



## Palouse Prairie Foundation

Promoting preservation and restoration of the Palouse Prairie ecosystem

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Moscow, ID 83843



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# Palouse Prairie Flyer

## Newsletter of the Palouse Prairie Foundation Spring 2022

### Spring Has Sprung



Prairie smoke blooming at John Crock Pollinator Garden (photo by Elisabeth Brackney)

The starts planted last fall are already blooming with lots more to come. Read the latest on the John Crock Pollinator Garden restoration.

Here's what's included in this edition of your newsletter:

- [What's Happening at the John Crock Pollinator Garden](#)
- [Controlling Houndstongue](#)
- [Weedy Annual Grasses](#)
- [Dogwood Creek Palouse Native Plant Farm](#)

# What's Happening at the John Crock Pollinator Garden

By Elisabeth Brackney



Ventenata (photo by Elisabeth Brackney)



Native forb plantings, October 2021 (photo by David Hall)

A lot has happened at the John Crock Pollinator Garden since the last report in the newsletter for Summer and Fall 2021. This Palouse Prairie restoration site is located along the Latah Trail on the east edge of Moscow, just west of Lenville Road.

After seeding native grasses in the fall of 2019 and planting some shrubs along the south edge in 2020, we continually battled invasive weeds throughout 2020 and 2021 by pulling, digging, and mowing. We had a lawn service mow the field again last August and September to remove prickly lettuce and the invasive grass ventenata.

I finally resorted to spraying individual persistent weeds such as teasel and mullein with a 2,4-D herbicide as well as brushing them with a homemade, vinegar-based weed killer. In late November, I sprayed the ventenata, which was starting to sprout all along the north and south perimeter, with the recommended herbicide Esplanade.

By fall, we felt it was time to get some native forbs established. We decided to focus our efforts on the west half of the site, which has fewer weeds, while continuing to eradicate invasive plants in the east half.

We had a lot of help from Jacie Jensen of Thorn Creek Native Seed Farm. She very generously allowed us to harvest some surplus plants at their native seed plots on Paradise Ridge. I was able to dig up 226 small plants of 12 different species, mostly Oregon sunshine, prairie smoke, and goldenrod, as well as some showy milkweed, Lewis's flax, taperleaf penstemon, slender cinquefoil, bigflower agoseris, blanket flower, northern bedstraw, yarrow, and western aster. With the help of a couple of volunteers, these forbs were planted in open spots in the west half of the Crock site on October 28–31 and marked with orange flags.

Jacie also donated over 3 lbs of seed of 22 forb species to the project. Most of these seeds were Wyeth buckwheat, Oregon sunshine, and Lewis flax, followed by little sunflower, tall cinquefoil, nineleaf lomatium, and taperleaf penstemon. With the help of David Herbold the bulk of the seeds were mixed with soil and spread on any bare spots at the Crock site last November. I also planted some seeds of each of those species in about 200 tubes that I kept in my yard over the winter. Some have sprouted and will be kept growing in the tubes until they are ready to be planted in the fall or next spring.



Sowing forb seed at Crock (photo by David Hall)



Camas blooming spring 2022 (photo by Elisabeth Brackney)

In mid-February I purchased three pounds each of four species of native grass seed (Idaho fescue, bluebunch wheatgrass, mountain brome, and blue wildrye). I spread it over the east half of the site, where the grass we seeded in 2019 had come up sparser than in the west half. The thinner grass cover may have been the reason why the east half has been a lot weedier.

I checked on the flagged plantings periodically throughout the spring to see whether they had survived the winter. The most recent count was 111 live native plants. Prairie smoke had the highest survival rate of 86%, as these had been larger, more established plants when they were planted last fall. Some of them are already blooming! [See photo on first page] Goldenrod survival rate was 74%. Oregon sunshine did not do as well (23% survival), because most of them had been tiny seedlings when I dug them up. The other species have come up in varying numbers, but I haven't seen any of the few milkweed or aster we planted, as they tend to appear much later.

It is probably too early to check which of the native seeds have sprouted. The patch of camas that we planted several years ago bloomed nicely. However, I haven't detected any signs of leaf-out on the shrubs along the ephemeral stream on the south edge. We stuck 24 red-osier dogwood cuttings in the wet ground along the ephemeral stream on May 17 in hopes of getting them established.

Though it is exciting and encouraging to see all those new native forbs getting established, the battle with invasive weeds continues. I just learned last fall that the grass on the bank next to the bike trail is the very invasive tall oatgrass. I contacted Andy Grant of Latah Parks and Recreation to get his crew to help eradicate it. He also offered to let us dig up any stray camas plants in the neighboring park he manages, to transplant to the Crock site.

Unfortunately, the ventenata came back in full force this spring. There were lots of dandelions blooming, mullein and Canada thistle are still present, and a new crop of corn gromwell is popping up on the bank along the bike trail. I'm sure salsify and prickly lettuce will also soon make their appearance.

On May 26, nine volunteers and four board members planted 82 forbs left over from the Idaho Native Plant Society's plant sale and about a dozen arrowleaf balsamroot seedlings donated by Debbie Kadlec. We also dug several large bags of weeds, planted some more red-osier dogwood cuttings, and cut down some of the meadow foxtail that sprung up all over the wetter areas after our cool and wet spring.

We had another workday on May 31, attended by three volunteers and four board members. I was surprised to see that Latah Parks and Recreation had mowed the east half of the Crock site and the lower embankment to the trail, which will help control newly emerged weeds. We transplanted a few flowering camas from the adjacent park, but the heavy, wet clay soil was so hard to dig that we decided to hold off until after the camas had gone to seed. We did some weeding, but the biggest accomplishment was the elimination of all remaining meadow foxtail, thanks to Tom Besser and his weed-whacker.

We will organize more weeding parties in the coming months. We will send out notifications with the dates of these events. Let's all work together to turn a long neglected weedy field into a vibrant native prairie to benefit pollinators and to be enjoyed by all who pass by on the bike trail!

# Controlling Houndstongue (*Cynoglossum officinale*)

By Ronnie Hatley

Houndstongue is an aggressive, invasive, noxious and annoying weed. Its burr-like seeds stick to everything—your clothing, animals' fur, even equipment and vehicles. You've likely brought burrs home, after you've been out walking! Native to Eurasia, houndstongue has spread to most temperate regions of the world, especially in disturbed areas such as roadsides, pastures, trails and open woodlands. It out-competes most native forbs, and some grasses. And it is poisonous to humans and livestock. Inhibiting liver and lung cell reproduction, it can be fatal to livestock that ingest it. First-year rosettes are now leafing out along every deer trail on the Palouse.



Houndstongue rosette (photo by Shelley Chambers-Fox)



Houndstongue bloom with last year's seeds behind it (photo by Shelley Chambers-Fox)

Its oblong leaves feel furry like a dog's tongue, hence the name. The plant blossoms in the second year, and in moister conditions for several years. Its seeds overwinter on the stalk to hitch a ride for several seasons. It is essential to prevent houndstongue reseeding. Cutting off and disposing of seeds and flowers helps reduce spread, but regrowth is likely. To eliminate plants, it is necessary to pull or dig out their long, robust taproots. First year rosettes can be more easily pulled by grasping the root just below the crown, but larger plants may require digging with a garden trowel or shovel. If you cut off the root less than an inch down from the crown of the root leaving the remaining root in the ground, it will likely regrow. On a wildflower walk in early June of last year, Judy Ferguson and friends pulled out armloads of flowering plants. The results of their work is clearly noticeable this spring! Spraying with 2,4-D (and other herbicides) can kill first year plants, but it is not as effective for older plants, and may kill neighboring plants as well. Controlling houndstongue will require continued vigilance and re-weeding, as long as there are deer and hikers!

## References

1. [http://www.msuinvasiveplants.org/documents/mt\\_noxious\\_weeds/Houndstongue\\_MT199709AG.pdf#:~](http://www.msuinvasiveplants.org/documents/mt_noxious_weeds/Houndstongue_MT199709AG.pdf#:~) Accessed 5/8/22.

## Weedy Annual Grasses in the Palouse Prairie

By Tom Besser

Weedy annual grasses, including cheatgrass or downy brome (*Bromus tectorum*), ventenata or wiregrass (*Ventenata dubia*), rattail fescue (*Vulpia myuros*), medusahead (*Taeniatherum caput-medusae*) and several others, can adversely affect Palouse Prairie ecosystems. These annual grasses complete their life cycle (germination, growth, and reproduction) in a single growing season, relying on seed generation to produce new generations in subsequent years.

Many non-native weedy annual grasses are invasive and able to out-compete native grasses and forbs through a variety of mechanisms: they may directly injure other (native plant) species, they may simply use moisture or other resources that could otherwise be used by natives, and they can produce dense thatch that can block germination of other species. They may adversely change the wildfire regime by providing dry fine fuels relatively early in the growing season, and many are able to rapidly expand their populations after a fire. Most have growth stages that are poorly palatable to wild or domestic herbivores, and some also produce florets or awns that are directly injurious to herbivores.

Problems with invasive weedy grasses may be subtle at first but become more obvious when they produce dense uniform stands. It's a good idea to learn to identify these species to differentiate them from native annual grasses and to detect problems before they become serious. A grass can generally be identified as an annual by grabbing a handful and trying to uproot it. If it uproots easily, it's probably an annual grass, which have fine, short, easily broken roots. If it's tough to pull, or breaks in half instead of uprooting, it's probably not an annual grass. Next, it's important to identify the species, to differentiate weedy invasive grasses from native annual grasses. The different species of annual grasses, both those above and others, can be identified using the general traits (growth habit, inflorescence type, and morphology of blades, ligules, auricles, and florets, etc.) by which grasses are identified; an excellent resource for grass identification is "A Field Guide to Grasses and Grass-like Plants of Idaho" by Trujillo and Strand, and its companion app. There are also very helpful video resources on the web; for example, "[Identifying Annual Grasses in Montana](#)." Once you've learned them, mature stands of the species mentioned above may be identified by their distinct general appearance, as illustrated here:



Cheatgrass



Ventenata dubia



Rattail Fescue



Medusahead

Control of weedy annual grasses is a considerable challenge, especially if the areas impacted are large and if the grasses are growing among valued native plants. Mechanical approaches attempt to reduce seed production. Because most annual grass seeds remain viable in the soil for relatively short times (1–3 years), preventing replenishment of the seedbank can reduce populations within a few years. Mechanical control can be attempted by repeated manual pulling, by close mowing before seeds develop, or by mowing and bagging stands with mature seeds. Cultural control may be attempted by intensively

grazing sheep or other livestock to reduce stands. Grazing is more effective against early growth, as many species become less palatable with maturity. It may be necessary to stock heavily and use fencing to restrict animal movements for grazing intensity to sufficiently reduce the stands. Tillage can also effectively control annual grasses, for example by use of moldboard plows to bury the grasses and their seedbank several inches below the surface, which prevents their emergence. Of course, both grazing and tillage may also damage native plants in affected areas. Biological controls could be very useful for annual grass control, but there are few available options at present. Hopefully, the ongoing research into biocontrol of annual grasses will lead to new and better options in the future. Chemical controls/herbicides can also provide control of annual grasses and, in the case of some pre-emergent herbicides, while sparing the co-existing perennial flora. Consultation with a professional such as the local university extension agent or agronomy specialist is important for those considering herbicide approaches, due to the complexity of product choices, additives, timing, application rates, target selectivity, and the potential for applicator exposure to toxic compounds. Finally, keep in mind that even if your attempt to control your annual grass problem is quite successful, success may be short-lived unless you can develop a strong competitive perennial flora to prevent their re-establishment.

### References

1. For more detailed information about these grasses and their control, consult: DiTomaso, J. M., G. B. Kyser, et al., 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California.
2. Mangold, J. Identifying Invasive Annual Grasses in Montana, [https://www.youtube.com/watch?v=if2wKRfdWYY&list=PLAIk00shMfC6yu4LinNhq8OZCm107H\\_](https://www.youtube.com/watch?v=if2wKRfdWYY&list=PLAIk00shMfC6yu4LinNhq8OZCm107H_), accessed 6/6/22.
3. “Medusahead” by Oregon State University and “Ventenata dubia” by Matt Lavin are licensed under CC BY-SA 2.0. “Dried cheatgrass” by Jennifer Strickland, US Fish and Wildlife Service and “Vulpia myuros plant3” by Harry Rose are licensed under CC BY 2.0.

## Dogwood Creek Palouse Native Plant Farm

By Ronnie Hatley



Dogwood Creek Farm as glimpsed from the Magic Prairie in the circle of pines of the fields below along Union Flat Creek, with the Pine Forest Wilderness on the canyon wall, and the wheat fields on the southwest hilltop (photo by Ronnie Hatley)

I am transforming 102 acres of our family farm in middle Union Flat Creek canyon south of Colfax into a Palouse native plant nursery, a preserve, and a prairie restoration and research farm. Since April 2021 I've been walking almost every day on the prairie and forested hillsides, surveying and learning the habits of native plants and invasive weeds. Dozens of visitors have walked on the deer trails to smile at the wildflowers and gape at the magical views. Several researchers have conducted studies and contributed

ideas planning for restoration. This year's work will focus on weeding and on inventorying and replanting of Palouse native plants. Come visit, walk among the wildflowers, join in the revival.

Dogwood Creek Farm has several differing environments, each inviting restoration and care:

- A Palouse bunchgrass and wildflower prairie (32 acres) on the drier southwest-facing hillside of Union Flat Creek canyon and up Dogwood Creek draw
- A Ponderosa pine forest wilderness (20 acres) on the steeper, moister northeast-facing canyon wall
- Farmed fields on the flats and benches (25 acres) and on the southwestern hilltop (19 acres)
- Union Flat Creek, Dogwood Creek, 3 small waterways, and 11 springs and seeps
- Roadsides, home site and garden (6 acres) invite care and restoration

**Palouse Wildflower Prairie Preserve, Restoration and Park** The farm's 32-acre Palouse prairie hosts dozens of species of native Palouse wildflowers, four native grasses, and several shrubs and trees. Bluebunch wheatgrass, Idaho fescue, arrowleaf balsamroot, little sunflower, and large patches of Oregon grape and snowberry are the most prominent on the prairie. Red-osier dogwood shrubs, plus occasional Woods' rose, chokecherry, black elderberry, and quaking aspen also thrive in the moist, shady refuges of Ponderosa pine and black hawthorn on up the hillsides of Dogwood Creek canyon, and along the hillside above the road. On a four-hour walk in June 2007, Dave Skinner identified 45 species of native wildflowers, grasses, and shrubs on the two-acre Magic Prairie on the west-facing slope of Dogwood Creek canyon. Twenty more natives have been identified including three small patches of endangered Palouse thistle. While most of the prairie hosts invasive species, the resilience of the native plants is remarkable. Preserving and restoring the farm's prairies, and enjoying them as a park, provides a site for myriad walks, field trips, and research and restoration projects for all enthusiasts and students of native Palouse prairie.

**Waterkeeping** Union Flat Creek, Dogwood Creek and three smaller creeks, plus 11 springs and seeps, all need care. (Union Flat Creek is noted by early army surveyors as Smokle Creek, perhaps referring to a Palus peoples' term *smakodl*, meaning creek). The Palouse is notorious for soil loss and water quality degradation through erosion since agriculture began in the 1870s. (My ancestors have been farming upstream on Union Flat near Ewartsville since 1877.) The arrival of reed canary grass more than three decades ago has alleviated some bank erosion in larger streams and eliminated streamside weeds. But it also has eliminated all other riparian vegetation and has clogged smaller waterways, causing flooding. A proposal has been submitted for a waterway and wetland restoration project involving tree plantings and constructing water control structures and "beaver dam analogs" to cool and slow the water and check erosion along Union Flat Creek, as well as lower Dogwood Creek. The rehabilitation of lower Dogwood Creek is discussed below.

**Pine Forest Wilderness Sanctuary** Ponderosa pine, black hawthorn, oceanspray, ninebark, aspen, chokecherry, elderberry, nettles, cow parsley, glacier lily, shooting star and coneflower thrive on the moister northwest facing canyon wall above Union Flat Creek. Isolated across the creek, never logged and only pastured long ago, restoration of the 20-acre forest primarily needs weeding of Canada thistle, poison hemlock and other invasives.

**Palouse Native Plants Nursery** Rooting dogwood, chokecherry and serviceberry starts and planting wildflower seed plots are my first efforts in developing a nursery for propagating Palouse native plants and seeds growing on the farm. I anticipate that Palouse native seed crops such as bluebunch wheatgrass and Idaho fescue, and perhaps native wildflowers as well, will be planted and harvested in the fields on the flats. The western hilltop field could still grow wheat, using best farming practices, to pay the taxes!

**Learning Center / Fieldwork Classroom / Research Station** In the spring of 2021 students in Mary Engels' University of Idaho Ecological Restoration Planning and Management class completed design proposals to reduce erosion and revegetate the banks of Union Flat Creek and lower Dogwood Creek. Mary plans to bring out students for field study projects again in the spring of 2023. Tom Lamar of the Palouse-

Clearwater Environmental Institute came out in mid-December 2021 to consider the possibilities for native plant restoration work at my farm. When he arrived, he exclaimed, "It always feels so magical here!" hence the name "Magic Prairie". He is keen to help and offered several new ideas. Anna Hawes and her advisor Steve Cook of the University of Idaho Entomology Department are visiting weekly this flowering season and next to study which pollinators collect pollen from which wildflowers. Cailin O'Malley and Randy Stevens of the Palouse Conservation District have just collected soil samples to study the soil quality of the Gwin-Linville layer of the lower half of the hillside prairie. Beginning in June I will be monitoring the water quality in Union Flat Creek and Dogwood Creek as part of the Palouse Conservation District's Confluence Crew water monitoring program. I'm hoping to attract more researchers and students from Washington State University, University of Idaho, as well as others learning about Palouse native habitat, to utilize Dogwood Creek Farm as a study site.

**2022 Work Plans** In 2022 restoration work will concentrate on weeding: to remove houndstongue, poison hemlock, Canada thistle, teasel, mullein, sweetbriar rose, and bryony from the seven-acre Dogwood Creek canyon part of the farm's Palouse Prairie Preserve; and to control reed canary grass (RCG) along Dogwood Creek below the road. In a June 2021 walk on the Magic Prairie, Judy Ferguson and friends from the Idaho Native Plant Society pulled armloads of flowering houndstongue, introducing Weeding-While-Walking. I now follow this practice and encourage others to do the same while walking on Palouse prairies! Also last year I cut off all the premature seed heads of RCG all along Dogwood Creek. This has meant less spread of RCG this year. Following advice of NRCS, WSU, UC Davis, WA Noxious Weed Control Board weed management guides, as well as several people experienced with controlling RCG, and using tools provided by the White Pine chapter of the Idaho Native Plant Society, I am burning, cutting, covering, cultivating, and spraying to control the RCG in the third-of-an-acre waterway. This will facilitate the replanting of the creek sides with on-farm Palouse vegetation meant to help alleviate channel clogging and flooding. Overplanting the reed canary grass with red-osier dogwood and other on-farm shrubs appears to be the most effective way to keep the channel from clogging. RCG is very hard to control and will require several years' work. And continuing management will be required during and after replanting. Future efforts include control of yellow star-thistle, rush skeletonweed, bulbous bluegrass and other invasive weeds on the eastern 25 acres of the prairie hillside, as well as invasives in the Pine Forest Wilderness and along the roadsides and creeks. The spring rains this year produced extensive heading out of invasive bulbous bluegrass. If you have ideas or proposals to help control weeds, especially bulbous bluegrass, please let me know.

I will continue to sprout and plant saplings of red-osier dogwood, chokecherry, and serviceberry growing on the farm. This year again I will be collecting wildflower and grass seeds to establish seed-producing plots. During the past autumn I've spread seeds of little sunflower, cow parsnip, showy milkweed, Douglas' catchfly, bigflower agoseris, Palouse thistle, and bluebunch wheatgrass expanding near the patches where I've harvested them.

I will continue to inventory, document and map plant life, deer trails, exemplary meadows, patches and groves, as well as other Palouse Prairie features. Anyone who might wish to advise or assist in any of these efforts is most welcome.

## References

1. D.M. Skinner, B. Weddell, M. Stannard, Palouse Prairie Restoration, accessed at [https://www.nrcs.usda.gov/Internet/FSE\\_PLANTMATERIALS/publications/wapmcbr6206.pdf](https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/wapmcbr6206.pdf) on June 5, 2022.
2. Jacie Jensen, Tools for Palouse Prairie Restoration, December 9, 2021, accessed at <https://www.facebook.com/groups/1861528450839708> on May 15, 2022.



## 2022 Palouse Prairie Foundation Membership Letter

**PRESERVE – PROTECT – PROMOTE**

**Why should you support the Palouse Prairie Foundation with your 2022 membership?**

In 2021, the Palouse Prairie Foundation:

- Conducted a weeding party at Whelan Cemetery with the participation of The Phoenix Conservancy and other great volunteers; continued the removal and surveillance of invading lilac bushes partially funded by a Washington Native Plant Society grant; supported the successful award of a three-year grant to the Palouse Conservation District to continue maintenance of the on-site Spalding’s catchfly (*Silene spaldingii*) population.
- Continued to develop the John Crock Native Plant and Pollinator Garden along the Latah Trail by controlling weeds; planted 225 native forbs and scattered native plant seeds mostly donated by Thorn Creek Native Seed Farm with the efforts of Elisabeth Brackney and other board members and volunteers; monitored the development of previously planted shrubs and native grasses.
- Awarded a \$1,000 mini-grant to The Phoenix Conservancy for material to grow forbs for native planting sites in Pullman; awarded a \$1,000 grant to the Appaloosa Horse and Heritage Center for signage at their public native garden display.
- Provided outreach to Eastern Washington University and Washington State University graduate students and researchers and allowed soil sample collection from Whelan Cemetery to compare the influence on growing wheat between native soil and various farmed soils.

Your support of PPF is a direct benefit to **YOU**:

- Receive invitations to local-area field trips.
- Get direct access to the expertise and experience of other restorers and protectors of the Prairie.
- Participate in the activity of your choice to help preserve this important ecosystem.
- The Palouse Prairie Foundation is a 501(c)(3) non-profit organization, and **donations are tax deductible**.

Email messages are the primary way that members are notified of all events and news. Please pay [online](#) via credit card or PayPal, or provide the membership information requested below and send it with your payment to:

Palouse Prairie Foundation, P.O. Box 8952, Moscow, Idaho 83843-1452.

### THANK YOU!

#### Membership Information

Name	_____	<input type="checkbox"/> Student	\$10
Street Address	_____	<input type="checkbox"/> Individual	\$20
City, State, Zip	_____	<input type="checkbox"/> Family	\$35
E-mail Address	_____	<input type="checkbox"/> Lifetime	\$250
	_____	<input type="checkbox"/> Donation	\$_____
		TOTAL ENCLOSED	\$_____

I'm interested in:  John Crock Garden  Whelan Cemetery  Other \_\_\_\_\_