



Kinnikinnick Journal

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March-April 2021

Kinnikinnick Native Plant Society, Inc. / PO Box 1092 Sandpoint, Idaho 83864

www.nativeplantsociety.org

Upcoming Programs & Events

Due to the ongoing coronavirus pandemic, programs will be presented live on Zoom and recorded for later viewing on the Kinnikinnick Native Plant Society's YouTube Channel. When viewed live, there will be opportunities for Q&A. Members will be notified about how to register for the Zoom programs via email. Both presentations will be preceded from 9:00 to 9:45 by a coffee klatch and friendly conversation on zoom. We will not meet at Sandpoint Community Hall.

Saturday March 27 at 10 am

(Katie Egland Cox, Executive Director, and Regan Plumb, Conservation Director. Kaniksu Land Trust)

Kaniksu Land Trust: Education and Conservation

Katie and Regan will talk about Kaniksu Land Trust's Education and Conservation programs. They will explain how they make a nature connection for young students and guide us through a typical enrichment program. They will discuss KLT's collaboration with the Kalispel Tribe for tree and plant identification and introduce their sister Community Forest, Indian Creek, which is beautifully managed by the Kalispel Tribe. They will also present their most recent venture into rotational grazing and the impact that has had not only on Pine Street Woods, but our community as well.

Katie Egland Cox received her B.S. in Education from the University of Idaho and Masters in Architecture from the University of Washington. Katie has focused her professional life in the fields of Education and Architecture. Regan Plumb holds a B.A. in Biology from Colorado College and an M.S. in Zoology from the University of Wyoming. She has worked on wildlife issues in multiple states and has directed restoration work for the National Park Service, and is a certified science teacher.

Saturday April 24 at 10 am

George Gehrig and Preston Andrews

City Nature Challenge 2021: Bonner County

City Nature Challenge, a nature BioBlitz is coming to Bonner County this spring. Learn about City Nature Challenge 2021, Bonner County, taking place from April 30 to May 9: What it is, why it's important, and how you can participate. All that's required to take part in the event is a phone camera, the iNaturalist app, and a keen interest in nature.

George Gehrig is a member of the Pend Oreille Chapter of the Idaho Master Naturalists, and is an IDAH2O Master Watershed Steward. He retired a couple years ago after a career in academic medicine, and now volunteers and advocates for environmental non-profits. Preston Andrews is Program Coordinator and member of the Board of KNPS. He is an Emeritus Professor of Horticulture from Washington State University, where he focused on the environmental physiology of woody plants. .

January Program Summary

Summarized by Rae Charlton

Our speaker was Christy Cleaver, who is a Plant Pathologist in Coeur d'Alene with the U. S. Forest Service's Forest Health Protection field office. She has B.S. degrees in Forest Biology and Natural Resource Management and an M.S. in Ecology, with an emphasis in Forest Pathology. She has worked in Colorado, Wyoming, Alaska, Montana, and Idaho. She specializes in whitebark pine, and began with a description of the tree and its range. Her presentation focused on Whitebark Pine, its current status and threats.

It is a tree of high elevations, one of the five needle pines, long-lived (500-1000 years), found in eight states including Idaho. It is a stone pine, with large, dense seeds in cones that don't open at maturity. The seeds are dispersed by Clark's Nutcrackers. These amazing birds bury the seeds in caches, one inch or so underground. One bird can store more than 35,000 seeds per year and remember where most of them are! The unretrieved can germinate. Whitebark pines have an irregular growth form, and can have multiple stems so they may appear



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President's Message

Submitted by Shawna Parry

Creativity: “the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others.” From Human Motivation by Robert E. Franken,

That’s KNPS! A very creative group indeed especially when normal organized activities are off limits. Thank goodness Preston Andrews (Program Chair & VP) was up to the task of learning all about Zoom and how to bring excellent speakers into our homes each month. And a hurrah for our KNPS members for learning how to receive the Zoom presentations at home. “New tricks for old dogs” or something like that. Another positive result of the Zoom presentations is the many “beyond Sandpoint” people who have been introduced to the creativeness and inventiveness of KNPS. All the programs are videotaped and can be accessed through this address:

<https://www.youtube.com/channel/UCYQHdoKHTbeY9nzucZCSBIQ>

The coffee klatch is an old concept on a new platform. Join us before the monthly presentations. Preston will open Zoom 9:00-9:45 am for us to see & hear each other. Hopefully in the fall, KNPS can resume regular in-person meetings at the Community Center which now has Wi-Fi.

The ALT (Arboretum Leadership Team) is using their creativity to build a new “clubhouse & storage” cabin near the Arb entry off Ella Ave. It’s a complicated process, but with determined leaders the final product will be great. More later when help is needed for construction.

The Museum and ALT have met to brainstorm creative ways to draw youth & adults to our unique corner of Lakeview Park. Some thoughts are: adding historical notes to the Arb such as Native American uses of medicinal herbs; adding short stepping logs to represent the Selle Valley stumps left after logging, a “natural” playground for active kids.

The list goes on from creative KNPS members:

- Plant Notes written by Cindy Hayes & Robin Campbell are published in the Bonner Bee & the Historical Society Newsletter.
- Native Plant sale in June with Bob & Jill Wilson organizing us to encourage the use of native plants in our gardens.
- New fundraising opportunity at Winter Ridge through June.
- Pre-Zoom-presentation coffee klatch at 9:00-9:45 am where we can see & hear our friends.

Join us!





(Continued from page 1)

shrublike. They usually range from sixteen to sixty-six feet tall. They can be found on over eighty million acres, in the U.S. and Canada, and the percent growing on federal land is a whopping 88 %. Their elevation range is 3,000-12,000 feet. They are a keystone species and a foundation species. A food source for many animals, they are stress tolerant and an important cultural symbol of recreation.

There are four main threats to whitebark pines in the U.S.: climate change, altered fire regimes, white pine blister rust, and the mountain pine beetle. Their decline has been documented since 1977, and in 2012 they were listed as “endangered” in CA. It was recently proposed by the U. S. Fish and Wildlife Service as “threatened” under the Endangered Species Act. Restoration efforts are ongoing and include a National Whitebark Pine Restoration Plan, a collaborative geographic plan focusing on prioritized areas. Restoration actions include planting rust-resistant seedlings, mechanical cutting to reduce competition, prescribed burns, cone collections and conserving genetic diversity, surveys and monitoring, and educational outreach. Among the challenges to these efforts are the difficulty of accessing huge, remote areas, and that the tree itself grows slowly, taking up to 60 years to produce cones! The mountain pine beetle infestations increase the urgency, as does declining funding.

Learn more at whitebarkfound.org, which is a whitebark pine ecosystem foundation which maintains a database and offers memberships along with projects and annual conferences.

Our speaker can be contacted at christy.cleaver@usda.gov, and her presentation can be watched on the KNPS YouTube channel.

Member Profile: John Harbuck

Growing up in the Central Valley of California, I pretty much lived for baseball, fishing and reading, in no particular order. When I enrolled in college, I majored in chemistry and minored in Geology. My interest in Chemistry was sparked when I discovered a discarded Chemistry set in an alley trash can some years earlier.

After spending a summer as a United States Geological Survey (U.S.G.S) field assistant in the North Cascades, it was off to grad school at University of California, Berkeley. A forestry course at Berkeley, Plant Community Ecology, proved more interesting than Organic Chemistry so I redirected my studies. There were weekly field trips into the Berkeley hills to learn the plants (plus scientific names). We also had weekly quizzes in the field. The first specimen some students handled, trying to figure it out, turned out to be poison oak.



Upon filing my thesis, I packed up and headed for Montana. When I moved to Montana, I taught myself much of the native flora, a slow process for sure. I had started doing Wilderness study trips, with and for the Sierra Club, in Montana and Idaho. The next few years found me doing some Wilderness studies, starting a woodworking business and working for the National Outdoor Leadership School.

On a NOLS winter backpacking course, I met Susan Bates, my wife-to-be. We spent a couple years in Half Moon Bay, CA. while she taught high school math, before moving to Sandpoint, Idaho in 1979. After NOLS, I led some wolf studies in the Clearwater area, and some acid rain studies in North Idaho for Wildlands Research. During this time, we were building a house in the woods, raising a kiddo, and Susan was saving the Panida Theater.

The last 35 years have been spent raising a kid, growing a big garden, making wooden light switch plates, getting to the tops of the highpoints throughout the lower 49 states, doing trail maintenance, and partially retiring. What’s left? Watching our grandkid grow up, visiting all the Idaho County highpoints, growing more gardens, contra dancing, joining the KNPS Board and working at the arboretum...

Submitted by Cindy Hayes



Report from the Arb

Although much of the Arboretum is still covered in snow, we know that spring is almost here, and gardeners can hardly wait! We look forward to cleaning up the Arb so it will look its best for the Native Plant Sale and Tree Tours by area school children, a few short months from now. We'll be continuing a "hit" activity from last summer: having a "work party" one morning a month where gardeners work together on improving one area or habitat (the results are impressive and everyone has fun). New gardeners are always welcome, you can get in touch with the Arboretum Management Team through the KNPS website. The spring clean-up of the Arboretum will be Sunday, May 2, from 10 until noon. Since we are in transition between cabins, please bring your own tools and totes, AND your own lunch (the Arb team will provide coffee and treats)

A new focus this year will be working more closely with the Bonner County History Museum. They hope to install some new interpretative signs, and to create some permanent, interactive outdoor attractions which will be especially appealing to children. The Arboretum team is excited about outreach activities which will be possible through cooperative programming.

The "Breaking News" is about the new cabin. There have been some exciting developments in our plan to build a new cabin in the Arboretum. The most significant is that Steve Johnson, who is a registered Idaho contractor, has offered to serv as our advisor/foreman of construction, at no cost. This would mean that we could do the work ourselves and meet the requirements of laws and codes. We are yet to make a final decision on Steve's offer, but since the costs of construction generally run around 50% of the total, it sure looks good. If we decide to go this route, the savings could allow us to consider adding some features that we previously considered too expensive, such as a porch and running electricity to the structure.

We hope to have a new structure in place by June and will be looking for a few carpentry-savvy volunteers in the next few months.

What's that Plant: Sagebrush Buttercup

Submitted by Jill Wilson

One of the first plants to bloom each year in spring in the inland north-west is the Sagebrush buttercup. For those who love our native flora, who doesn't find themselves searching our wild landscapes for signs of these bright yellow harbingers of spring?

Ranunculus glaberrimus was named by Sir Joseph Dalton Hooker, a British botanist and explorer who travelled through the western United States in 1877 at the invitation of his good friend Asa Gray, the preeminent American botanist. Hooker described the species from specimens collected by David Douglas along the Columbia river. Douglas was a Scottish botanist who made three trips to North America. The specific epithet, *glaberrimus*, comes from the latin *glaber* which means smooth, and *imus* which means very smooth, referring to the leaves and stems which are devoid of hairs.

Sagebrush buttercup is widely distributed throughout the western United States in a wide variety of habitats. It is a cool season species flowering in early spring, in our area in late March or early April, often the earliest plant to bloom. Plants are perennial, growing from a fleshy fibrous root stock, stems are 2 to 6 inches tall. The flowers feature 5 shiny, waxy looking yellow petals surrounding numerous bright yellow stamens. Plants are an important food source for the dusky grouse in early spring as well as two other species of grouse. Bees are important pollinators for this species. *Bombus auricomis* (black and gold bumblebee), *Bombus bifarius* (two form bumblebee), *Bombus nevadensis* (Nevada bumblebee), and *Bombus bimaculatus* (two spotted bumblebee) are all reported to pollinate the Sagebrush buttercup.

Buttercups employ a unique strategy to attract bees to their flowers. Each petal is designed to deflect light sideways, together they concentrate visible and infrared light on the flower center. Apparently this raises the temperature of the flower center slightly, enough that it can actually warm pollinators that visit the flowers. The same is also reported to increase fertilization rates. There are a few other plants that have developed the ability to "warm" their flowers to attract pollinators, but this particular mechanism is unique to buttercups.





February Program Summary

Ferns of Northern Idaho

Derek Antonelli, President of Calypso Chapter of Idaho Native Plant Society, was the speaker for our February 2021 zoom general meeting. Eighty five participants signed up. His topic was the fascinating world of spore bearing vascular plants; ferns (Pteridophyta), horsetails (Equisetophyta), and clubmosses (Lycopodiophyta).

During the Carboniferous period, 350 million years ago, there were huge forests of ferns and mosses. Horsetails grew up to 100 feet. Dragonflies with a wing span of two feet hovered above. Many of those species are now extinct, however, there remains today about 11,000 fern species worldwide. Over 60 species are found in Idaho. The ancient massive wetlands from the Carboniferous eventually compressed to form our modern-day coal deposits.

The mature fern plant consists of three major parts, rhizome, fronds and sporangia. Sporophyte ferns have two methods of asexual reproduction. One is by vegetative cloning (asexual reproduction), branching off of the rootlike underground stem, or rhizome, often forming large, genetically uniform colonies. The second form of asexual reproduction occurs by spores.

The mature fern plant is the sporophyte structure that produces spores, which are released from sporangia. Sori are clumps of sporangia that hold the reproductive spores. They are found on the underside of fern fronds (or vegetative "leaves"). Sori can vary considerably in shape, arrangement, location and covering depending on the kind of fern. These differences can be useful in identifying ferns.

A sorus may be protected during its development by a scale or flap of tissue called an indusium. It protects the sporangial cluster from exposure, drying, and other hazards. This is accomplished in various ways, the formation of the sori in grooves or pockets, or the production of various forms of indusium covers. The indusium often shrivels away when spores are ready to be dispersed.

Spores are released into the wind. When spores land somewhere suitable, they will grow into what is called a gametophyte, and that is a whole separate individual plant. It's very tiny, 2 to 8 mm long by up to 8 mm wide, anchored to the ground by rhizoids (rootlike projections). It produces sex cells, the eggs and the sperm.

Under moist conditions, mature sperm are released and swim to the egg-producing archegonia that have formed on the gametophyte's lower surface. When fertilization occurs, a zygote forms and develops into an embryo within the archegonium. The embryo eventually grows larger than the gametophyte and becomes a sporophyte. The first tiny leaf of the sporophyte emerges from the bottom of the gametophyte (which disintegrates) and grows upward and soon becomes a plant we see as a fern. Both Gametophyte and Sporophyte are the two generations of the fern plant. Thus, the cycle keeps repeating and one generation after the other keeps coming, this is called alternation of generations (see attached diagram, page 6).

The leaves of ferns are often called fronds. Fronds are usually composed of a leafy blade and petiole (leaf stalk). The midrib is the main axis of the blade, and the tip of the frond is its apex. As new fronds emerge, generally in the spring, the unrolling fronds are called fiddleheads. Some ferns have two kinds of fronds: fertile (leaves with sporangia) and sterile (leaves lacking sporangia). Ferns with two kinds of leaves are referred to as dimorphic. An example of a dimorphic fern is the deer fern (*Blechnum spicant*).

The frond offers another source for identifying the fern species. The blade may be divided into segments called pinnae; single leaflets are pinna. Pinna may be further divided, into the smallest segments called pinnules. Derek illustrated with slides the 6 different examples of ferns displaying various degrees of leaf divisions; from simple through the most complex (2-pinnate-pinnatifid).

The spore bearing vascular plants include 21 families in addition to the fern (Pteridaceae) family. One rare population of the Western Moonwort, a low fleshy fern (family Ophioglossaceae), was found on a gravel site by Harpo Faust; unfortunately, it lies in the path of a proposed road construction site. Plans are underway to protect this plant. Hopefully they will lift the road grader blade or detour around the site. There are around 1,200 living species of the Lycopodiophyte family. They are generally divided into three orders: Clubmosses, Quillworts and Spikemosses.

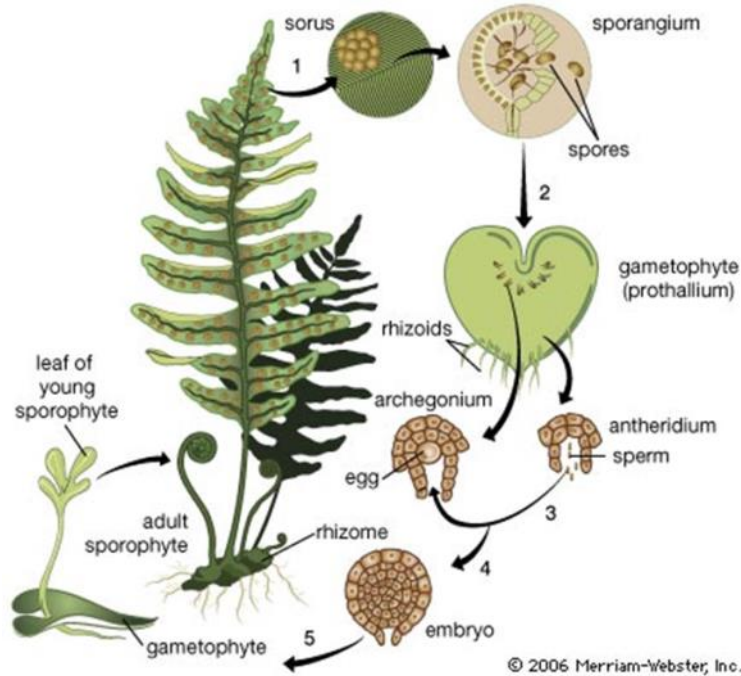
Equisetaceae is the only surviving family of the Equisetales, a group with many fossils of large tree-like plants that possessed ribbed stems similar to modern horsetails. All living horsetails are placed in the genus *Equisetum*. They are considered living fossils since they are relics of the Carboniferous geological period (325 million years ago).

Equisetum produces an extensive underground rhizome system that can reach depths of four feet or more. Some horse-



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tail stems are dimorphic. The early-appearing and short-lived fertile stems are wholly devoted to the production of spores and die back by late spring. The second sterile stem is wholly vegetative and persists through the growing season. The sterile stem is green with whorls of needle-like leaves and jointed stems. The leaves of horsetails/scouring rushes are tiny black scale found in whorls around the peculiarly jointed stems. Measuring the cross section of central cavity of jointed stems, helps identify type of horsetail. Look for a field trip focused on ferns sometime in June! Stay tuned!



Alternation of generations - Sporophyte and Gametophyte

<https://kids.britannica.com/students/assembly/view/190714>

website for books on ferns:

<https://www.fs.fed.us/wildflowers/beauty/ferns/more-information.shtml>

Plant Notes

Watch for publication of the KNPS piece, “Plant Notes”, starting in mid April in the Bonner Daily Bee on Sundays and monthly in the Bonner History Museum’s newsletter.

Published weekly in the Bee, Plant Notes features a different plant that is blooming or of interest in the Arboretum.



Each article provides a description of the plant as well as where it may be found in the Arboretum. Thanks to Robin Campbell and Cindy Hayes for sharing information about our native plants and our Arboretum with our Community!





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Join KNPS for 2021

Membership Rates

July 1st through June 30th

___ Individual	\$25.00
___ Household**	\$30.00
___ Student/Senior (65+)	\$20.00
___ Sustaining**	\$50.00
___ Patron**	\$100.00
___ Sponsor	\$50.00

***These memberships are entitled to two votes
KNPS is a 501(c)(3) non-profit organization.*

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2021-2022 MEMBERSHIP

1-year dues for 1 ½-year membership

It's a grand deal!

With the change to a fiscal year (July 1 – June 30), the first six months of 2021 are somewhat of an orphan period for dues.

The Board decided that those who pay dues before July 1st will automatically be credited through June 30, 2022.

To help the budget through the first six months, consider bumping your membership to a higher dollar category.

A year's payment for a year-and-a-half membership.

Not a bad deal!