Borealis

the newsletter of the

Alaska Native Plant Society

PO Box 141613, Anchorage, Alaska

February – March 2014

Join us at our Next Meetings!

Monday, February 3, 7:00 p.m

Main Topic: "A world underfoot: Mosses & lichens of interior and south-central Alaska

We will investigate the biology and ecology of some of the smallest members of Alaska's plant world, and meet the most common and charismatic species.

Speaker: Sarah Stehn, Non-Vascular Plants Botanist for Denali National Park & Preserve

Plant Family: *Plants of Bogs & Marshes: Carex*
Leader: James Sowerwine

Mini-Botany: Northern Plant Success: Heliotropism and Pigment UV Protection
Presenter: **Beth Baker**

Monday, March 3, 7:00 p.m

Main Topic: "Alaska's Native Orchids: A Treasure to be Enjoyed and Protected"

Alaska is home to over 40 species of wild orchids. The program introduces some of the unique biology of orchids, focusing on species that live on the Kodiak archipelago and throughout Alaska with a heavy emphasis on conservation.
Speaker: Stacy Studebaker, Kodiak Naturalist

Plant Family: *Plants of Bogs & Marshes: Carex*
Leader: Verna Pratt

Mini-Botany: Northern Plant Success: Vegetative Reproduction: Layering, Viviparity
Presenter: **Annie Nevaldine**

For the latest information about ANPS events and field trips, go to www.aknps.org/

"Like" Us on Facebook!

Summer Field Trips

It's that time of year again – time to "Think Summer" – as in "Field Trips"!

It is time to start planning this summer's field trips so that all members can arrange their own summer plans accordingly, especially if trips require extra time or money, or a limit on how many can attend. Our outings are ALWAYS fun, no matter what size the group, or whatever the weather. There have been many memorable trips. Let's make this a memorable year.

Once again we're asking you to get all excited about taking a group of plant lovers to one of your favorite places to enjoy the summer bounty.

Contact Marilyn Barker at afmhb@uaa.alaska.edu, or Telephone with you proposals.

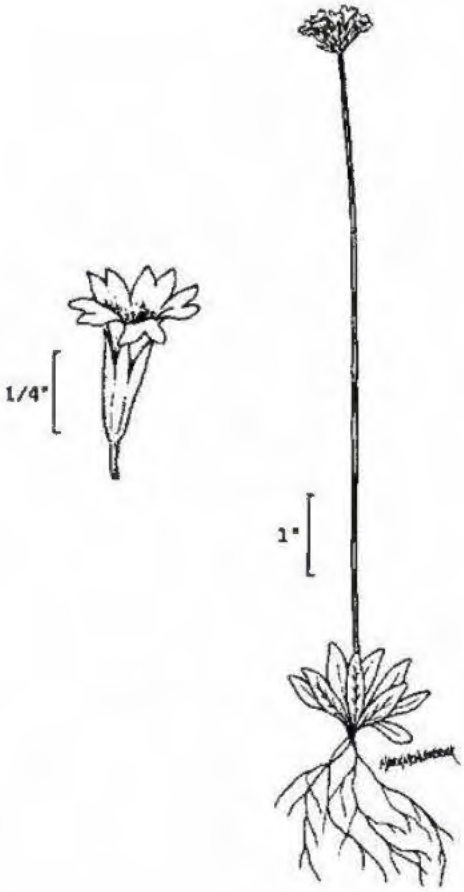
You should include the following:

1) Your name and email address,
2) Title of the field trip,
3) Name(s) and contact information for all organizers,
4) A brief description of the field trip,
5) Preferred day(s) of the field trip,
6) Special needs,
7) Enrollment limit and
8) Tentative budget (e.g., travel and food items; estimated cost per participant).

It would be great if we could have the whole slate of summer activities lined up by the end of April!

MYSTERY PLANT

This small plant has multiple basal leaves that are mostly lanceolate with a few dentate edges. The underside is densely farinose. The flowering scape is six to eight inches tall and is densely farinose. The small 5-petalled pink to lavender flowers have 5 sepals and are arranged in an umbel and have farinose pedicels of uneven lengths. It can be found in wet meadows in Eastern central Alaska and northern Canada below the Arctic Circle.



Glossary

Farinose: covered with a whitish mealy powder

Lanceolate: shaped like the head of a lance; of a narrow oval shape tapering to a point at each end

Pedicel: A small stalk or stalklike part bearing a single flower in an inflorescence

Answer on Page 3.

Southeast Alaska Wetlands Study

The Southeast Alaska Power Agency has issued a final **Botany and Wetlands Study Report** on the proposed Swan Lake Expansion Project, on Carroll Inlet in Southeast Alaska.

SEAPA is currently evaluating the engineering feasibility and value of increasing the storage capacity of the Swan Lake reservoir through a 15 foot increase in the dam height. As a result of the proposed action, the maximum operating pool of the reservoir increase the active storage capacity of Swan Lake by approximately 25 percent. It is estimated that there are about 14 miles of shoreline around the reservoir, much of which is moderately to extremely steep. A portion of the proposed reservoir expansion area may include National Forest System (NFS) lands, particularly in the area of Lost Creek, a tributary that enters the existing reservoir on the northeast side.

The Swan Lake Expansion Project Botany and Wetlands Study Report provides an assessment of the current condition of sensitive and rare plants, general vegetation communities, invasive species, and wetland resources in the analysis area and the potential effects of implementing the proposed alternatives on these resources. The analysis addresses the potential effects associated with construction and operation of the proposed Project. The analysis uses existing information from spatial GIS data, field survey results, scientific literature, and other sources, as appropriate.

http://seapahydro.org/Botany%20and%20Wetlands%20Study%20Report_RF%20April%202013.pdf

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ALASKA NATIVE PLANT SOCIETY

State and Anchorage Chapter Officers

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Anchorage Chapter Program Coordinators

Membership	Bernadine Raiskums
Plant Family	Beth Baker
Mini-Botany	Beth Baker
Field Trips	Marilyn Barker

Newsletter ("*Borealis*")

Editor Ginny Moore

FAX:

Borealis is published bi-monthly, fall through spring. Articles may be sent to Ginny Moore, , Anchorage, AK 99516.
Phone or FAX: , E-mail: tgmoore@gci net

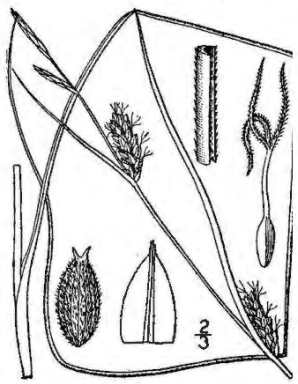
Plant Family Study

FEBRUARY

Plants of Bogs & Marshes – Carex Species

In February, James Sowerwine will continue our discussion o plants of bogs and marshes by focusing on more of the Carex genus: *Carex brunescens, C. microchaeta,C. lasiocarpa, C. macrocephala* and C. *mertensii.*

Carex lasiocarpa (wooly fruit sedge) is greenish-gray and slender with only a few stems per plant that rise singly or in small clumps from long, well-developed, tough, scaly, creeping rhizomes. Culms are smooth, slender, round to obtusely triangular in cross-section, and wine-red at the base. These large emergent sedge prefer perennially wet habitats such as the shallow edges of lakes, ponds and stream banks, marshes, fens and the margins of pH-neutral bogs and bog ponds. It is circumboreal; in Alaska found south of the Brooks rRange except Alaska Peninsula and southeast Alaska. Flowers and fruits May-September.

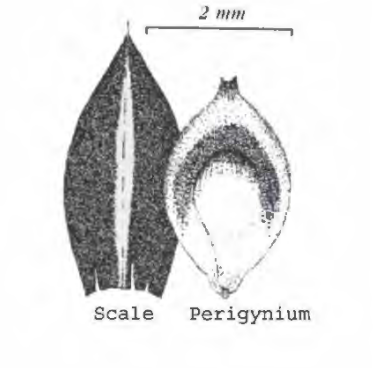


C. lasiocarpa

C. macrocephala

Carex macrocephala (large-headed sedge) is a common coastal species found on sandy beaches or dunes and is easily identified by its large flowering spikes and extremely stout triangular stem. It is probably the most distinctive and showy wetland sedge in Alaska. It is a coarse, low perennial from large, horizontally-spreading, scaly rhizomes buried deep in the sand.

Carex mertensii (Mertens sedge) is densely clustered from short stout rhizomes, often forming large clumps. It is found on moist to wet, open rocky slopes, meadows, forest openings, stream banks and disturbed areas such as roadsides and trails in lowlands to montane (not alpine). Locally common in south coastal Alaska. It is a distinctive and beautiful sedge with large colorful spikes and is unlikely to be confused with other species. It has been widely used as an ornamental for gardening and for reclamation for stabilizing and revegetating disturbed areas. It is thought to have been named for Carl Heinrich Mertens, the first European botanical collector at Sitka.



C. microchaeta

Carex microchaeta ssp. Nesophila (Bering Sea sedge) is common in moist to wet tundra meadoes and heaths of western and southwestern Alaska, from 0-1000 m, extending east to Cook Inlet and the Kenai Peninsula and west to the Russian Far East. It is replaced by ssp. Microchaeta, which is not found in wetlands, over much of the rest of the state. The name *Carex podocarpa* has been misapplied to specimens of *C. microchaeta* subsp. microchaeta.

Carex brunescens (Brownish sedge) Rather dark green, not glaucous, culms slender, stiff, erect, roughish above, 8'-18' tall. Leaves 1/2"-1 1/4" wide, shorter than the culm; lower bract usually present, bristle-form; spikes 4-8, gynaecandrous, subglobose or short-oblong, 4-10-flowered, 2"-6i" long, somewhat scattered, or approximate; perigynia loosely spreading, brown-tinged, tipped with a manifest, minutely biden-tate, roughish beak about one-fourth as long as the body; scales ovate, membranous, brownish, somewhat shorter than perigynia; stigmas 2.

In wet or even dry places, mostly at high altitudes, Labrador to British Columbia, NY and New England.

MYSTERY PLANT ANSWER:

Primula incana

Primulaceae or Primrose family

Plant Family Study

MARCH

Plants of Bogs & Marshes – More Carex

In March, Verna Pratt will continue our study of the Cyperaceae (sedges) with some information about more members of that ubiquitous *Carex* species: *C. saxatalis* and *C. scirpoidea, as well as Triglochin* species.

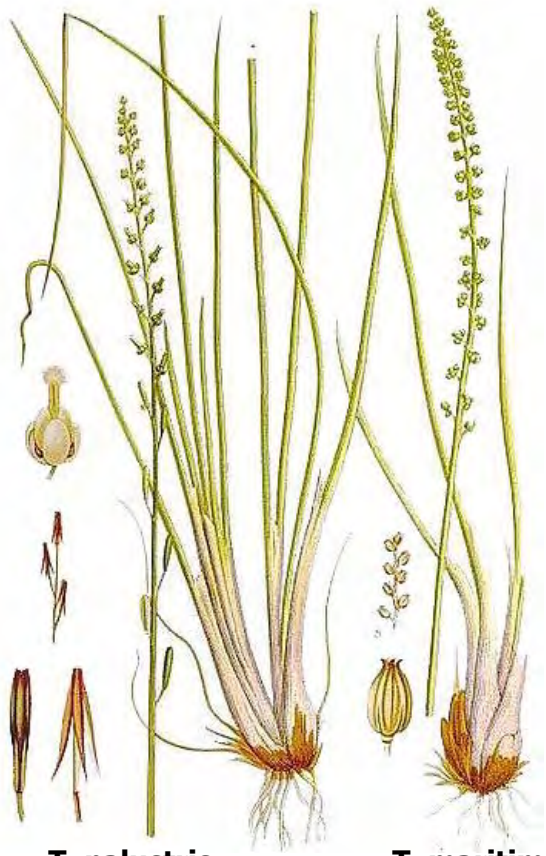
Carex saxatalis (rock sedge) is another common sedge of boreal and arctic wetlands in lowlands to moderate elevations. It is quite variable in its morphology. Occasional individuals with few and short peduncled spikes or having 3 stigmas can be mistaken for long peduncled individuals of C. membranacea. Rock sedge is reported to hybridize infrequently with C. utriculata. The hybrids are largely sterile and intermediate in morphology.

Carex scirpoidea (northern singlespike sedge) is an erect sedge with flat, green leaves shorter than the culms. This is an atypical sedge in that it is dioecious (individual plants having either male or female reproductive structures, but not both). Also, it typically has only one spike per inflorescence. The staminate spikes are broad while the pistillate spikes are densely cylindrical with numerous hairy perigynia. The scales are dark purple-brown with a narrow green mid vein, ciliate, shorter and narrower than the perigynia.

In Alaska, *Carex scirpoidea* is common in heaths and wet meadows in the mountains to at least 6500 feet.

Triglochin maritima (Seaside Arrowgrass) prefers several types of moist soil and can grow in water. It can tolerate strong wind, but not maritime exposure. It prefers salt marshes and grassy areas near the sea. This plant usually grows 6-18 inches tall, but the slender flower stalks may reach 5 feet. Small, green flowers appear close together along the upper part of the stalk early in the season. Later, the flowers develop into golden-brown. When Arrowgrass is dry, it contains hydrocyanic acid which, when ingested in quantity, can result in death from respiratory failure.

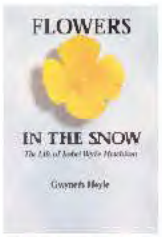
Triglochin palustris (Marsh Arrowgrass) is a preferred forage species of geese in the Yukon-Kuskokwim Delta of south-western Alaska, where it is found primarily on slough levees in coastal areas. The bulbs are a primary protein source for greater white-fronted geese (Anser albifrons frontalis). Geese may affect nutrient availability, interspecific light competition salinity. One study suggests that the presence of geese may control arrowgrass distribution because feces deposition has a negative effect on arrowgrass, this negative effect is ameliorated by consumption of neighbors, and the combination of high light competition and highly selective foraging for arrowgrass limit expansion of arrowgrass into the Carex meadow community.



T. palustris **T. maritima**

The green leaves of these plants can contain a toxic cyanogenic glycoside that is especially present during and just after a drought and is particularly toxic to ruminants. The white base of the leaf stem can be eaten raw or cooked. An unpleasant odor is produced in the cooking process but the flavor of the stems is sweet. Seed - parched and ground into a powder. The roasted seed is a coffee substitute.

FROM OUR BOOKSHELVES – Another early botanist



Flowers in the Snow
The Life of Isobel Wylie Hutchison
By Gwyneth Hoyle
2001/2005

Isobel Wylie Hutchison (1889-1982) was born into a wealthy Scottish family and lived a quiet, sheltered life until her mid-thirties when she launched her talents as a traveler, film-maker, poet and novelist. In a single decade, between 1927 and 1936, she made four major northern journeys, two to Greenland, another along the northern coast of Alaska and into Arctic Canada, and one exploring the full extent of the Aleutian and Pribilof Islands.

On each occasion, Isabel collected plants she found for Kew Gardens and the Royal Horticultural Society. Without formal university training as a botanist, she was a plant collector in the mold of Alfred Wallace and Thomas Huxley. To achieve her goals, she traveled by any means available, from rowboats in Greenland to trading schooners and coast-guard vessels in Alaska. When necessary, she journeyed by snowshoe or sled in pursuit of her botanical specimens, accompanied only by strangers who served as guides.

In 1934 she set out for Alaska, travelling by coastal steamer from Vancouver to Skagway and then overland to Nome. Here she found a very small freighter to take her along the north coast of Alaska, ending with 120 miles by dog sledge and returning on mail plane to Alberta. She wrote several travel books including 'North to the Rime-Ringed Sun' and 'Stepping Stones from Alaska to Asia' and four volumes of poetry. In later life she gave frequent lectures, describing her travels and writing articles for National Geographic magazine.

In *Flowers in the Snow*, Gwyneth Hoyle paints a vivid portrait of a woman gloriously out of the step with the conventions of her time. Hoyle's book is part of a series called *Women in the West*, published by the University of Nebraska Press.

From Publishers Weekly:

Before the modern era, a young woman of means who was disinclined to marry and bear children had few options. She could care for aging relatives, join a devotional community or—had she a taste for adventure—simply pack her bag and go. Seeking to escape her staid, Scottish, upper-class existence, Hutchison considered religion, but decided to travel the northern latitudes instead, exploring the Arctic Circle from Norway to the Aleutian Islands between 1927 and 1936. Calling herself an amateur, she was in fact an innovator, helping convert exploration, previously a colonial enterprise, into a social science. She didn't sleep on mud floors in subzero weather to conquer new territory or just for the thrill of the exotic. Instead, starting with a botanical focus, she became interested in the social life of Arctic peoples, whom she believed all shared common heritage. Hoyle's account of Hutchison's upbringing and voyages is careful and readable, though her subject's later years remain somewhat sketchy.

Pondering Hutchison's intimate life, Hoyle (coauthor of *Canoeing North into the Unknown*) suggests she was asexual, although her discussion raises more questions than it answers: is a woman who lives as "one of the boys" entirely uninterested? But Hutchison's verifiable passion for the wide, Arctic horizons lingers with the reader. The appendix essay on modern women travelers is excellent, as are the handful of maps and 20 photos. While Hutchison isn't a household name, the eye-catching jacket and inclusion in Nebraska's Women in the West series should help sales for this welcome tribute to a female pioneer. *(May)*

Suzanne Carrière, a wildlife biologist in Yellowknife, Northwest Territories reviewed this book for the scientific journal *Arctic* in 2010. She said that Hoyle's choice of context for her biography "is not so much the Arctic or botany, but the changing concept of "travels" and the revolution in social expectations for women in the first half of the twentieth century. Isobel Hutchison, in her own eyes, was a Lady traveler who happened to have learned botany at a young age, then botanized from home in Scotland, to Iceland, Greenland, Alaska, northern Canada, and later the European Alps. This she did in a period when men normally mounted expensive (and hence, fully funded), adventure-filled expeditions in these regions. As noted by Hoyle, Isobel's travels were not an adventurous litany of near disasters, but totally unorganized strings of friendships and opportunities. The reader is given here a recipe for cultural travel that can still be applied today: make friends and adapt. Isobel's northern achievements were sometimes overlooked because she succeeded in keeping hardships to a minimum."

News From The North – Fairbanks ANPS Offshoot

A group of about 15 plant-ophiles met in Fairbanks in December to discuss forming an Interior chapter of the Alaska Native Plant Society. A great potluck helped break the ice, then after a round of introductions the meeting was kicked off with a tiny informational set of slides introducing the AKNPS, why they'd like to form a chapter, and some of the organizational details. There was great interest and some helpful feedback about how to keep people coming back to participate. Charlie Knight ("Mr. Agriculture") gave a great talk on his work establishing *Vaccinium uliginosum* as a commercial crop in the Interior. His goal is to cultivate wild blueberries with traits for maximum yield and superior flavor, but to also cultivate plants with traits that will facilitate mechanical harvest. He and his colleague, Papa Munier, use cuttings from wild mother plants to clone blueberries with these and other specific traits. They hope to have producing plants within the first five years of planting.

The Fairbanks group plans to meet the **2nd Wednesday of each month**, and the February and March meetings will be held at the UAF Pub. Speakers for the January 8th meeting were scheduled to be Amanda Byrd from Alaska Center for Energy and Power who did her masters research on native plant biomass-to-energy systems, and Jessica Starsan, who's research explores the use of Salix spp. to improve microbial bioremediation for things like contaminate spills.

Tentative Schedule for 2014

February- Blaine and Katie Spellman 'Pollen Café' will be talking about native plants and pollinators. Derik Sikes will talk on plant interaction with insects.

March- Kimberly Mahr and Amy Tippery (also hopefully Rob and Tara Borland from Ursa Major Distillery)- Birch tapping and making Native Plant libations; a field trip to the UAF herbarium (hosted by Al Batten or Jordan Metzgar) and talk about collection for herbarium specimens and wild collection methods

April- (not final) We hope to have Tracy Pulido presenting a talk about perennials. We hope to do a native seed swap with the help of the Anchorage Chapter at this meeting; field trip to UAF greenhouse for half-day workshop with Pat Holloway on seed germination.

May- Verna Pratt will talk about gardening with natives and also lead a field trip that may be part of UAF Summer Sessions.

June- Fieldtrip: Tour of Jack Finch's Iris collection (half-day fieldtrip in Fairbanks) Fieldtrip: Amy Tippery hosts an alpine flowers hunt on the little known Black Rapids Training Area south of Delta Junction (full day); Possible fundraising opportunity to sell native seed packs at the FSWCD Tree and Shrub Sale

July- Fieldtrip: Bonanza Creek Day trip with Katie Villano-Spellman and Kimberly Mahr
Fieldtrip: Elodia weed pull fieldtrip hosted by Mitch Osborne/Ryan Lane and FSWCD

August- Fungi specialist Gary Larsen; Fieldtrip- (half-day) to mushroom hunt around Fairbanks with Gary Larsen or another expert

September- Tom Kuntz (blueberries and antioxidants) and Tom Klaussen (chemist/ethnobotanist works on poisonous stuff) present talks

October- Melissa Sikes will present a talk on native plant rain gardens

November- Gayle Mayo and Moxi Pender will speak about using Natives to make natural dyes. Hopefully this will be a hands-on workshop

For more information contact: Amy Tippery at amy.c.tippery.ctr@mail.mil or

From What We Gather – around the web

Carex Interactive Key

Are you confused about all of those *Carex* species we've been studying this year? Sayuri Ito, a former student at the University of Alaska Fairbanks, has constructed an interactive key for arctic sedges. These plants often play a pivotal role in riparian habitats and are often difficult to differentiate. Using an interactive key will allow botanists to further develop their skills and become proficient at identifying members of this morphologically highly reduced genus.

Carex Sect. Phacocystis (http://www.uaf.edu/museum/collections/herb/projects/interactive-carex-key/index.xml)

1. Lowest spike pendant.

    2. Female spikes truncate at base, 5–7 mm wide; perigynia 1.6–2.5 mm wide, yellow–brown, leathery, stipitate; fruit dull, constricted; mostly saline or brackish wetlands ---- ***C. lyngbyei***
    2. Female spikes acute at base, 4–5 mm wide; perigynia 1.0–1.2 mm wide, pallid–brown, papery, sessile; fruit glossy, not constricted; fresh wetlands ---- ***C. sitchensis (C. aquatilis var. dives)***

1. Lowest spike erect or spreading.

    3. Stem round or very obtusely angled, smooth; scales sometimes scabrous-awned; perigynium beaks conical; lowest bract often spathe-like and enclosing spike; saline or brackish wetlands.

        4. Leaves filiform–involute, 1–2 mm wide, rounded on the back, with the midvein inconspicuous and smooth; fertile stems less than 15 (–28) cm tall (vegetative shoots can be taller) ---- ***C. subspathacea***
        4. Leaves flat to folded, 2–5 mm wide, with a conspicuous, ± scabrous midvein; plants (15–) 20–50 cm tall ---- ***C. ramenskii***

    3. Stem clearly triangular, angles acute or obtuse, scabrous or smooth; scales not scabrous-awned; perigynium beaks cylindrical; lowest bract not spathe-like and not enclosing spike; fresh wetlands.

        5. All spikes strongly overlapping, inflorescence dense, ± head-like; terminal spikes usually gynecandrous.

            6. Perigynia ovate, with 5–7 nerves on each face, stipe to 0.5 mm ---- ***C. enanderi (C. lenticularis var. dolia)***
            6. Perigynia elliptic, with 0–5 nerves on each face, stipe to 0.2mm ---- ***C. eleusinoides***

        5. At least the lowermost spikes ± separate, not notably overlapping with the terminal, inflorescence more open; terminal spike usually staminate.

            7. Perigynia nerved on both faces, distended at base, stipitate, tightly enclosing fruit; basal sheaths lacking reddish or purplish color ---- ***C. kelloggii (C. lenticularis)***
            7. Perigynia essentially nerveless on the faces, not distended at base, ± sessile, loosely enclosing fruit; basal sheaths usually reddish or purplish tinged.

                8. Lowest bract longer than the inflorescence; pistillate spikes 3–7, 3–10 cm ---- ***C. aquatilis***
                8. Lowest bract ± equal to or shorter than inflorescence; pistillate spikes 2–3, 1–3 cm long. ---- ***C. bigelowii subsp. lugens***

ANNUAL MEMBERSHIP APPLICATION/RENEWAL

The Alaska Native Plant Society was organized in 1982 by an enthusiastic group of amateur and professional botanists. It is a non-profit educational organization with the goal of uniting all persons interested in the flora of Alaska. Membership is open to any interested individual or organization. If you wish to join us, pleas indicate the category of membership you desire, fill in the form below and mail it with the appropriate remittance to

Alaska Native Plant Society,
P.O. Box 141613,
Anchorage, AK 99514

STATUS ☐ New ☐ RENEWAL

CATEGORY

☐	Full-time Student	$12
☐	Senior Citizen	$12
☐	Individual	$15
☐	Family	$20
☐	Organization	$30

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Address _____

City: _____ State_____Zip_____

Telephone: (Home)_____(Work)_____E-Mail: _____

Membership is on a calendar year basis.

Would you rather receive the newsletter by e-mail instead of by snail mail?
It will save ANPS some postage and you'll always receive your newsletter in a timely manner.
Let us know when renewing or by e-mail to tgmoore@gci.net.

Time To Renew! Don't make us waste more postage to keep reminding you!

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