Plant that Tried to Go Rogue

Fishing folks spin tales of the “giant fish” that got away, adding to the allure of fishing. Botanists and our Weed & Pest colleagues can also boast of invasive plants that “got away” and never made it onto the roster of local floras or the Wyoming flora. These are boasting rights re. species that were deliberately eradicated, not leaving Wyoming of their free will.

This story started from a data-sharing project between Wyoming Weed and Pest Council and Wyoming Natural Diversity Database (WYNDD). Intrepid data managers at WYNDD created a filter to cross-check weed records against the known flora (Nelson and Legler 2023). A red flag, or actually a yellow one, went up when records of “*Iris pseudacorus*” (Yellow flag; also called Yellow iris or Paleyellow iris)(Figure 1) appeared in in Teton County though not previously known in the state.

Questions about Yellow flag were sent to the Teton County Weed & Pest (TCWP) office. They responded with the story of a “garden plant going rogue” spreading into the wild. The landowner who planted it called in to report to TCWP that it had spread where it was not wanted. In fact, *I. pseudacorus* has spread widely in the United States and is on the noxious weed lists of 25 states – it was added to the noxious weed list of New York State in 1882! It is known from four of the six states adjoining Wyoming (USDA, NRCS 2024). It is native to Europe, western Asia and northwest Africa. *It may be the basis for the traditional Fleur-de-lis coat of arms in France!*

How can such a pretty flower pose a threat? In the United States, this species can form monocultures to outcompete natives, particularly where there is standing water, flowing water, or a shallow water table. It can impact the hydrology and other habitat conditions where it invades.

The three key strategies for successful weed control are:

- Prevention
- Early Detection
- Rapid Response

The landowner unknowingly brought Yellow flag into his or her garden, so there was no preventing it from coming into Wyoming. Fortunately, the landowner

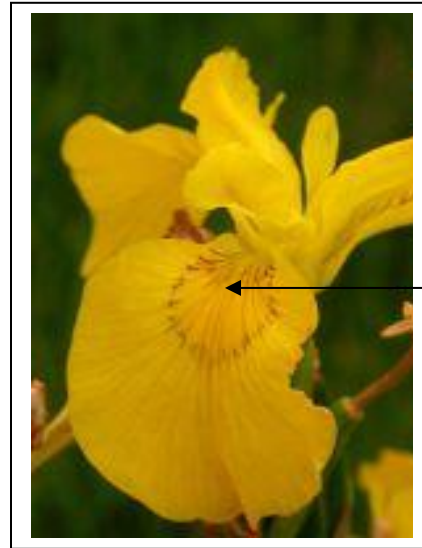


Figure 1. *Iris pseudacorus* by Ben Legler (<https://www.burkeherbarium.org/imagecollection>). Note that there are NO hairs (“beard”) on the sepals.

contacted TCWP when it spread and promptly removed it from the garden. TCWP rapidly responded, familiar with its out-of-state reputation, and started to treat it before it became a countywide problem.

Teton County residents and the rest of us in Wyoming can all appreciate TCWP vigilance controlling this invasive garden plant that has not made it onto the official roster of the Wyoming flora. Vestiges of Yellow flag persist at the original Teton County locations but have not produced a flower for at least the past few years. With continued control effort, it should disappear soon with no traces.

Rocky Mountain Herbarium (RM) is regarded as authority on the Wyoming flora, requiring a voucher specimen as necessary documentation. Mark Daluge (Assistant Supervisor, TCWP) sent photos and annual control info to go with the mapping, so there was consistent evidence without official documentation.

This raises a related question: How can a person distinguish Yellow flag in the wild, or in the retail market, from other irises? The common iris that grows across Wyoming is Rocky Mountain iris (*Iris missouriensis*) and it has a consistent purple color among distinguishing traits. There are many cultivated varieties of the popular garden plant, German iris (*Iris germanica*) sold under many different cultivated variety names comprising the bulk of horticultural iris trade. Most cultivated varieties are purple, but a few are yellow. The German iris has a distinct “beard” on the three down-curved sepals but *I. pseudacorus* is beardless. Note:

There are a couple roadside settings where *I. germanica* has escaped in the wild and was collected in the state. But it does not have the same invasiveness or propensity to take over wet habitat.

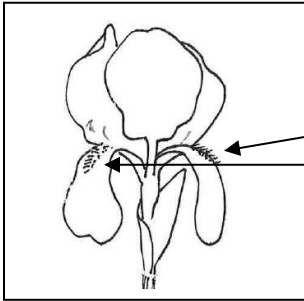


Figure 2. Look for a “beard” on irises sold commercially as trait of a safe (non-invasive) iris

Yellow flag can spread from gardens by seeds or by any fragment of rhizomes. If you see a yellow iris in the wild, please contact your nearest Weed & Pest office. This is also reason to beware of “beardless” yellow irises that are sold in retail. Some states have produced landowner

warnings about Yellow flag invasiveness (https://www.wisconsinwetlands.org/updates/yellow_flag_iris/).

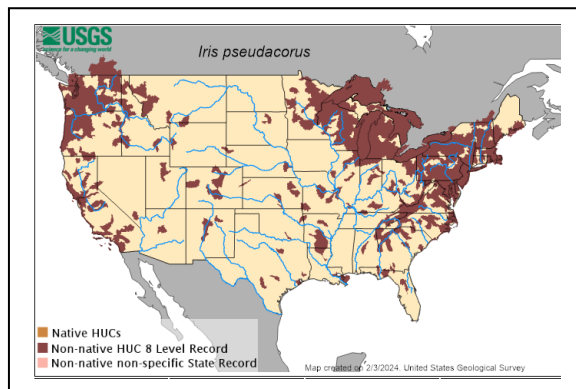
The jury is still out whether Yellow flag is growing elsewhere in Wyoming. U.S. Geological Survey indicates that it may have already become established in the Snake River watershed of the state, and is in the Niobrara and Shoshone watersheds near the state line if not in Wyoming (Figure 2). bh

References

Nelson, B.E. and B. Legler. 2023. Checklist of the Wyoming Flora. Posted at: https://rockymountainherbarium.org/application/files/9816/8245/0749/Checklist_of_Wyoming_Flora_2023.pdf

USDA, NRCS. 2024. The PLANTS Database (<http://plants.usda.gov>, 02/28/2024). National Plant Data Team, Greensboro, NC USA.

USDI, Geological Survey. 2024. Nonindigenous Aquatic Species – *Iris pseudoacorus* Fact Sheet. Posted at: <https://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=1115>



Virginia Native Plant Society recently launched a national petition to Home Depot to discontinue sales of Yellow flag and 22 other plants that are on the noxious weed lists of multiple states. Here’s the research behind the petition: <https://www.change.org/p/stop-home-depot-from-selling-invasive-plants>

Figure 3. Distribution of *Iris pseudoacorus* in the United States by Hydrological Units. (USDI Geological Survey 2024)

DO YOU HAVE SKILLS?

The Wyoming Native Plant Society relies on the generosity of its members to organize events, serve on the Board, support scholarships, and keep you updated through the newsletter, website and social media. Without donations of time, energy and dollars, we would not be able function!

Please consider donating your skills! WYNPS is currently in need of a WEBMASTER and a NEWSLETTER EDITOR. Descriptions of these positions are given below.

If you would like to serve on the Board in 2025, help with social media, event planning or any other activity, please let the Board know. This is YOUR SOCIETY.

WANTED: WEBMASTER

Job skills: Tech-savy member with an eye for layout! Maintains our website and updates content (announcements and postings), requiring familiarity with WordPress and coordination with Board and Editor. Involves quarterly updates and a couple event-centered updates, most postings taking an hour.

WANTED: EDITOR

Job skills: Communication-inclined member with broad interests! Produces four newsletter issues a year, requiring writing, networking, layout skills, and coordination with Board and Webmaster; potentially involved in the printing and mailing process. Most issues take 1-2 days.

Reminder:

GROWING NATIVES

Are you thinking about growing native plants this year? You will have the greatest success if you choose ones that are native to your geographic region and suited to your garden conditions.

Robert Dorn, preeminent Wyoming botanist, published 40 articles in *Castilleja*, from 2011 to 2022, bringing attention to more than 200 Wyoming plants that should be considered for Wyoming gardens.

Our homepage (www.wynps.org) has a searchable spreadsheet with links to all original information! Go to "Resources/Gardening with Natives" to get the spreadsheet. Just search the columns of Common Name or Scientific Name to track down the plant you are considering, or else the "Theme" column for categories of interest - Annual Forbs, Perennial Forbs (short, medium, tall; also organized dry and mesic), Trees (deciduous, evergreen), Short shrubs for flowers or for ground cover, Medium shrubs for flowers or for foliage, and Tall shrubs, plus Ferns and fern allies.

WYOMING NATIVE PLANT SOCIETY MEMBERSHIP FORM	
Date _____	
Name _____	
Address _____	
Email _____	
Please check all appropriate boxes:	
<input type="checkbox"/> New member	
<input type="checkbox"/> Renewing member	
<input type="checkbox"/> Check here if this an address change	
<input type="checkbox"/> Annual membership with email notification of newsletters: \$10	
<input type="checkbox"/> Annual membership with mailed newsletters: \$12	
<input type="checkbox"/> Annual membership with scholarship support and email notification of newsletters: \$20	
<input type="checkbox"/> Annual membership with scholarship support and mailed newsletters: \$22	
<input type="checkbox"/> Life membership with email notification of newsletters: \$300	
<input type="checkbox"/> Life membership with mailed newsletters: \$300	
In addition to the statewide organization, we have two chapters. Membership in chapters is optional; chapter members must also be members of the statewide organization.	
<input type="checkbox"/> Teton Plants Chapter annual membership: \$5	
<input type="checkbox"/> Sublette Chapter annual membership: \$5	
<input type="checkbox"/> Additional donation of \$ _____	
Total enclosed: _____	
Please write checks to Wyoming Native Plant Society	

Wyoming Native Plant Society P.O. Box 2449 Laramie, WY 82073
--