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Northwest Native Plant Journal A Monthly Web Magazine

August 2006

Cool gardening: Ponds and Bogs with NW Native Plants

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About this Web Magazine

This Journal was created under the direction of Wally Hansen – a dedicated Grower, Aficionado and Passionate Lover of Northwest Native Plants.

This Journal is not 'commercial.' Our goals are:

A — To generate interest, even passion, concerning the magnificent Native Plants of the Pacific Northwest.

B — To help you create your own Native Plant Gardens, large or small, for home or work.

C — To help you propagate and "grow on" those species that interest you the most.

D — To inform both Home Gardeners and interested Professionals of many disciplines concerning trends and news items from my little corner of the world.

E — To help the reader enjoy native plants more by understanding the historical and cultural role of native plants (i.e.—use by Native Americans, Pioneers, Early Botanists, etc.).





On the Cover



The serenity shown in this photograph stills the hustle of 20th century life and takes us back to days gone by when there was time to notice the reflection of plants in water.

The very slight ripple in this pond is mirrored onto the back of the leaves which, in turn, is reflected in the water.

The image illustrates the infinity that builds from water to leaf and back again until we can barely tell where one ends and the other begins.

As we study the picture our breathing evens out, our heartbeat slows, and we find ourselves in that very state of being that in victorian times engendered the fashion of gazing globes and reflection ponds.

Wapato (Sagitaria latifolia) Photo by JoAnn Onstott

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Rare plant puzzle



Photo © Richard Burkmar 2004

Name this plant!

A clue to help you on your quest for the correct answer:

"Once a remedy against scurvy, now valued for my leaves so curvy. I hold damp places dear and was once used to make beer."

Send me an email with the correct botanical name of this plant . A small prize to those who correctly identify by August 15, 2006.

> Good luck! Wally

Answer to last Journal's puzzle:

Dodecatheon dentatum (White Shooting Star)

Congratulations to all who correctly answered!

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Caring for your NW Native Plant Garden

1 – August is a good time for pruning anything that needs it (or will before the winter). Right now anything that gets pruned will have a chance to heal over the cut places and make new leaves which can mature before cold weather.

After pruning, stake any young trees or tall shrubs that may be wind-tossed in the fall. Double or triple staking is recommended over a single stake. Use stout twine or wire or rope and pad the part that goes around the plant. A piece of old garden hose is good for this. Space the stakes (sturdy tree cuttings, fence posts, pipe, etc.) equidistant or thereabouts, far enough from the plant to allow for growth and avoid killing the roots but close enough to support it.



2 – Gather seeds as they mature. You can start your own perennials, shrubs and trees this way and it's a great way to teach children about gardening. Kids like to see what's happening so consider putting that kitchen windowsill to use as an indoor greenhouse.

3 – Plan for spring and early summer flowering bulbs and rhizomes now. Fawn Lilies, Tiger Lilies, Panther Lilies,

Chocolate Lilies, Trilliums, Camas should be planted in the fall--just a few weeks away! These bulbs will become available soon. You may even find them now but probably in limited quantities. Plan now where you'll plant these beautiful perennials and you'll be ready to order when the time comes.

4 – Huckleberries, blueberries and Oregon Grape are ripe about now. If you've never tasted these native delights, this could be an opportunity to give your tastebuds a real treat. If you're picking them in the wild, be very sure of what you are touching and be aware of what may have been sprayed on the plants. Best to grow your own!



To Do List, continued



5 – Compost everything you can. Even small branches can be included in the compost pile. They allow air circulation and will break down eventually. If you use only organic fertilizers and bug or weed control measures, all your trimmings can be safely composted. However, put any poisonous plant refuse in the garbage. Don't take a chance on spreading poison oak or water hemlocks or the like.

6 – Monitor plants closely so they don't dry out.
When there are weeks without rain, young plants must depend on you for moisture.

8 – Mulching will help conserve water as well as keep the earth around the plants cooler. Even a thick layer of newspapers will do for this if you've nothing else available. Soak the newspapers after you spread them down and then throw some dirt or heavy branches or something on top of them so they won't fly away when they dry. It's not so pretty but works in a pinch.

And remember, "time spent with nature, in your garden or by a creek, makes the world look brighter and helps you feel lighter." (Words from the Brown Trout Cafe and Gallery website.)

Photo of Red Huckleberries (Vaccinium parvifolium) by JoAnn Onstott



Sparky's Corner

A special message from our frisky contributor

We got an email from a nice gardener friend the other day about a baby squirrel who got lost from his nest. A kind two-legger found him and took him to a lady named Debby who helps out baby wild things until they are big enough to take care of themselves in the big wide world.



She feeds them and gives them a warm place to grow and makes sure they are healthy, just like their mom would. Then she takes them back to their neighborhoods and lets them go free. She's especially smart and knows just how to do this right so Mother Nature doesn't get disturbed.

The baby squirrel the gardener wrote about was named Finnegan and the Debby lady's little dog Giselle helped her with Finnegan so he wouldn't be lonesome. Giselle had baby puppies and I guess



she figured Finnegan wouldn't be much more trouble than the puppies! What a

great little dog! Sometimes dogs chase us but Giselle is very kind. She probably learned that from the Debby lady. Here's a picture of Finnegan napping with the puppies.

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Sparky's Corner, continued

This is an amazing story and I'm so glad our gardener friend wrote to us about it. It shows us that just because somebody is a dog they don't all chase squirrels. And that's a great thing to know, a big one of what my mom calls "life lessons." Sometimes when I'm feeling a little bit out of sorts or when I can't find just the right acorn or it rains a little too much or maybe Smoochy and the other teenagers won't let us play with them, I'll think about Finnegan and Giselle and the Debby lady. Then I'll laugh and spread some sunshine around. Sunshine is best when you share it with your buds.

That's it from my corner of the nursery. See you next time!

Sparky

P.S. Here's a picture of the Debby lady with Finnegan.



This is my friend Smoochy. He is one of the teenagers in my neighborhood. He was so mad when JoAnn took his photo! He says he's way too busy for kid stuff like having his picture made. Tee Hee!

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Native Plant Water Gardening

Urbania's missing link in nature's cycle.

When summer comes along in earnest, when the days are long and hot and muggy, when gardeners tire of the never-ending watering and watering and more watering, we look for some relief. Not only relief from the onceexciting but now tedious day-to-day garden chores, but relief from the weather. Water gardening may be just the answer.

> Wetland Restoration Project at Coffin Butte Landfill



Native Willows, Iris, Cattails and visiting duck Photo by JoAnn Onstott

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For one thing, you get to play in the water. For another, you don't have to water every day when you're done! A body of water, no matter how small, mitigates the heat, especially when a little breeze crosses it.

Water gardening is incredibly simple to do. It can also be intricately dramatic if that's your preference. As with ordinary gardening, there are sizes of water gardens from a little bowl to a big hole in the ground you could sink a ship in.



And you don't have to have a pond style water garden. You can also choose a bog garden—that's just a garden without drainage (or very slow drainage) that retains water.

Another bonus: if you have a bog garden you get to play in the mud! So cooling! So reminiscent of childhood!

How nature does water gardens. Too much for you to build? Me too. Pick a little part of the stream to re-create in your yard.

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Crystal Springs Creek in Reed College Canyon, Photo from the Reed Canyon website

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A water garden, be it pond or bog, can attract wildlife as much or more than an ordinary wildlife habitat. Of course, if you're lucky you might attract fauna outside of the realm of regular gardens. A frog may come to live. Lace-wings are fond of water. Butterflies find water attractive as well. And naturally birds require some water for healthy living. They drink water and they bathe. If you've never had a bird take a bath in your yard, you don't know what you're missing. Just as people sing in the shower, birds put on a delightful performance worthy of the stage.

Urban and suburban areas become so developed, natural wetlands disappear from the scene. Oh, we have lots of hot, sunny spaces for meadow plants and shady woodland settings in older neighborhoods but very few wetlands remain once we build houses on every stitch of land.

So, consider the true fact that if you build a water garden, you are helping to restore the natural balance. And you'll have fun!

We aren't talking about the standard ho-hum pond with water lilies from Asia and stream-clogging water hyacinths from the Mediterranean. We're talking about Northwest Native water plants. It's another way to go native in your landscape, even if that landscape is a postage-stamp sized porch.



Photo from the Reed Canyon website

We won't attempt to tell you exactly how to build your pond or bog here. The library is full of books with that information. There are numerous websites with all sorts of ideas and gardening shows regularly feature water gardening techniques. We'll just cover some basic ideas and share a few tips.

Container pond with

candle.

Let's get started!

A few decisions must be made:

- 1. Pond or Bog?
- 2. Container or free-form?
- 3. Above or below ground?

4. How big? (one tip here--the most common thing I hear from gardeners with a pond is "I wish it was bigger!")

5. Location, location location!

Whichever style you select, the first requirement for a water garden is some way to hold water. You can use a bowl or a bucket or an old child's wading pool. I've seen water gardens made out of the discarded tub of a washing machine, a plastic wine barrel liner, a wheelbarrow. I thought about making one in an old boat.



You can dig a hole in the ground and line it with heavy plastic. There is a special grade of plastic just for water gardens that is guaranteed to last 10 years (provided you don't poke a hole in it!). Or you can rig up an above-ground form using cement blocks or rocks or anything that's heavy enough to support the sides of the liner.

If you're going to have a pond with fish, the water should be at least 18 inches deep. If you don't want fish, you must deal with mosquitos. Note: Koi, though beautiful, are too big to bother with mosquitos. Best to get some little goldfish.

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One way to repel mosquitos is to keep the water moving, usually done with a pump unless you can get somebody to sit by the pond 24/7 swishing the water around.

Or bring in toads or dragonflies (you can buy tadpoles or dragonfly nymphs at water gardening suppliers).

Or an alfalfa bundle is an organic option which has worked for me.

There are donut shaped mosquito dunks you can buy at the garden store. They have Bti which is a naturally occurring type of bacillus that mosquito larvae eat (it's their last meal), not harmful to fish, pets, wildlife or humans.

Bog gardens are not usually susceptible to mosquitos because they don't have standing water. After you put in the plants, you can put rocks or bricks or some other material all over the top of the dirt and then fill the bog right up to the level of the topping.

Small bog in a private garden. Photo by Jennifer Rehm

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There is a native plant that will form a "ground cover" for your bog. It will do the same thing as the rock or other topping in the bog. This plant is the Water-Starwort (Callitriche heterophylla). A plant used as ground cover will prevent mosquitos as well as adding another layer to the planting.

About other unwanted visitors for your pond:

In the years I've had a pond, I've found only two visitors which were not welcome--raccoons and dogs. My dogs are water lovers and will hop in any body of water without regard for whatever is growing in it. They do it just for the sheer joy of getting wet. Raccoons, on the other hand, get into ponds for food. They'll eat the fish and tender plants. (So will skunks, I'm told!) Raccoons would rather not get into the water if they can fish from the bank. So if you anticipate a raccoon visitor, make your pond deep with straight sides. My current pond is 4 feet tall and sits above ground. It has (so far) been raccoon proof. The dogs are now convinced that jumping in the pond makes me very unhappy and refrain from doing it. The fact that they now have their own wading pond may have helped in this decision on their part.

Consider a "water feature" in your garden. I have a bog and a pond (and a wading pond for the dogs) and they are among the favorite parts of my garden.



Water Starwort (Callitriche heterolphylla) Photo from Reed College website



Native Water Plants

Planting a water feature in your garden follows many of the same design standards as any other area of landscaping. You want something tall, something small, something in between. You want contrasting or complimentary colors and textures. If you plant in a pot, something to drape over the sides is usually included.

There are just as many gardening styles as there are gardeners. You can have a theme or a color scheme, you can go monochromatic or bright or soft. Let your imagination soar. My best designing method is to park myself in the garden swing and just be. I relax and look at the garden, enjoying the smells and sounds and the ambience. Before long I will have an idea about how an area should look and not long after that I'm sketching and making a list of what I'll need to create this new feature.

Do whatever works for you to plan your water garden. When your plan is ready, you can pick out the plants!

We show now some of the many Northwest Native plants suitable for pond or bog. We've divided them into:

- -Perennials
- -Grasses
- -Groundcovers
- -Shrubs and trees

Depending on the scope of your project, you may want something from each category or you may want to choose only one or two types of plants. Let nature be your guide. It's your creation and you're the boss!



Napato (Sagitaria latifolia) growing in a lake and in a backyard pond. Peaceful, serene, beautiful.

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Unusual plants for your pond or bog: Perennials

Sagittaria latifolia (Wapato, Arrowhead, Delta Potato, Duck Potato)

The starchy edible tubers of the Wapato were a noted food source for Native Americans and Lewis and Clark and are currently enjoyed by ducks and other waterfowl. This plant is commonly found in wet swampy areas across the continental United States but is less abundant today in the Pacific Northwest due to habitat destruction. The leaves grow above the water and are strongly arrow shaped. In mid Summer, flower stems appear bearing white flowers with yellow centers. Grow them in USDA zones 3-10 along stream banks and lake or pond edges. This is an important plant in the restoration of riparian zones in sun or part shade areas.



Wapato (Sagittaria latifolia) Photo by JoAnn Onstott



Mimulus guttatus (Monkey Flower or False Lily-Of-The-Valley)

Monkey Flower (Mimulus guttatus) Growing along the roadside in a drainage ditch Photos by JoAnn Onstott

A fine perennial wildflower to 2,' with large, yellow flowers, like a roaring dragon, in the late Fall. Delightful patterns are sprinkled on the petal lips. Hummingbirds find the trumpet shape alluring. Native groups used the stems and leaves as a source of salt. Found throughout the Pacific Northwest (USDA 5-10), the Monkeyflower is a riparian species. It cannot tolerate drought and while it grows at high elevations, it follows watersheds and mountain streams.

Large-Leaf Avens (Geum macrophyllum) Photo by JoAnn Onstott

Geum macrophyllum

(Large-Leaf Avens)

The most interesting characteristic of this wetland plant is the leaf variation, which makes it appear as if two plants were combined to make one. At the base are rounded compound leaves of different sizes on long petioles, and hugging the main stem are three lobed leaves, which are deeply serrated. The yellow 5petaled flowers are born at the end of the stems in May. Native Americans found that chewing the leaves of Large Leaf Avens was useful during childbirth and that



the roots were good for producing a tea to cure stomachaches. This plant can be found from Alaska to California and east to Idaho and Montana; it is especially concentrated in USDA zones 1-9.





Pacific Waterleaf (Hydrophyllum tenuipes) Photo by JoAnn Onstott

Hydrophyllum tenuipes (Pacific Waterleaf, Slender Waterleaf)

This woodland plant has tall 1-2' stems and noticeable large palmate leaves. The flower clusters contain many small greenish white blooms with an occasional touch of lavender. The stamens are very pronounced and stand well above the blossoms, in typical waterleaf fashion. This is a coastal woodland plant that is found most frequently in moister areas. This Pacific Waterleaf is found west of the Cascade Mountains from British Columbia to Northern California, USDA zones 8-9. This is a known food for grazing wildlife.



Drawing from USDA database

Photo byReny Parker, www.renyswildflowers.com



Viola glabella (Yellow, Pioneer or Stream Violet)

The largest native violet, with cheerful little blooms. Pointed, toothed leaves form on the ends of the stems and delightful yellow flowers with purple striations reach upwards on fragile-looking stalks. Yellow violets like moisture and spread quite eagerly. They are native from Alaska to the Sierra Nevada and east to Montana, USDA zones 5-8. They are also found in northeast Asia. Usually available late April.



Marsh or semi-aquatic perennial with white or pink clustered flowers. Once used medicinally for treatment of rabies, hence the common name "Mad-Dog Weed." One of the first water garden plants to break dormancy in early spring.





Common Wetland Aster (Aster chilensis) Photo courtesy of William & Wilma Follette @ USDA-NRCS PLANTS Database / USDA NRCS. 1992. Western wetland flora: Field office guide to plant species. West Region, Sacramento, CA.



Aster chilensis (Common California Aster, Pacific Aster, Common Wetland Aster)

This wetland flower is found primarily along stream banks, moist grasslands, and forested wetlands form Alaska to California. This is a favorite for native bees and butterflies carving out an important niche for this species. This perennial aster is hardy on the West Coast and spreads by rhizomes. In colder climates, it may act like an annual spreading by seed. Meet this aster's need for moisture and sunshine, and it will do well. The stalks are tall and airy with sparse foliage, but the flowers are quite nice. The dainty flower heads have blue to violet outer rays, and the small tubular central flowers that may be white on occasion but are generally yellow. This is a valuable plant for wetland habitat. USDA zones 5-9. **♥More♥**

Sidalcea virgata (Rose Checker Mallow, Marsh Hollyhock, Wild Hollyhock)

Rose Checker Mallow is native to Washington and Oregon's Willamette Valley along roadsides, moist meadows, and hillsides, USDA zone 8. This Wild hollyhock has loose racemes of rose pink to magenta flowers in Springtime. It will spread by rhizomes, which develop into clumps over time. The plant will reach 1-2' tall with palmate lower leaves and deeply cut foliage along the stem. This is a wonderful wildflower for mild moist areas and will create an inviting habitat for butterflies.



Marsh Hollyhock (Sidalcea virgata) Photo by JoAnn Onstott

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Yellow Iris (Iris pseudacorus) at the Coffin Butte Landfill Water Restoration Area Photos by JoAnn Onstott

Iris pseudacorus (Yellow Iris, Yellow Flag, Water Flag)

This iris has European origins but is found worldwide in USDA zones 3-9. It has gained popularity as a wetland plant and thrives around ponds and water features. It can grow in shallow water but is usually found growing along the banks of rivers and streams in sunny locations. Yellow Flag will eventually form dense clumps so take care to plant it in contained areas where it will not compete with native vegetation. It is a tall plant whose stalks and leaves will easily reach 3' or more. The flowers are yellow with dark brown to purple veins and can be found blooming from April through August. Large stands of this plant in western Scotland form a very important feeding and breeding habitat for the endangered Corn Crake. May not be sold in Oregon as it is considered highly invasive. If you decide to use it in your pond or bog, plant it in a container and make sure it can't get out. Remove seed heads before they ripen.

Showy Milkweed (Asclepias speciosa)

Perennial with pink to purple flowers (fragrant). Attracts butterflies. Very beautiful addition to bog area.

Photo by Jennifer Rehm



ASCLEPIAS DOUGLASH Heat ⇔More⇔

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<u>Native Water Plants,</u> <u>continued</u>

Lysicitum americanum (Skunk Cabbage or Swamp Lantern)

An unusual and beautiful perennial arum. Large, oval leaves are a vibrant green and can reach 1-4' long and 2' wide. A bright yellow "flower" in March is really a spathe consisting of many tiny flowers sheltered by a large, yellow bract. From the flowers comes a smell some find reminiscent of skunk spray, but so mild in comparison to the real thing! The plant actually utilizes its scent to attract pollinating insects. Skunk Cabbage likes boggy, wet conditions, so much so in fact that adventurers learn to steer clear of it, lest they lose their boots in the peat muck. Although the plant can be irritating (even toxic) Native groups did use the flat leaves to line baskets and pits for steaming food. Found from Alaska to California and inland to Montana, Skunk Cabbage is hardy between USDA 4-7.

Note: Though this plant is said to have a "skunky" smell, it reminds me somewhat of lemons and not a bit like a skunk. JR

Swamp Lantern (Lysicitum americanum) at Reed College Canyon, the headwaters of Crystal Springs Creel Photo from Reed College Website

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Common Horsetail (Equisetum arvense)

Quite common but valuable in the landscape nonetheless, this plant is rather like a fern with it's airy looking leaves. They are surprisingly stiff to the touch.

The Common Horsetail is good for bog plants or shallow ponds and shows to good advantage with large-leaved plants.

Photo from Reed College Canyon website



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Water-Cress (Rorippa nastutrium-aquaticum)



Water-Cress is lovely with it's small leaves and sweet flowers. It is edible with a peppery, crisp taste that sparks up a salad.

Good in both ponds and bogs, it's a perennial that will spread out to form a mat of greenery. The flowers appear in late spring and may continue through midsummer.



Photo from Reed College Canyon website

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Giant Horsetail (Equisetum telmateia)

Giant Horsetail has a beauty all its own, unique and striking. Has found favor with florists in the last few years, included in arrangements.

Best in bogs, will also do well in shallow ponds. Unlike any other plant, the Giant Horsetail looks good with most any water species.



Photo from Reed College Canyon website

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imagery by sean and jennifer mccormick

Slough Grass (Beckmanniasyzigachne)

Annual grass approximately 3 feet tall. Slough Grass flowers in June and July and the seeds are food for waterfowl, seedeating birds and small mammals. The flower heads of this grass is said to resemble rattlesnake tails.



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Tufted Hairgrass (Deschampsia-cespitosa)



not flower well if it has too much shade.

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Ovoid Spike Rush (Eleocharis ovata)

This rush grows from 4-18" tall. It's fine grassy foliage topped by the little tufts of seeds are a delicate composition.

It is a favorite of pond gardeners because it retains this look almost all year.

Other rushes grow taller, not usually more than 30 inches. All share the fine foliage with tufts of seeds atop.



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Palmate Coltsfoot or Sweet Coltsfoot (Petasites-frigidus var. palmatus)

This plant grows from a rhizome, 6-18 inches tall. It has large basal leaves. It blooms from March through July. The flowers may be white or pink.

The young leaves and flower heads are listed as a food source and are said to have some medicinal value.

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Polygonum coccineum, emergent colony.

These Smartweeds are both perennials and grow from rooted cuttings. They both have pink flowers. The Dotted Smartweed has dots on the leaves. An attractive plant that will spread wherever it can, growing roots wherever the stems touch the ground (or the water).

Oval Leaf Pondweed (Potamogeton natans)

Perennial with floating and submerged leaves. Stems may grow up to 5 feet long. Lives in lakes and ponds.

It does flower but the bloom is inconspicuous. The plant is prized for it's leaves which are naturally striped in shades of dark and light green.







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Photo by Jennifer Rehm

Cattail (Typha latifolia)

Cattails are perhaps the best known of the wetland plants and yet few have a respect for their incredible ecological and wildlife value. The plant is tall, with stems reaching from 3 - 10' and thick, strap-like leaves, 1" wide. A single shoot will have between 12 - 16 leaves. The male and female flower spikes are separate and very distinct. The light brown male flower forms at the top of the stem and quickly comes apart, leaving a bare stem. Below this is the thick, dark brown female flower, reminiscent of a cigar. These female flowers last for many, many months before they disintegrate. At that point the wind carries away the innumerable (some say as many as 270,000 per flower spike), tiny seeds, with their soft downy hairs attached. While cattails will hybridize, true specimens of Typha latifolia can be distinguished from other cattails by looking at the flowers. In Typha latifolia, there is no space between the male and female flowers. Later, when the male flower has disintegrated, the remaining stem is coarse and gray, rather than smooth and green as it is in other cattail species. ⇔More⇔

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Unusual plants for your pond or bog: Perennial Grasses



Sedge (Carex)

Sedges comprise a large percentage of the water grasses native to the Northwest. Here and on the next 3 pages is a comparison drawing of the various sedges you may consider for your pond or bog.



Carex pendula

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CAREX: sect. HELEOGLOCHIN & MULTIFLORAE

Note the different sizes of bulbs and seedheads. The grassy texture of Sedges are very nice detail for water gardens and the seeds provide food for birds and other wildlife.





CAREX: sect. HELEOGLOCHIN & MULTIFLORAE



Each Sedge's fluffy seed-heads are distinct. Though these plants are closely related they are quite different. Several different varieties planted in clumps can be very



Carex flacca

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Sedges are annual plants but reseed themselves so can be treated like perennials.





Carex vesicaria

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A couple of illustrations from ancient botanical books showing detail of three sedges.

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Unusual plants for your pond or bog: Groundcovers



Water-Starwort roots in mud at the shallow edges of the water so is perfect for bogs. Duckweed and Water-Ferm are free-floating. All three of these plants tend to congregate together forming mats of shade which discourage mosquitos and provide food for fish. They also help to limit growth of algae.

Water fern and Duckweed photos from Reed College Canyon website

Unusual plants for your pond or bog: Shrubs or Small Trees

Salix fluviatilis (Columbia River Willow, Sandbar Willow)

This rare beauty is native only to the banks of the Columbia River and lower Willamette River of southwestern Washington



and northwestern Oregon. An attractive willow, it reaches 7 -20,' developing a shrubby form. From the light brown, scaly bark grow hairy branchlets, soft as silk, and 2-6," lance-shaped, light green leaves with hints of blue. In early spring it is covered with cheerful $1\frac{1}{2}$ - 3" catkins.

Perfect for bogs, this native would also enjoy growing beside a pond.

Willow growing in the edge of a stream in early spring Photo by Jennifer Rehm

Drawing from USDA database



Salix lasiolepis (Arrowyo Willow)

This upright willow will become a small tree to 30' tall. It is found in low, wet, full sun areas of California USDA zones 8-9. It has long narrow dark glossy leaves that are a bit curled. The flowers are catkins and appear before the leaves in the Spring. Native Americans obtained an aspirin substance from Arrowyo Willow much like the synthesized version on store shelves today. The long slender branches and twigs of the willow are woven into baskets and furniture because they are so pliable. This is a good wetland restoration plant.





Arrowyo Willow (Salix lasiolepis) Seedlings and Leaf Closeup Photos by JoAnn Onstott

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Photo by JoAnn Onstott

Betula glandulosa (Bog Birch, Scrub Birch)

This shrub is similar to the Paper birch tree, but develops multiple stems and reaches only 6 - 8.' This shrub likes moisture and is found in boggy areas throughout central to northern United States, along the entire Pacific Coast and north across Canada to the Arctic and into Greenland. It is hardy to USDA zone 2. In the northernmost stretches of its range it remains stunted at only 6-8." Here, in the muskegs of the permafrost, this shrub provides critical habitat and browse for wildlife. It has tiny, glossy, oval leaves from ½ - 1" long and twigs with noticeable resin glands (hence the Latin, "glandulosa").





Andromeda polifolia (Bog Rosemary)

An outstanding evergreen native for wet sites, Bog Rosemary is found across North America and is hardy from USDA zones 2-9. This low-growing shrub has soft pink flowers that hang like fairy bells from the narrow, leathery, $\frac{1}{2}$ - 1" leaves. It spreads by rhizomes and contains dangerous toxic compounds so must not be eaten. Bog Rosemary prefers sun and as it likes moisture and acidity, add a mixture of wet peat moss and compost to the planting hole. Bog Rosemary's beauty interrupts the vast swamplands in which it grows, much as the beauty of its namesake, the Greek heroine, stood out against the ocean when her parents ruthlessly tied her to the rocks as a sacrifice to the sea-monster.



Cascara (Rhamnus purchiana) Drawing by Marci Degman Photo by JoAnn Onstott

Rhamnus purshiana Cascara Buckthorn



Rhamnus purshiana (Cascara, Chittam, False Buckhorn)

This interesting deciduous tree makes a novel addition to the garden. Found along the Pacific coast from BC to northern California, in USDA zones 7-9, Cascara favors moist locations such as riverbanks. It often reaches 50' but sometimes grows as a shrub to only 15.' The dark green, glossy leaves are highly decorative and stand out against the small, green-white flowers that form in loose clusters. Birds relish the cherry-like fruit but they are potentially toxic to humans and should be avoided. In late autumn, the leaves turn a delicate yellow and persist through many a winter storm. The cured bark is used extensively as a potent laxative. This tree can be cut down close to the soil line and it usually will re-sprout and form a new tree.



Rare Native Water Plants

Photographs by Don Eastman

Now we turn to the rare and endangered Northwest Native water plants in a photographic essay by our favorite author/photographer, Donald C. Eastman. These photos and the descriptions of the plants are from Don's book, <u>Rare and Endangered Plants of</u> <u>Oregon</u>. We use them with his permission.

Western Bog Violet

(Viola lanceolata L. sppl occidentalis [Gray] Russell, also known as Viola occidentalis [Gray] Howell.)

Violet Family (Violaceae)

This plant, rare and threatened in Oregon, grows in Darlingtonia and sphagnum bogs and swamps in serpentine soil in Curry and Josephine counties, and in adjacent Del Norte County, California where it is considered to be endangered.

Viola lanceolata spp. occidentalis grows to six inches tall. The leaves are glabrous, broad-lanceolate in shape, and on hairless stems that are longer than the leaf blades. The petals, about onehalf of an inch in length, are pure white on both sides. The lower petal has purple veins at the base; the lateral petals are bearded. The spur is short and sac-shaped. It blooms from April to early June.

Photo © Donald C. Eastman

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Fringed water-plantain

(Machaerocarpus californicus [Torr.] Small; also known as Damasonium californicum Torr.)

Water-plantain Family (Alismaceae).

This is a perennial water plant which grows in shallow ponds and sloughs. Although its range extends from the Washington side of the Columbia Gorge south along the east side of the Cascades into California, Nevada, and southwestern Idaho it is known from very few sites in Oregon. It was placed on the Review List in Oregon in 1983 for further study.

Machaerocarpus californicus has lanceolate to ovate leaves, with entire margins, two to three inches long, that are on stems longer than the blade of the leaf and equal in length to the stems of the inforescence. They are usually lax, floating on the surface of the water. The leafless flowering stems are topped with one or two whorls of flowers which have three broad, white to pinkish petals, less than one-half inch long, that are deeply fringed along their outer margin, and three broadly ovate, greenish sepals. There is often a touch of yellow at the base of each petal. The flowers are perfect, with six stamens and usually six pistils. The achenes, small one-seeded fruits, are divergent, and shaply contracted to a long beak. It blooms from April into August.



Habitat scene

Photos © Donald C. Eastman



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Howell's quillwort

(Isoetes howellii ENgelm.)

Quillwort Family (Isoetaceae).

Quillworts are closely related to ferns and horsetails and are found growing in pools that dry up in the season. There are four species of quillworts in Oregon, all are widely distributed, but rarely seen, and very difficult to identify. They are all considered rare, and possibliy threatened. Isoetes howellii is found from Washington to California and east to Montana.

The leaves of Isoetes howellii, ten to thirty in number, arise from a corm-like stock which is divided into two lobes. They are green, cylindrical and divided into four longitudinal air spaces having several transverse partitions. They are erect, or nearl `y so, and are about five to eight inches long. This plant has a sporangium that produces spores, the reproductive bodies of fern-related plants. The sporangium is only partially covered by a velum, a fold in the inner side of the leaf base. The large spores are white and have short tubercles.

Closely related and having the same rarity status is Nuttall's quillwort (Isletes nutallii A. Braun ex Elgelm.). It is limited to the Columbia River Gorge and west of the Cascades. It differs from Isoetes howellii by having a three-lobed stock at the base of the plant and the sporangium is completely covered by a velum.



Photos © Donald C. Eastman

Howellia

(Howellia aquatilis Gray)

Harebell Family (Campanulaceae).

Howellia is one of the rarest plants in Oregon. This rare and endangered plant is possibly extinct in this state. At present it is known from only two sites in Washington, in Clark County and Spokane County, and has recently been reported from several sites in Montana. It was collected in California in 1979, but efforts to relocate it have failed. It is presumed now to be extinct in that state.

Howellia aquatilis is an aquatic plant that is rooted in shallow ponds. It floats just under or near the water surface. The stems are lax and drooping, and up to thirty inches long. The narrow leaves are linear-tapering, mostly entire, and are about one to two inches long. The flowers are white to pale lavender, and are about an eighth of an inch across, but are not always present. When present, the corolla is bilabiate, the upper lip being very much smaller than the lower one which has five lobes. The early flowers are said to be cleistogamous, resulting in self-pollination, and are found in the axils of the ordinary leaves. Flowers later in the season form on special branches that have shorter leaves arranged about the leaf nodes of the stem in groups of three as may be seen in the photograph. It flowers in May, and in some seasons when the ponds do not dry up, into August or September.



Photo © Donald C. Eastman

Purple toothwort

(Dentaria gemmata [Greene] How.)

Mustard Family (Grassicaceae)

This rare and threatened species is known from only a few sites in Curry, Josephine, and Jackson counties in Oregon, and in Del Norte and Siskiyou counties in California. It is known in California by an earlier name, Cardamine gemmata Greene, and is considered there to be endangered. It grows in wet places from an orange-yellow, eggshaped rhizome.

The three to five basal leaves of Dentaria gemmata may be up to one and one-half inches long, are deep green, orbicular, shallowly lobed and thick; the stem leaves are three to seven foliate. Several flowers form a short raceme. The petals are rose-purple to deep purple, one-half inch long on pedicles three-quarters of an inch long. The style is about one-quarter of an inch in length with a capitate stigma; the siliques are somewhat over an inch long. It blooms from April to June.



Photo © Donald C. Eastman

California pitcher-plant

(Darlingtonia californica Torr.)

Pitcher-plant Family (Sarraceniaceae)

It is also known as Cobra-lily due to the shape of its leaves. Though numerous at sites where it grows in coastal and inland bogs, from Tillamook County south into California, and from sea-level to 4000 feet, this plant has been considered threatened by collection for sale as a house plant.

As Darlingtonia californica depends in part for its sustenance on the ingestion of insects, it has highly modified leaves up to twenty inches tall that are tubular and hooded at the top. Below the hood is an opening which is bordered in front by a pair of prominent appendages. Small insects are attracted through this opening into the hollow leaf, from which few are able to escape because of the down-angled, glandular cilia lining the inside. The insects eventually fall into the water at the base of the leaf and are digested. The plant also produces chlorophyll. The stems, up to four inches tall, are topped with a nodding flower having five hollow sepals that are one and one-half to two and one-half inches long and five purple petals that are about twothirds as long as the sepals. These surround a large superior ovary. As the plants go to seed, the developing capsule returns to an erect position. This plant blooms in May and June.



Leaf form

Note: See page 58 for more info on this plant.



Photos © Donald C. Eastman

Willamette Vallye bittercress

(Cardamine penduliflora Schulz.)

Mustard Family (Brassicaceae)

This bittercress is found only in the wet meadows and swamps in the WIllamette Valley and west into the Oregon Coast Range.

Cardamine penduliflora grows six to sixteen inches tall. The stem leaves have five to nine leaflets; the terminal one, with three lobes, is much the largest. The basal leaves are larger, pinnate, long-stemmed and sometimes have bulblets in their axils. The pure white flowers have four petals, each slightly less than one-half inch in length. The seed pods are erect siliques, one to two inches long. It blooms from April to May.

Photo © Donald C. Eastman



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Narrow-leaved water plantain

(Alisma gramineum Gmel, var. angustissimum [DC] Hendricks)

Water Plantain Family (Alismaceae)

As the common name implies, this plant grows in water, sometimes in marshes, and on the edges of lakes and ponds. Though it grows natively most of the way across north America and Eurasia, in Oregon it is found only in a few scattered sites in the eastern part of the state from the Columbia River to Malheur County.

In this species and variety the flower scape is not longer than the leaves, and the leaves are narrower and stand stiffly erect, not usually submersed. The flower has three orbicular sepals and three white-pinkish petals, somewhat longer than the sepals, with smooth, unfringed margins. It may be found blooming throughout the summer.



Photo © Donald C. Eastman

Oregon Native Treasure

DARLINGTONIA STATE NATURAL SITE

Darlingtonia State Natural Site is the only Oregon state park property dedicated to the protection of a single plant species. Concurrently, the plants it protects are the only carnivorous flora in the system.

This 18-acre botanical park provides parking and a boardwalk trail out into a fen that is home to Darlingtonia californica. Also called a cobra lily, the rare, strangely-shaped plant is the only member of the pitcher plant family (Sarraceniaceae) in Oregon.

What visitors see in this little garden of multi-colored horrors (for insects), is a plant with yellowish green hooded leaves that form erect, 10 to 20-inch-high hollow tubes. On top, the leaves are often purplish to reddish mottled with transparent areas. A hidden opening into the stalk is bordered by a large, green,

mustache-shaped appendage beneath the curved hood of the leaf. Nectar inside the plant's hidden opening attracts the insects. Once inside, an insect becomes confused by the transparent areas that appear like exits. It's all "downhill" for the insect from that point as it eventually drops into the lower part of the tube, is trapped by downward-pointed hairs and falls into a pool of water at the bottom of the stalk. Bacteria in the water decompose it into nitrogen that is then absorbed by the plant.

Darlingtonia californica has flowers with five purple petals (surrounded by yellow sepals) that bloom in the spring. Associated species include an orchid, California lady's slipper, and two lilies, Tofieldia and Narthecium.

Darlingtonia plants are found in serpentine soils and sphagnum fens arising from wet sands on coastal plains. Collecting Darlingtonia samples is illegal in Oregon.





Besides its parking area and boardwalk, Darlingtonia State Natural Site offers a small picnic area. Nearby scenery includes a lush assortment of vegetation that includes rhododendron, spruce, cedar and shore pine.

Vital stats

There is no fee to use this park. For information, call 1-800-551-6949.

Services Picnicking

Florence Lat.: 44.047709 N Long.: -124.097332 W

Walking trail Wildlife watching Waterways Native Plant Interpretation

Interpretive signs Year-round Restrooms

See the website at http://www.oregonstateparks.org/park 115.php





DARLINGTONIA



lower



Nature

HISTORY

Useful Plant Databases on the Web

Here is a good collection of web data bases that will be useful to professional growers and all native plant gardeners. This list is from a larger list compiled by Lawyer Nursery in 2002 and published in one of their flyers. I wish to thank them for this public service.

Wally



Useful Plant Databases on the Web, Continued

Bonsai web

http://www.bonsaiweb.com Portal of links to educate about the art of bonsai.

Fire effects on plant species

http://www.fs.fed.us/database/feis/ USDA, Forest Service site.

Forest Types of the United States

http://forestry.about.com/library/tree/bltypdex.htm Maps of the most common forest types.

Forestry index

http://forestryindex.net/ Links to news & info on the forestry industry.

Cornell University online grafting course

http://instruct1.cit.cornell.edu/courses/hort494/graftage/hort494.index.html

Growit.com Rooting Database

http://www.growit.com/Know/Rooting.htm

"Extensive information on rooting cuttings of woody plants, organized by botanical name. Developed for commercial growers."

The Native Plant Network

http://nativeplants.for.uidaho.edu/network/

Information on how to propagate native plants of North America.

Useful Plant Databases on the Web, Continued

Skink Cabbage

Lady Fern

Woody Plant Seed Manual

http://www.wpsm.net/

Manual by the US Forest Service covering seed biology, genetic Improvement of forest trees, seed testing, certification of tree seeds and other woody plant materials, and nursery practices.

River Corridor and Wetland Restoration

http://www.epa.gov/owow/wetlands/restore/ Environmental Protection Agency (EPA) site

Soils

http://homepages.which.net/~fred.moor/soil/links/10102.htm A website about soil fertility, chemistry, and pH with many interesting links.

Soil Science Society of America

http://www.soils.org/

Sword fern

Website for soil science professionals. Offers information and links.

Common Horsetail

Personal notes from Wally

Summertime! The Gentle Season!

The frenzied energy of Spring has given way to a gentle, reflective mood. Enjoy your gardens, large or small, especially in the cool of the evening. Savor the moment - the fleeting hour. Gardens soften life. Gardens evoke memories of childhood, perhaps a childhood that never really was as we remember. Somehow, the emotions, feelings, imagination, mystery and wonder as we became aware of our world, lingers on. Maybe it is good -healthy to revisit and remember and renew. We cannot be a child again, but can we in some way renew and enrich our lives in our gardens?

I have a Grandson, Ethan - a city boy (lives in an apartment). I recall one summer when he was four years old, he visited here at my nursery and gardens. He is a very gentle boy. Somehow, when here, he became a country boy. He went into a wilder part of my gardens and soon brought me, ever so gently and careful in his tanned little hands, two baby hummingbirds. We, of course, hurried to the nest - (how sharp his eyes to ever see the nest!) - on a stout Himalayan Blackberry vine, camouflaged so skillfully! The inside of the nest was built by a master builder - soft down, seamless, clean, perfect. Ethan gently put the baby hummingbirds back in the nest while the Mama swooped overhead. The babies were so fat they filled the small nest to the brim! Afterward, I thought of that wonderful poem by John Greenleaf Whittier (1807 -1892). The Barefoot Boy. Let me quote a few lines:

"Blessings on thee, little man, Barefoot boy with cheek of tan! With thy red lip, redder still, Kissed by strawberries on the hill: Oh, for boyhood's painless play, Sleep that wakes in laughing day, Health that mocks the doctor's rules, Knowledge never learned in schools, Of the wild bee's morning chase, Of the wild flower's time and place . . .



Painting by Heidi D. Hansen

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Personal notes from Wally, continued

I hope the child in you never goes away - keep some of the wonder of the little girl or the little boy with you always. We never really grow up, you know. Gardens both bring us close to nature and the good things of life and renew our sense of awe and mystery of youth which is also a part of reality.

As our amazing scientists unlock genetic codes and some of life's mysteries, more mysteries and wonders appear! The more we know, the less we know. Learn all you can of science and pure knowledge but keep a strong hold on that other part of your being that may be found in your gardens - that deeper part that reaches back into the womb of time.

Good luck!

Wally



Paintings by Heidi D. Hansen

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NOTICE: NURSERY IS CLOSED In November 2010, Wallace W Hansen Northwest Native Plants Native Plant Nursery and Gardens closed permanently.

Many thanks to all our gardening friends for your interest in the native plants of the Pacific northwest. It has been our pleasure to serve you.



Kinnikinnik (Arctostaphylos uva-ursi) Hands-down the gardener's favorite ground cover. Evergreen, hardy, drought-resistant. A winner!

www.nwplants.com

Our website, www.nwplants.com, is no longer commercial. Our goal is to continue Wally's legacy of generating interest, even passion, in the magnificent native plants of the Pacific Northwest through information and illustration.

> Good luck! Good gardening!

The Wild Garden: Hansen's Northwest Native Plant Database