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NW Native Plant Journal

A Web Magazine

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www.nwplants.com

Western Wallflower
(Erysimum capitatum)

Feature Articles

About this Journal

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.).

Tiger Lily (Lilium columbianum)

On the Cover:

Quaking Aspen (Populus tremuloides)

Pando (Latin for “I spread”), also known as The Trembling Giant, is a clonal colony of a single male Quaking Aspen (Populus tremuloides) determined to be a single living organism by identical genetic markers and assumed to have one massive underground root system. The plant is estimated to weigh collectively 6,000,000 kg (6,600 short tons), making it the heaviest known organism. The root system of Pando, at an estimated 80,000 years old, is among the oldest known living organisms.

Pando is located 1 mile southwest of Fish Lake on Utah route 25, in the Fremont River Ranger District of the Fishlake National Forest, at the western edge of the Colorado Plateau in South-central Utah, at N 38.525 W 111.75.

Photo by J. Zapell

Wildlife Corner

Out back with the animals

The crows are the guardians of my garden. There are two that claim most of the Paper Birches in my landscape as their responsibility. Others have planted their flags in neighboring yards. When there comes a danger to the community, they all come together to set things aright.

Today "my" crows raised the alarm: a large black cat had entered the wildlife habitat area. Loudly declaring "Intruder! Intruder!" with voices and beaks pointed directly at the feline, the crows intimidated the cat. Nearby, other crows proclaimed their willingness to join the fray should it become necessary. The upshot of this confrontation was the cat slinked away, properly put in his place.

A week or so ago, a hawk began sort of circling and diving toward a neighbor's garden. This action immediately brought a concentrated response by seemingly every crow in the vicinity. Not waiting for an invitation, crows both young and old added their mighty calls to the cacophony asailing the hunting bird. In no time at all, the hunter was convinced that he did not hold the correct credentials to live in our community.

A little digging for crow info found this:

> *"Crows are very social. The groups of crows in your backyard are extended families who share food and look out for each other. Some young crows help their parents care for younger siblings before breeding themselves. Crows work together to mob a threatening predator or another crow attempting to move in on the group's territory.*
>
> *"A crow family can eat 40,000 grubs, caterpillars, army worms, and other insects in one nesting season. That's a lot of insects many gardeners and farmers consider pests. These good environmental citizens also transport and store seeds, thus contributing to forest renewal. And their habit of eating carrion makes them part of nature's cleanup crew."* Read more: Wildlife in Culver City - Crows, http://www.friendsofculvercityanimals.org/crows.html.

Garden chores to do now

Pearly bits of wisdom & just plain common sense

A — Everyday maintenance

— Deadhead flowers to keep them coming. You will be surprised at the bounteous blooms to enjoy, all because you keep steady with this simple job.

— Prune anything that has finished flowering. If you put this off too long, you risk destroying next year's bloom. A prime example is the Rhodies we love. By the time the flowers have wilted, there will be tiny nubs around the flower remnants. Break off the old bloom while protecting this new growth that produces the flowers next spring.

B — Outdoor Bugs

— **Insects in general**. Beneficial or pest? It's a matter of perspective. 90% of all insects are beneficial to plants. I personally object to some bugs, and I take measures to convince them to live somewhere else. Yellow jackets fit in this category because they are, without exception, attracted to me. I've been stung countless times. I do not pick a fight with them, but they will chase me down and swarm angrilly outside wherever I've taken shelter. Aside from my own prejudices, I use a "live and let live" philosophy. I let the plants in my garden tell me when they are in trouble.

— **Ants**. Generally ants are beneficial. Most ants are pollinators in the course of their daily lives which I view as positives. The majority of ants build nests underground. Their subteranean highways offer open tunnel 'shortcuts' for air and moisture to the roots of plants. Leaves, dead insects and other plant debris brought into the labyrinths ultimately break down into rich compost for surrounding plants. Many ants are predators and do their share of work in thwarting would-be attacks by unwanted insects.

Fireweed (*Chamerion angustifolium var. canescens*) Reliable re-bloomer: cut back after first bloom for a second round.

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Garden chores to do now, continued

"Ants disperse seeds of woodland spring wildflowers, such as Bleeding Heart (Dicentra spectabilis, USDA Hardiness Zones 3–9), Trout Lilies (Erythronium spp. and cvs., Zones 3–9), and most Violets (Viola spp. and cvs., Zones 3–9). They conduct this same role with flowering plants across the country. This enterprise is so beneficial that plants appear to have adjusted the timing of flowering and fruiting to take advantage of high ant activity early in the year." See http://www.finegardening.com/ants-arent-your-enemy.

Some species of ants "farm" aphids, herding them onto the plants the aphids eat, then "milk" the honeydew from the aphids by stroking them with their antennae. This is a "mutualistic relationship," both partner species benefit from the deal.

Some ant species take a more aggressive role, gathering and storing the aphid eggs in their nests over the winter. Then in spring, the ants carry the newborne aphids back to the plants.

Some ants enslave large herds of aphids.

When a queen ant leaves the colony to form a new one, they take an aphid egg along for the new colony. A side benefit for the aphids: the farmers protect the herd from aphid predators.

Above: Ants herding aphids Thuja occidentalis, photo by Carlos Delgado

Aphid being eaten by lady beetle, photo by Scott Bauer

Below: Ant feeding on aphid honeydew, photo by Jmalik

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Garden chores to do now, continued

— **Azalea lace bug, *(Stephanitis pyrioides).*** Relatively new to the Pacific Northwest, this bug pastes a bulls-eye on azaleas and rhododendrons. Symptoms of an infestation on evergreen azalea plants and rhododendrons are leaves turning nearly white from feeding damage. Activity occurs in late May to early June and escalating all through summer. Unlike other lace bugs which are reported to have only one generation per year, the azalea lace bug has multiple generations per year making it a much more powerful threat.

— **Treatments:**

Strange as it may seem, keep up with **watering** if necessary--stressed plants cannot defend themselves. Read more about watering methods and philosophies on page 16.

Horticultural oil spray. New horticultural oils are versatile and safe to use on more plants than before. They kill insects by suffocating them, also kill insect eggs by penetrating the shells and interfering with metabolic and respiratory processes. In addition, oils disrupt feeding by insects such as flea beetles, whiteflies, and aphids without necessarily killing them. Oils have few residual effects, and their impact on beneficial or benign insects is minimal. A word of warning: What kills a tiny insect can make us sick, too.

Neem oil spray. Neem (Azadirachta indica) is an evergreen tree endemic to the Indian subcontinent. The oil from this tree repels a wide variety of pests including mealy bug, beet armyworm, aphids, the cabbage worm, thrips, whiteflies, mites, fungus gnats, beetles, moth larvae, mushroom flies, leafminers, caterpillars, locust, nematodes and the Japanese beetle.

Photo courtesy of University of Georgia Archive, University of Georgia Bugwood.org

Photo courtesy of Whitney Cranshaw, Colorado State University Bugwood.org Virginia Cooperative Extension Virginia Tech and Virginia State University

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Garden chores to do now, continued

Not known to be harmful to mammals, birds, earthworms or some beneficial insects such as butterflies, honeybees and ladybirds (ladybugs in US English) if it is not concentrated directly into their area of habitat or on their food source. It can be used as a household pesticide for ant, bedbug, cockroach, housefly, sand fly, snail, termite and mosquitoes both as repellent and larvicide. Neem oil also controls black spot, powdery mildew, anthracnose and rust fungi.

Insecticide soap spray. Insecticidal soap is defined as any of the potassium fatty acid soaps used to control many plant pests. It works only on direct contact with the pests. The fatty acids disrupt the structure and permeability of the insect cell membranes. The cell contents are able to leak from the damaged cells, and the insect quickly dies.

Insecticidal soap works best on soft-bodied insects such as aphids, mealybugs, spider mites, thrips, and whiteflies. It can also be used for caterpillars and leafhoppers, but these large-bodied insects can be more difficult to control with soaps alone. Many pollinators and predatory insects such as lady beetles, bumblebees, and syrphid flies are relatively unaffected. Soaps have low mammalian toxicity. However, they can be mildly irritating to the skin or eyes.

Dr. Bronner's Liquid Peppermint Pure-Castile Soap diluted with water is said to be an effective all-purpose pesticide against gypsy moth infestations on apple trees. See recipes on page 15. This type of treatment is not new. In fact soaps have been used for centuries to ward off unwanted garden and household visitors. It is quite effective as well as economical, and certainly kind to our planet. Take care not to use too much soap, else it will kill the vegetation near the pests.

Prime candidate for Azalea lace wing: White-flowered Rhodie (*Rhododendron albiflorum*) Photo by Walter Siermund

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Garden chores to do now, continued

A few members of nature's armada of garden helpers. Clockwise from top:

Honeybee--magnificent pollinator, without which many of our flowers and fruit and vegetables would not be, numbers of livestock dependent on bee-pollinated forage plants would wane, and don't forget the delicious and healthful honey, pollen and royal jelly.

Robin--cheerful song, eats unwanted pests.

Dragonfly--eats many times their weight in mosquitoes every day from the air or on water.

Frog--consumes insects and are an important food source for birds, snakes, and other animals throughout the food web.

Ladybug--eats a large number of aphids (plant lice) and other harmful bugs. Even in the larval stage, ladybugs consume hundreds of aphids, as adults they eat up to 5,000 aphids in a lifetime, greatly reducing the population of harmful insects that will otherwise destroy your plants. And they are very cute!

Butterflys--their beauty encourages the use of native plants to attract them and discourages the use of pesticides, as butterflies don't like the poisons. They also pollinate plants.

Bug Information Resources

Oregon State University Pacific Northwest Nursery IPM: Insects, http://oregonstate.edu/dept/nurspest/Insects.htm

Pacific Northwest Insect Management Handbook, download here: http://pnwhandbooks.org/insect/

Fine Gardening, Ants Aren't Your Enemy by Steven N. Handel and Christina M. K. Kauzinger: If you think these little insects are pests, think again. http://www.finegardening.com/ants-arent-your-enemy

So glad you asked!

Readers speak up: Questions, suggestions, pats and pans

Pruning native roses:

Can a native rose be pruned? -- Barbara

Oh yes, native roses are quite prunable. They are hardy, drought tolerant once established, and very forgiving. They can be shreared as a hedge, lashed to a trellis to encourage climbing, even espaliered if desired. A branch can be allowed to grow long, then pinned to the earth to propagate.

Saskatoon Serviceberry (Amelanchier alnifolia):

Hi! I'm from Pa. My backyard is certified through the "Nat'l Wildlife Federation" as a backyard wildlife habitat. I had a storm take down my three amur maples which I had planted for wildlife, but they never seemed to use it. All I got were seedlings sprouting up EVERYWHERE! Anyway, I am replacing those trees with berry-bearing shrubs. I have purchased Hansen's bush cherry, and aronia melancarpa. I am looking for a saskatoon amelanchier, but I can't seem to find any here in Pa. Do you know of a place where I can get one?

BTW, I also have mulberries and elderberries, amelanchier canadensis, viburnums, winterberry holly, tartarian honeysuckle, poke weed (which drives my hubby crazy, but the birds LOVE the berries. Oh, I forgot to mention I also have one sugarberry which I am waiting to bloom. It's been in at LEAST 10 years, and I also have 4 shepherdia (buffalo berry). You wouldn't believe the wildlife (birds) I get in my little 3/4 acre backyard! -- Jen

Serviceberry is a great choice for a wildlife garden and also for human beings. Leaves of blue/green, bright white blossoms, and purple fruits of unique deliciousness. See "Nurseries with Natives" on our website--here's a link: http://www.nwplants.com/information/resources/nurseries.html--I can personally recommend Bosky Dell Natives, and there are others who may be of help. Your garden is a poster child for wildlife habitats!

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So glad you asked!, continued

Zone		From	To
8	a	−12.2 °C (10 °F)	−9.4 °C (15 °F)
	b	−9.4 °C (15 °F)	−6.7 °C (20 °F)
9	a	−6.7 °C (20 °F)	−3.9 °C (25 °F)
	b	−3.9 °C (25 °F)	−1.1 °C (30 °F)
10	a	−1.1 °C (30 °F)	+1.7 °C (35 °F)
	b	+1.7 °C (35 °F)	+4.4 °C (40 °F)

Natives in Canada:

Can you grow salal in Quebec, Canada? -- Cheryl

Here in mid-continent, Salal is native in USDA zones 8-10. See the chart at right. Quebec has a wide zonal range--compare zones for your area at http://www.plantmaps.com/interactive-quebec-plant-zone-hardiness-map.php

Redwoods:

I purchased redwoods for my family in Western Pa and they have been growing very well. This winter, they took a major hit, and all leaves are brown. Can I ask some questions to your staff? -- Steve

Steve, I'm the whole staff here, but if you will send the questions I'll gladly see what I can help with. I enjoy researching native plant issues. I learn from every endeavor.

Bristlecone Pine:

Do you have seeds or seedlings of the great basin bristlecone pine? If not, do you know who might? I can't find any on the internet. -- Geoff

I have no personal experience with buying these native pines. but I found a list on the internet of nurseries that have them. My google query was "purchase bristlecone pine seeds."

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So glad you asked!, continued

Identify shrub:

By any chance, do you know what this shrub is called? It looks like an evergreen from its leaves, but I can't tell from this photo. My friend lives in the Pacific northwest and took a photo of it....my apologies if I am bothering you. Thank you for any help you can give. -- Paula

> *I'm stumped. The flowers look familiar but I can't place them.The buds and petals resemble the pink honeysuckle (Lonicera hispidule) but the leaves are all wrong. There is a strong flavor of one of the ceanothus. Also that bloom resembles a viburnum.*
>
> *Readers: Any one recognize this plant? Email me and I'll put your responses on our website. Fingers crossed!*

Still have a nursery?

I was at Hansen's many years ago. Is there still an actual nursery or did that close and the database is being maintained only? --Tom

> *Yes, the nursery finally collapsed in November 2010. The website contains all the information about native plants from the original nursery website and is now simply education-oriented. I am happily studying, learning more every day.*
>
> *I am webmaster, editor, writer, photographer—a one-woman show. I hope someday to find a few gardeners who would like to add their voices to this song. It's a volunteer opportunity, payment comes in the form of kudos for shared knowledge.*

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So glad you asked!, continued

Home brewing and maple:

I am looking to make creative, distinct Pacific NW home brewed beer. Your description of the broad leafed maple makes it seem like a good ingredient, but I was wondering if you might be able to recommend any more? I would particularly like anything that might replace hops - ingredients that impart either bitterness or floral/citrus aroma. If you have the time, could you make a recommendation or two? -- Carson

There is a website titled "Wild Foodism: The World's Most Natural Diet" at http://wildfoodism.com/2014/02/04/22-trees-that-can-be-tapped-for-sap-and-syrup/ providing a list of trees that are "tapable." From that list I've extracted the trees native to the Pacific northwest.

Acer glabrum	Rocky Mountain Maple	Western North American native long used by various groups, including the Plateau Natives.
Acer grandidentatum	Canyon Maple, Big Tooth Maple	Common to the Rocky Mountain states, called Uvalde bigtooth maples in Texas, where they are also native. Sugar content comparable to that of sugar maples, but the volume produced is much less.
Acer macrophyllum	Bigleaf Maple	The main species of maple growing between central California and British Columbia. Native Americans have tapped them for centuries. Though sugar content and sap flow are less than sugar maples, the provide a commercially viable syrup for the Pacific Coast.
Acer negundo	Boxelder	Also called Manitoba Maple, Boxelders grow in urban areas and along roadsides. Not recommended as first choice for sugar production, but maple producers in Canadian prairies use them for sap. It is said Boxelders yield only half the sap of sugar maples.
Acer rubrum	Red Maple	Lower sap realized than sugar maples, some tappers still utilize only red maples. Earlier budding may reduce syrup quality by the end of sugaring season.
Acer saccharinum	Silver Maple	Another early budder, has a lower sugar content than sugar maples (1.7% compared to 2.0%).
Betula papyrifera	Paper Birch	Lower sugar content than sugar maple (less than 1%), this is the sweetest of the birch trees.
Juglans regia	English Walnut	Commonly purchased from supermarkets. Grown most abundantly in California, these trees can be tapped successfully, especially after a freezing winter and spring.

Home-made Bug Spray

Make your own brand of insecticidal soap

Here is a simple recipe for an insecticidal soap even I will use against pests both indoors and in the garden. It's from Annie B. Bond, http://www.care2.com/greenliving/homemade-insecticidal-soap.html#ixzz34SVDAwdm

Insecticidal Soap Spray

1 to 2 tablespoons liquid soap
1 quart water
Combine in a bucket, mix, then transfer to a spray bottle as needed.

All-Purpose Pesticide Soap Sprays

A handful of strong smelling roots and spices--garlic, onions, horseradish, ginger, rhubarb leaves, cayenne and other hot peppers, are all known to repel insects
Enough boiling water to cover
Soap Spray (recipe, above)

Add the roots and spices to the bottom of a mason jar. Cover with the boiling water, screw on the top, and let set overnight. Strain, and add to the Soap Spray. Note that this will rot, so use it all up or freeze leftovers for another time.

Variation: Garlic Spray

Use 1 to 2 heads garlic. Deer and rabbits hate the smell of garlic.

Notes: Buy a liquid soap and not a detergent. Health food stores have liquid soaps, such as Dr. Bronner's Liquid Peppermint Pure-Castile Soap.

Make your own liquid soap from a bar of soap--much more economical than buying ready-made liquid soap. The Farmer's Nest, How to Make Liquid Hand Soap from a bar of soap {DIY}, http://www.thefarmersnest.com/2011/11/liquid-hand-soap-diy.html

For want of a little water

"Thousands have lived without love, not one without water." --W. H. Auden

Approximately one third of the emails received here at The Wild Garden ask for diagnosis of plant problems. In nine out of ten times, water is the answer. Regardless of the dollars spent on landscaping (how much, how little), water is still necessary to settle plants in and to keep them growing until they develop their 'sea legs,' the knitting of the roots into the soil. It is estimated that proper watering would probably save as much as 75% of the plants that are lost in gardens each year. A young plant that does not receive necessary water is a prime candidate for pests and/or diseases.

The average human adult's body is approximately 50-65% water. Every plant is at least 90% water, which gives us some idea of how important this substance is.

All plants need water but some get it in ways much different than we do. As an example, orchids and bromeliads absorb rainwater through their foliage. Succulent plants and cacti store water provisions in their stem tissues allowing them to go for a month or more without rain. Some flowers store water in fleshy taproots designed just for this purpose.

The healing power of gardening:
Gardening is an instrument of grace by May Sarton.

Photo from Flickr via Creative Commons

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Water, continued

To the average gardener in the Pacific northwest, we want to provide the moisture our plants need in a way that is economical, efficient, and easy. For this discussion, we will touch on these subjects:

Early Blue Violet (Viola adunca) photo by Thegreenj

Soil Types
When to water
Predicting the weather
Myths and legends
How much water?
How often?
How much water does nature provide?
How much water do you provide?
Watering tools
Rain barrels
Automating your watering
Mind your mulching
Planning a water-wise garden

Some random thoughts:

--Aim carefully. Do not water the sidewalk, driveway or street—especially in the afternoon.

--Overhead sprinklers waste water and invite plant diseases or pests to travel from plant to plant.

--Create zones—group plants according to their water needs.

--Do not overwater. It's disrespectful to the earth and drains the potency of the plants. For example, strawberries that get too much water have bland taste and, though plump, quickly turn mushy.

Note: Photos in this article are of Pacific northwest native perennials and shrubs with raindrops

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Water, continued

Soil Types

Improving your soil's moisture-holding capacity is as simple as mixing organic material, such as compost, into your beds. Depending on the type of soil you have, more organic matter can mean more accessible water for your plants.

Clay soil has an electrical charge that draws water, pulling it away from plant roots. In dense clay, little room exists for passages that permit the exchange of essential gases with the air above ground. Clay also drains slowly.

Sandy soils drain water too quickly for plants to absorb it, taking dissolved nutrients with it. By adding in some hearty humus, the water can hang onto the moisture until your plants need it most.

Both clay and sandy soils can be turned into a preferred loam by mixing in organic material, such as compost.

Inside-out Flower (Vancouveria hexandra)

Far left, clay soil (photo by Krish Dulal; near left, compost, aka black gold, photo by Normanack

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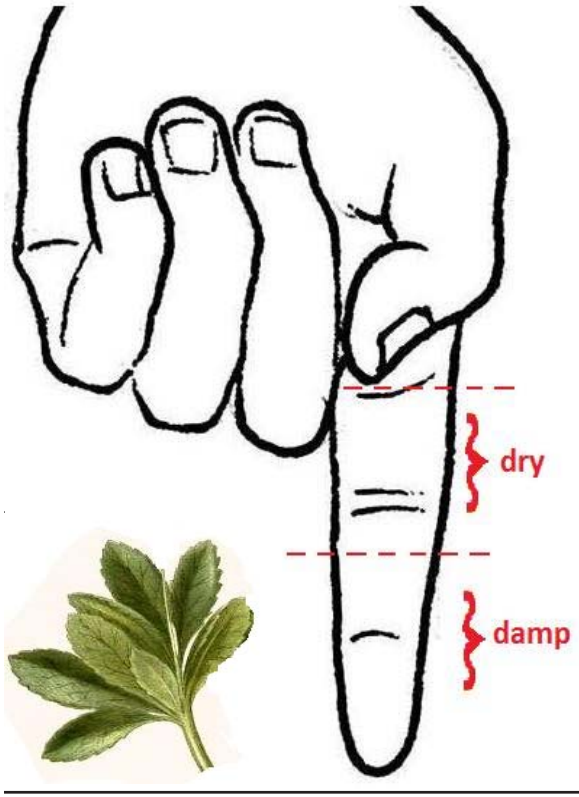
Water, continued

When to water?

The best time to water is in the morning, but the warnings against mid-day watering are over done.

Late evening is probably the worst time to water, as it leaves the foliage damp at night when molds and fungi and slugs are most active.

But never let a bone-dry garden go without watering simply because you can't do it at the optimum time of day.



Check the moisture in your garden's soil the easy way: stick your finger into the ground around the plant. You want the top 2 or 3 inches of the soil to be dry, and the soil below that to be moist.

Western Trillium (Trillium ovatum ssp. ovatum)

Check your local weather forecast and work with it. Let the heavens do the heavy labor of irrigation. After the rain has turned irregular, alllow the soil to dry before resuming watering—check moisture.

In warm weather, water in the morning before sun or strong winds evaporate the moisture. This protects plants from wilting in the afternoon heat.

If you can't water in the morning, try for late afternoon—but not too late: foliage needs time to dry before the sun goes down so snails, slugs or other pests aren't tempted and fungal diseases won't develop.

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Water, continued

Cascade Penstemon (Penstemon serrulatus)

In arid locations, it is often best to water at night to give the water more time to soak into the ground. When I lived in Phoenix, Arizona, I learned that daytime irrigation was not efficient. The dessert climate was a force to be reckoned with (if you walked outside with a sandwich in your hand, it would petrify before you could eat the first half!). Gardeners in this climate used a two-fold approach:

1. Xeriscaping is landscaping that reduces or eliminates the need for supplemental water from irrigation and emphasises selection of plants for water conservation but not necessarily native plants; and

2. Water-conservation, *drought-tolerant* landscaping, or *smart scaping* emphasizes plants whose natural requirements are appropriate to the local climate, and care is taken to avoid losing water to evaporation and run-off.

One custom in desert gardening is to use sunken beds instead of raised beds. The sunken areas are flooded in late evening and left to percolate the water down into root zones overnight. Where the soil is quite sandy, drainage is not usually a problem. Clay dirt is equalized by adding sand, rocks, and/or sometimes compost, depending on the plants selected for the garden.

In a prolonged drought, cover more sensitive plants with a shade cloth to limit midday transpiration. My sister shades her most fragile plants with child-size patio umbrellas.

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Water, continued

What about the weather? If it's rainy, will the rain provide enough moisture? What about floods? Can we make a partnership with nature and water cooperatively?

Predicting the weather

Predicting the weather is like writing: Anybody can do it, but not everybody gets paid for it. Before the ascent of farmer-forecaster Willard Scott, gardeners looked to nature for weather signals. Many still do, and sometimes they are as right as TV meteorologists.

Sunny days to come:	No need to water:
• Heavy dew on the evening grass	• Spiders reinforcing their webs
• Swallows soaring high	• Trees turning up their leaves
• Beetles and bats flying in the evening	• Clover contracting its leaves

In the end, though, the verse by Reginald Arkell may sum it all up:

A gardener's life
Is full of sweets and sours.
He gets the sunshine
When he needs the showers.

False Lily-of-the-valley
(Maianthemum dilatum)

I know it will rain when I wash my car. Will watering the garden make it rain?

Really, the predictions don't mean much. You can follow them and act accordingly or you can be aware of the world around you—if it's raining, less watering is required. If there's no rain for days, watering is a good idea, particularly new plantings.

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Water, continued

Myths and legends

"Red sky at night, sailor's delight. Red sky at dawning, sailor's take warning" --is this true, or is it just an old wives' tale?

Within limits, there is truth in this saying. Historic usage of the homily may be a surprise.

Shakespeare said something similar in *Venus and Adonis.* "Like a red morn that ever yet betokened, Wreck to the seaman, tempest to the field, Sorrow to the shepherds, woe unto the birds, Gusts and foul flaws to herdmen and to herds."

In the Bible, (Matthew XVI: 2-3,) Jesus said, "When in evening, ye say, it will be fair weather: For the sky is red. And in the morning, it will be foul weather today; for the sky is red and lowering."

Weather lore has been around since people wanted to predict the weather and plan their activities. Sailors and farmers relied on it to navigate ships and plant crops.

Red sky at night, sailor's delight.

When we see a red sky at night, this means that the setting sun is sending its light through a high concentration of dust particles. This usually indicates high pressure and stable air coming in from the west. Basically good weather will follow.

Red sky in morning, sailor's warning.

A red sunrise reflects the dust particles of a system that has just passed from the west. This indicates that a storm system may be moving to the east. If the morning sky is a deep fiery red, it means a high water content in the atmosphere. So, rain is on its way.

Western Skunk Cabbage (Lysicitum americanus) photo by Martin Bravenboer

From Everyday Mysteries: Fun Science Facts from the Library of Congress. See http://www.loc.gov/rr/scitech/mysteries/weather-sailor.html

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Water, continued

How much water?

In most cases, the gardener needs to supplement natural rain water. The questions of how much and how often are a matter of judgement. It is said that a garden needs about 1 in. of water per week. The goal is to keep the soil lightly moist and to prevent it from drying out completely, which would be damaging to most plants. Dry soil takes a long time to moisten, but slightly moist soil drinks up immediately and plants do not experience a crisis.

For established gardens, the root network is the critical area of watering. The depth varies among plants. As an average, the target is the first 6 in. to 8 in. of soil. If this area of each plant is kept moist, it should prevent plants from being parched by thirst or stressed from "binge drinking." Check the quality of your garden soil—squeeze a little dirt into a clump that breaks up easily when gently bounced in your palm.

Sounds simple, right? Well there are a bunch of exceptions to this rule.

Big Leaf Lupine (Lupinus polyphyllus)

- Hot weather, dry sandy soil, or crowded intensive plantings or containers may need more than an inch of water a week.
- When the weather is cool, the plants are widely spaced, or the soil is heavy and moisture-retentive, less water may be required.
- Seeds and seedlings require moisture close to the soil's surface to help their budding roots get started. Water lightly and more frequently to accommodate their needs.
- Mature plantings with large root systems need deeper watering and less often than younger plants. The moisture soaks deep into the soil and encourages the plants to develop roots that will find water in the subsoil when drought strikes.

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Water, continued

Just be careful not to overwater! After watering, the soil should be damp but not soggy down to 5-6 inches below the surface. Water too much, roots are deprived of oxygen and may lose the ability to take up water. If your plants' foliage begins to brown at the edges and fall from the plant, you may be overwatering.

Fawn Lily (Erythronium oreganum)

How often?

How often you need to water is decreed by how much is needed, and frequency varies greatly with the temperature. Temperatures in the mid-70s will do well if watered once a week. When the mercury starts climbing into the mid-90s, watering may need to be done every other day. Other factors that influence the watering schedule are the nature of the soil, the amount of sunlight, how well the garden is mulched and whether the plants are in flower (during flowering plants generally require more water). But always keep in mind, you can most definitely water too much.

Ultimately, when watering you want to make sure each session leaves the soil well moistened. Standing around the garden for an hour or so, hose in hand, will undoubtedly encourage research into alternative methods.

Fable of droopy leaves. If leaves droop in the hot, midday sun, they may just be protecting themselves by exposing less surface to the sun and conserving water, unable to pump enough to offset the loss through the leaves.

However, if these same plants droop in the morning or at night, give water moderately and carefully. Overwatered, saturated soil pushes out air that the roots need, so the plants drown or maybe even die. **Best not water from above anyhow**—they don't need it there. It usually encourages bugs or fungi that enjoy moist conditions, leading to mildew, blight, and mysterious holes in leaves.

⇨More⇨

Water, continued

Steady as she goes. Steady watering is critical at the time of flowering and when fruit is forming. In the vegetable garden, some crops, like tomatoes, yields may improve but some flavor may be lost with too much watering as fruit ripens. And with carrots and cabbages, for example, watering should be reduced as the crop reaches maturity to keep the fruits from splitting.

Bunchberry (Cornus suecica) photo by Lapplaender

Daily sprinkling is cruel and counter-productive. When only the soil surface gets wet, roots will look up, not down, for their drinks. Deep, less frequent watering works better.

How much water does nature provide?

Use a rain gauge to see exactly how much precipitation your garden actually receives. You can purchase one at a garden center or use a topless coffee can. After each rainfall, check the depth of the rain inside. A commercial rain gauge is calibrated and easy to read. To read rain levels in a coffee can, insert a ruler and note how high the water has come. Judge the need for supplemental irrigation accordingly.

You can build a rain gauge—see these websites for how-to:

How to Build a Rain Gauge on wikiHow to do anything, http://www.wikihow.com/Build-a-Rain-Gauge

Make a Rain Gauge by Royal Meteorological Society, http://www.rmets.org/weather-and-climate/observing/make-rain-gauge

Homemade Rain Gauge from The Imagination Tree, http://theimaginationtree.com/2012/04/homemade-rain-gauge.html

See rain gauge examples on next page.

⇨More⇨

Water, continued

How much water do you provide?

Rain gauges are also helpful when trying to determine when you have watered enough with sprinklers. Since some sprinklers apply water unevenly (more up close and less farther out), you could set several rain gauges around the garden and compare the amount of moisture each one collects. If the readings vary widely, move the sprinkler more frequently or invest in a more efficient sprinkler model.

Homemade rain gauge, photo by Fotokannan

Commercially made rain gauge, photo by Friman

Translating an inch of water into minutes on your sprinkler is not the easy part, but it's not going to deaden your brain. Set up your sprinkler in your usual way and put out your rain gauge. After about 15 or 20 minutes, measure the depth of water with a ruler. Then calculate the output. A simple example is:

> "If you water for 15 minutes and get 1/4 inch of water, you know you need four times that amount of time to get to an inch. That means you need 60 minutes of watering a week to keep the plants healthy. If 15 minutes on your sprinkler provides half an inch of water, you only need 30 minutes total per week."

But don't do a week's worth of watering all at once (the ground probably can't absorb it and water will run off), and don't water a few minutes every day (the top layer will stay soggy and water won't get down to the roots). Instead, you should water three times a week, for a third of your required minutes each time, with a day or two off in between waterings.

⇨More⇨

Water, continued


Western Clematis (Clematis ligusticifolia)

Don't forget to subtract for rain. Try to water as early as possible in the morning, as long as it doesn't interfere with showers!

Watering Tools

Always try to water the base of the plants, but in times of meager rainfall you can give the foliage an occasional spray as well. New watering utilities and tools are invented every day, it seems. Find one (or more) that help you do what your garden craves and you're golden.

Garden Hose

An efficient way to take limitless amounts of water to any area of your garden. There are about as many different hoses as there are gardeners, and selecting the best for your needs is the first step. Garden hoses can be cumbersome to use. Never use a spray nozzle on a hose, it delivers either too strong a flow or an inefficient mist. The best way of controlling water flow is to use your thumb. It's an art, but gets easier with practice and it's fun, at least I enjoy it.

Shrinking Hose

Most of these use the same fittings as ordinary hoses. They are much lighter in weight. When the water is turned on, the hose grows to full length. When the water is turned off, the hose shrinks back to much shorter, though not usually to its original size. I have one of these set up on my deck for filling birdbaths.

⇨More⇨

Water, continued

A regular hose is attached to the faucet, the shrinking hose with valve to turn on and off comes next with a nozzle attached to that. I turn the valve on, the water fills the hose and I amuse myself by squirting plants, bird baths, the occasional lizard. Turning off the valve and releasing the trapped water takes just a minute. I hang it on a hook just for this purpose and it's ready for the next use. So far it has not kinked, broken or failed me in any way. Well worth the $15 sale price.

Coil Hose.

Touted as a safe, lightweight, practical alternate to ordinary garden hoses. Mine developed a sharp kink near the end in the first week of use. I taped the offender to a circular can but it was minimally successful. Too much of a hassle for me, I gave it away to an adventurous gardening friend.

Pink Fawn Lily (Erythronium revolutum)

Soaker hose (aka drip hose).

Made of water-permeable fabrics, perforated recycled rubber, or other porous materials, Look for those that are made from recycled material. When attached to a hose with the water turned on low or medium, moisture droplets weep out along the length of the hose. Very little evaporates and none sprays on plant foliage, helping discourage diseases. But it may take an hour or more to moisten nearby areas of the garden thoroughly. Soaker hoses require a little special attention in order to work properly. However, the mortality rate of even top drawer soaker hoses is sadly quite high. You have to balance your commitment with the needs of the plants and the results you expect. Here are some hints:

⇨More⇨

Water, continued

--Run soaker hoses straight through the garden. If set to turn or curve too sharply, they will kink and won't fill with water.

--Expect more water to be released from the end closest to the hose and less to be released from the far end.

--If the hose is moistening only one side of a plant root system, move the hose to water the dry side before you consider the job done.

--To determine if the soil has been watered enough, dig into the soil beside the hose. If the water has seeped 12 inches down, it's about time to turn the hose off. Remember how long this took for the next time around.

--For faster results, look for flat hoses that are peppered with small holes. Of course there's a trade-off: These hoses do provide water more quickly, but they are not as gentle on the soil.

Raindrops on the leaves look like diamonds! American Cranberry Bush (Viburnum opulus var. americanum)

Drip bags.

Especially useful with new plantings, The new drip bags are said to be amazing. Place them on top of a new tree's root ball, fill it with water, and they slowly release the water over several hours. You can also add in liquid fertilizer at the same time.

Roger Cook of This Old House demonstrates using this at http://www.thisoldhouse.com/toh/how-to/step/0,,605171_604939,00.html.

See instructions for a DIY version on Instructables, DIY Tree Gator Water Bag by onebitpixel, http://www.instructables.com/id/DIY-Tree-Gator-Water-Bag/

⇨More⇨

Water, continued

Drip irrigation.

If you like soaker hose results, you can upgrade to permanent or semi-permanent drip irrigation systems. Although more expensive, these systems are custom designed for varying soil types and individual plant water needs. They also don't require shuffling around the garden.

Hose carts.

Wheeling a hose cart around the yard instead of dragging armloads of hoses eases wear and tear on your back. Hose carts consist of a reel with a crank that you can use to neatly coil the hose, eliminating tangles, knots, and kinks. This reel is set on a two- or four-wheeled base with a handle for easy pulling. Look for large-wheeled types if you're rolling the cart over rough ground. Smaller wheels are fine on a paved path or patio. Personally, I had a hose cart that was rated highly user-friendly. For the life of me, I could not get that thing to work correctly. I gave it away and went back to carrying hoses.

Oval-Leaf Huckleberry (Vaccinium ovalifolium) Photo by Walter Siegmund

Hose guides.

Placed at the edges of garden beds, hose guides keep the hose from crushing nearby plants when you pull the hose taut. You could improvise by using things like plastic pink flamingos, garden statues, or birdbaths. They are simple to make from whatever strikes your fancy. Let your imagination be your guide.

Hose guide made from copper pipe and vintage glass doorknob

⇨More⇨

Water, continued

Snowberry (Symphoricarpos albus var. laevigatus)

Self-watering patio planters.

Save watering time by using self-watering patio planters. These pots aren't smart enough to turn on the faucet and water themselves, but they do have a lower-level moisture reservoir that's available to plants at any time. A wick, which may resemble fabric or rope, pulls the water up into the rooting area when the soil begins to get dry. Many different styles are available — and more kinds are becoming available every year. Another option is to buy a converter kit that turns regular planters into self-watering pots.

Watering wand.

An extension of your arm for watering hanging baskets, raised garden beds, wherever you want to hand water without standing on a ladder.

Or make one yourself. Here's how: http://www.instructables.com/id/Make-a-sturdy-garden-watering-wand/

Spray heads

Look for spray heads developed specifically for garden use. Some are set on angled bases, making it easy to reach in between plants. Others are on long poles for watering hanging baskets.

Ready-made watering wand.

⇨More⇨

Water, continued

Watering cans

Watering cans should be fitted with a “rose” which conveys a gentle sprinkling to the plants especially when watering young plants such as seedlings that can be broken or uprooted with a strong drenching. Fine watering cans usually come with 2-3 roses for varied use. I have a personal love of Haws Watering Cans, “The finest watering cans used throughout the world since 1886.” They have a very fine selection of roses. http://www.haws.co.uk/index.html.

Old metal watering cans, photo by Bas Leenders

Automating your watering

Automatic sprinkler systems are a great way to water, but don’t be lulled into thinking you’re done once they are set up.

One size does not fit all. Unless you have a ‘monochrome’ garden, the plants will have varying needs that need zones to fit.

Only use an automated system when it is warranted. In spring and fall, rain is more plentiful. Set your automated friend for sure, but bear in mind it will need an assist in times of plenty. Use a rain gauge if needed. When your gauge tells you the garden has enough water, turn the automater off. A sensor can help with this, and you won’t have to be tied to the sprinklers.

⇨More⇨

Water, continued

Irrigation systems can be great time savers for those with large gardens or little time. The best use drip hoses to supply water directly to the base of the plants. This minimizes the loss of water to evaporation that makes sprinkler systems so inefficient, particularly in hot, dry climates. Sprinkler systems are also much more prone to mechanical failure. And since they are usually set to go off in very early morning, problems can be difficult to detect. For some very large landscapes a sprinkler system is a necessity, but bear in mind they are expensive both to install and to maintain. The most economical way of creating an automatic watering system is to use soaker hoses (porous hoses that allow water to trickle out throughout their length) and a simple timer that fits onto the tap. Mechanical flow timers (these turn off after a certain amount of water has flowed through) can be found for $10-$15 and more elaborate electronic timers are available for $30-$50. Place the hoses under any mulch and about six inches from the base of your plants. With just a minimum amount of pressure, this hose can be left on for several hours.

> *"Keep an eye on your garden's moisture and you'll save yourself much trouble and expense."*

Wise words from This Old House's Roger Cook

http://www.thisoldhouse.com/toh/skill-builder/0,,467281,00.html

Rain barrels

Rain barrels are containers placed at the end of roof downspouts capture and store roof runoff for non-potable water use, like irrigation. Rain barrels come in a wide variety of materials, designs, and colors. Common sizes for residential use are 55 gallons and 90 gallons. They are usually installed on the ground next to buildings. Commercial or industrial properties are more likely to use cisterns because of their larger capacity and durability.

Painted rain barrels, photo by Winooski Natural Resources Conservation District

An artist in Tennessee has painted some of the most delightful rain barrels I've ever seen. Take a look at this one: http://www.cumberlandtrailchallenge.org/silent-auction/41. It'll knock your socks off!

⇨More⇨

Water, continued

Benefits

Using rain barrels to temporarily store and reuse rainwater slows and reduces stormwater runoff from the site. They conserve non-potable water and may reduce water use charges. Rain barrels are inexpensive, easy to install and maintain, and readily available.

Maintenance

Inspect periodically for leaks, especially spigots and other connection points. Make sure debris does not clog the system. Screen all vents to prevent mosquito breeding. For maximum stormwater benefits, empty the barrel between rain events in the wet season. Clean the rain barrel interior annually by brushing or disinfecting with vinegar or other non-toxic cleaners. The washout can be disposed of onsite to vegetated areas if disinfecting agents are adequately diluted so they do not harm plants. A rain barrel and its system components have a lifespan of about 20 years.

Cost

Do-it-yourself rain barrels can be constructed for under $30. Ready-made 55 gallon to 90 gallon rain barrels generally cost from $50 to $300 uninstalled. All rain barrels must be mosquito proof, have approved overflow points and meet city standards.

From Portland Oregon website, https://www.portlandoregon.gov/bes/article/127467

Nootka Rose (Rosa nutkana)

⇨More⇨

Water, continued

Mindful mulching

Mulching the garden is not just for looks.

> *"Another way to keep your garden moist (and reduce unwanted volunteers by up to 90 percent!) is to top off your beds with a fresh layer of organic mulch."*

From Organic Gardening, http://www.organicgardening.com/learn-and-grow/water-well?page=0,1

There are free materials suitable for mulching readily available just about anywhere. Examples: dried grass clippings, straw, bark, wood chips, nut hulls or even old newspapers. Most feed stores, nurseries and garden centers offer small rocks, crumbled tires, bark in many colors, or landscape fabrics (which can be used as an underlayer covered with mulch) but these are not usually free. If there are food processing plants or canneries nearby, they may have materials like hazelnut, walnut or almond shells headed for recycling plants that they will be glad to have you take away. Whatever your choice, a good layer around your garden plants will decrease soil moisture evaporation and reduce your garden's water needs. It may also prevent some soil diseases from coming in contact with your plants' lower leaves.

Mulch helps conserve water in your soil by shielding the ground from the hot rays of the sun that burn off moisture. Do soak the soil before you lay on that first layer of mulch. Just as the mulch hinders evaporation, it also slows penetration of moisture to the roots. It's more efficient to get the water down first, then mulch. It also may initially save your plants from waiting for water to percolate through the mulch when they are accustomed to getting it right away. The mulch, of course, will also discourage weeds trying to make their way to the good water.

Small example of various mulching choices:

Clam shells

Hazelnut shells

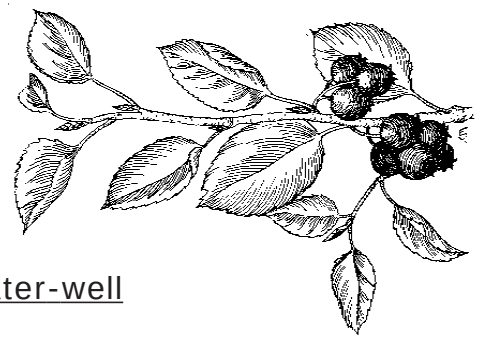
Shredded tires

Bark mulch

Beach glass

⇨More⇨

Water, continued



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A water-wise garden

Start with a plan

Prepare your soil before you plant. Crumbly, rich, sweet smelling dirt will gladly hold onto what water it gets. Mix in plenty of humus/compost right from the get-go to set the standard of your garden.

Make beds for your happy dirt. Give them just what they will need in the way of amendments, raising up to enhance drainage for those plants that need it, a location with southern exposure and a nice sunny backdrop to soak up the heat for those that shiver in the cold.

A utopian home awaiting plants will repay you many-fold with robust root systems, stout stems, and pure, natural beauty.

Include some practical whimsy like this diy rain chain. Look at this beautiful garden waiting for the star players: the plants!

Now factor in the watering requirements of each plant you wish to include in your magical garden. Make an area for plants with shallow roots that will want more watering than most—the hydrangeas, azaleas, and rhododendrons for instance. Containers will want more frequent water than in-ground parties.

Plan the mulch for each area right now, before you set foot in the nursery. This is a money saving feature, and most welcome for the plants.

Choose your plants. The next several pages list perennials, shrubs, trees, and ferns--all are native to the Pacific northwest and all are markedly drought resistant. The array of plants in this classification is quite diverse, many are included that will raise a few eyebrows, but the canny gardener will understand this garden of laughter in the sunshine.

⇨More⇨

A water-wise garden, continued

COMMON NAME	BOTANICAL NAME	zone	sun	some shade	med shade	deep shade	wet	moist	drought	drainage	bloom color	bloom time	fall color	fragrant	wildlife	food	fencing	pots
Blanketflower	Gaillardia arista		x						x	x	red / yellow	spring / summer			x			x
Blue-Eyed Grass	Olsynium douglasii	7-8	x	x	x			x	x		blue / purple	spring						
Bolander's Lily	Lilium bolanderi		x	x					x		red	early summer						
Broadleaf Stonecrop	Sedum spathulifolium ssp. spathulifolium	4-10	x	x	x				x		yellow / orange	spring / summer						
Canada Goldenrod	Solidago canadensis var. salebrosa	1-11	x	x					x		yellow / orange	summer / fall						
Columbian Lewisia	Lewisia columbiana var. rupicola	6-8	x	x					x		pale pink - deep purple-magenta / rose	late spring / late summer						x
Douglas Iris	Iris douglasiana	5-10	x	x	x				x		purple / blue; white / pale yellow	april - june						


Blanketflower


Lewisia


Stonecrop


Goldenrod

⇨More⇨

A water-wise garden, continued

COMMON NAME	BOTANICAL NAME	zone	sun	some shade	med shade	deep shade	wet	moist	drought	drainage	bloom color	bloom time	fall color	fragrant	wildlife	food	fencing	pots
Field Cluster or Harvest Lily	Dichelostemma congestum	5-8	x						x		blue / purple	spring / summer						
Fireweed	Chamerion angustifolium var. canescens	1-9	x	x					x		red / pink	spring / summer						
Hooker's or Taper Tip Onion	Allium acuminatum	3-9	x						x	x	red / pink	spring / summer				x		
Lewisia	Lewisia columbiana var. columbiana	4-8	x						x		white - pale pink	late spring / late summer						x
Oregon Iris	Iris tenax	5-9	x	x					x		blue / purple	spring / summer						
Pearly Everlasting	Anaphalis margaritacea	4-10	x	x					x		white	spring / summer / fall			x			
Rattlesnake Plantain	Goodyera oblongifolia	6-10		x	x	x		x	x		white	summer						
Tweedy's Pussypaws	Montiaceae [Cistanthe] tweedyi		x	x	x				x	x	coral / apricot / pink	may-july						x
Western Clematis	Clematis ligusticifolia	5-10	x	x	x				x		white	summer	x					
Yellow Bells	Fritillaria pudica	3-9	x	x	x				x		yellow	march - june						


Pearly Everlasting


Hooker's Onion


Yellow Bells*


Oregon Iris


Western Clematis*

*Photo by Guana at USDA

*Photo by Thayne Tuason, CWNP

⇨More⇨

A water-wise garden, continued

COMMON NAME	BOTANICAL NAME	zone	sun	some shade	med shade	deep shade	wet	moist	drought	drainage	bloom color	bloom time	fall color	fragrant	wildlife	food	fencing	pots
American Plum	Prunus americana	3-9	x	x	x			x	x		white	mid spring			x	x		
Birchleaf Spirea	Spiraea betulifolia var. lucida	5-8	x						x		white	summer	x					
Blue Elderberry	Sambucus mexicana	5-10	x	x	x	x			x		white	late spring			x	x		
Blueblossom, California Lilac	Ceanothus thrysiflorus	8-10	x	x	x				x		blue / purple	march - june						
Buckbrush, Wild Lilac	Ceanothus cuneatus var. cuneatus	8-10	x						x	x	white	spring		x				
Bush Chinquapin	Chrysolepis sempervirens	5-9	x	x					x	x	n/a			stinky		x		
Cascade Oregon Grape	Mahonia [Berberis] nervosa	6-9	x	x	x	x			x		yellow / orange	spring	x	x		x		x
Coyote Bush	Baccharis pilularis	8-9	x						x		white / yellow	august - december						
Creeping Oregon Grape	Mahonia [Berberis] repens	4-10	x	x	x	x			x		yellow	mid-spring		x		x		
Deerbrush, Mountain Lilac	Ceanothus integerrimus	5-9	x	x					x	x	white	late spring - early summer			x			
Fremont Silk-Tassel	Garrya fremontii	7-10	x						x		yellowish / pinkish	december - february			x			
Golden Currant	Ribes aureum var. aureum	2-10	x	x					x		yellow	april - june			x	x		


American Plum


Blue Blossom


Creeping OR Grape


Buckbrush

⇨More⇨

A water-wise garden, continued

COMMON NAME	BOTANICAL NAME	zone	sun	some shade	med shade	deep shade	wet	moist	drought	drainage	bloom color	bloom time	fall color	fragrant	wildlife	food	fencing	pots
Greenleaf Manzanita	Arctostaphylos patula	5	x	x					x	x	white / pink	spring			x			
Grouseberry	Vaccinium scoparium	3-9	x						x		red	june - july						
Hairy Manzanita	Arctostaphylos columbiana	7-10	x						x	x	white	spring		x		x		
Kinnikinnick, Bearberry	Arctostaphylos uva-ursi	5-10	x						x		red / pink	spring	x		x			
Mallow Ninebark	Physocarpus malvaceus	4-8	x	x	x				x		white	june - july	x					
Mock Orange, Syringa	Philadelphus lewisii	5-10	x	x	x	x			x		white	spring / summer		x				
Mountain Huckleberry	Vaccinium membranaceum	6-10	x	x				x	x		pink - bronze	late spring	x		x	x		
Oceanspray, Creambush	Holodiscus discolor	5-10	x						x		white	spring / summer		x	x			
Oval Leaf Viburnum	Viburnum ellipticum	7-9	x	x	x				x		white	late spring - early summer						
Pacific Rhododendron	Rhododendron macrophyllum	6-9	x	x	x	x			x	x	red / pink	spring / summer						
Pacific Wax Myrtle	Myrica californica	7-10	x	x	x				x		green / brown	spring / summer			x		x	


Grouseberry


Mallow Ninebark*


Pacific Rhododendron


Oceanspray

*Photo by Sten Commons

⇨More⇨

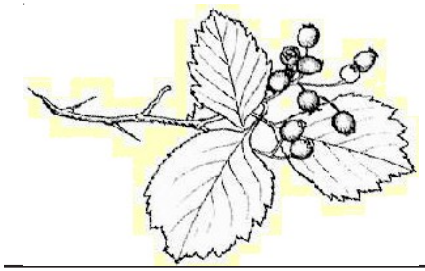
A water-wise garden, continued

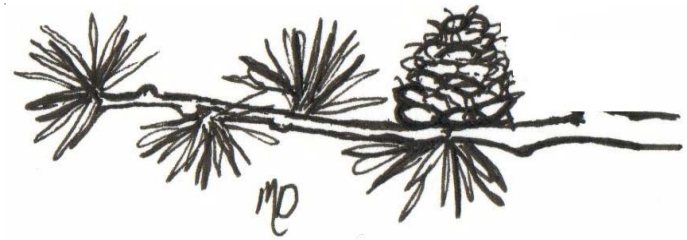
COMMON NAME	BOTANICAL NAME	zone	sun	some shade	med shade	deep shade	wet	moist	drought	drainage	bloom color	bloom time	fall color	fragrant	wildlife	food	fencing	pots
Pink Honeysuckle	Lonicera hispidula	6-10							x		red / pink	spring			x			
Prickly Gooseberry	Ribes menziesii	8-9		x	x				x		fushia / purple	spring			x			
Red-Flowering Currant	Ribes sanguineum	6-10	x						x		red / pink	spring			x			
Salal	Gaultheria shallon	8-10	x	x	x			x	x		white	spring / summer	r		x	x		
Self-Heal, Heal-All	Prunella vulgaris var. lanceolata	1-11	x	x	x			x	x		blue / purple	spring / summer						
Silk-Tassel	Garrya elliptica	7-10	x						x		greyish	late winter / early spring						
Smooth Sumac	Rhus glabra	2-10	x	x					x		white - green	early summer	x		x	x		
Snowbrush	Ceanothus velutinus	7-10	x	x					x		white	spring / summer		x				
Tall Oregon Grape	Mahonia [Berberis] aquifolium	5-10	x	x	x	x			x		yellow / orange	spring				x	x	x
Three-Leaf Sumac	Rhus trilobata	3-9	x						x		white / light yellow	march - april	x		x	x		
Wax Currant	Ribes cereum var. cereum	2-10	x	x					x		white / pinkish	april - august			x	x		
Western Redbud	Cercis occidentalis	6-10	x						x		magenta	spring		x	x	x		
Wood's Rose	Rosa woodsii	4-6	x	x	x	x			x		red / pink	spring / early summer		x	x	x		

⇨More⇨

A water-wise garden, continued

COMMON NAME	BOTANICAL NAME	zone	sun	some shade	med shade	deep shade	wet	moist	drought	drainage	bloom color	bloom time	fall color	fragrant	wildlife	food	fencing	pots
Alpine Larch	Larix lyallii	3-8	x						x		n/a		x					
Baker's Cypress	Cupressus bakeri	7-9	x						x	x	n/a				x			
Birch Leaf Mountain Mahogany	Cercocarpus betuloides	3-10	x						x		white	late march - early july						
Bristle Cone Pine	Pinus aristata	to 4	x						x		n/a							
Canyon Live Oak	Quercus chrysolepis	5-10	x	x					x	x	n/a							
Chokecherry	Prunus virginiana	5-10	x	x					x	x	white	april - july	x		x	x		
Columbia Hawthorn	Crataegus columbiana	to at least 5	x	x				x	x		white	april - may					x	
Curl Leaf Mountain Mahogany	Cercocarpus ledifolius	5-0	x						x		tan	late march - early july						
Douglas Hawthorn	Crataegus douglasii	3-9	x						x		white	april - may			x	x		
Douglas Maple	Acer glabrum	5-10		x	x			x	x		yellow / green	spring	x					
Eastside Ponderosa Pine	Pinus ponderosa	5-10	x						x		n/a			x				
Huckleberry Oak	Quercus vaccinifolia	7-10	x						x		n/a				x			x
Incense Cedar	Calocedrus decurrens	5-8	x						x		n/a			x	x		x	
Lodgepole Pine	Pinus contorta var. latifolia	5-10	x						x		n/a							
Oregon White Oak	Quercus garryana var. garryana	6-9	x						x		green / brown	spring	x					





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A water-wise garden, continued

COMMON NAME	BOTANICAL NAME	zone	sun	some shade	med shade	deep shade	wet	moist	drought	drainage	bloom color	bloom time	fall color	fragrant	wildlife	food	fencing	pots
Pacific Madrone	Arbutus menziesii	7-9	x						x	x	white	spring						
Scouler's Willow	Salix scouleriana	to 5	x	x					x		yellow	mid - late spring						
Shore Pine	Pinus contorta var. contorta	5-10	x						x		n/a						x	
Vine Maple	Acer circinatum	7-8		x	x			x	x		white	spring / summer	x		x			x
Western White Pine	Pinus monticola	to 4	x						x		n/a							
White Fir	Abies concolor	5a-10a	x						x		n/a			x				
Coastal Shield Fern	Dryopteris arguta	2-8	x	x	x	x		x			n/a					x		
Deer fern	Blechnum spicant	5-9		x	x	x		x			n/a				x			
Lady Fern	Athyrium filix-femina var. cyclosorum	5-8		x	x	x	x	x			n/a							
Licorice Fern	Polypodium glycyrrhiza	to 6		x	x	x		x			n/a					x		
Maidenhair Fern	Adiantum aleuticum	3-8		x	x	x		x			n/a							
Sword Fern	Polystichum munitum	2-8		x	x	x		x			n/a							


Pacific Madrone


Western White Pine


Licorice Fern

A fine, old-fashioned tree

From grandmother's garden

Populus tremuloides is commonly called Quaking Aspen, Western Trembling Aspen, American Aspen, Quakies, Mountain Aspen, Golden Aspen, Trembling Poplar, White Poplar, Popple, American Poplar, Aspen Poplar, Golden Trembling Aspen, Leaf Aspen, Quiver-Leaf, Trembling Poplar, Vancouver Aspen, and in Spanish, álamo blanco, and álamo temblón.

This small ornamental tree is of the highest quality, growing rapidly to reach at least 30' and developing a full, round crown. The triangular leaves quiver on long, flattened stalks.

There is an old fashioned charm about Quaking Aspen. The gentle trembling leaves on a warm summer day create a peaceful garden.

Consider planting Yellow Glacier Lily (Erythronium grandiflorum) or Fawn Lily (Erythronium oreganum) beneath your Quaking Aspen. Both plants are perennial. These two lilies have beautiful leaves and charming blooms that look like little ballerinas in spring. They'll make a fine show as the Aspen leaves begin to unfurl. Lovely!

⇨More⇨

Old-fashioned tree, continued

The Arbor Day Foundation says of this tree:

> *"The most widely distributed tree of North America, ranging in its natural habitat from the northeast coastal states to Alaska and down the Rocky Mountains into central Mexico. Stunning fall leaf colors accent the smooth greenish white to cream-colored bark on a long and narrow trunk. Tolerant of many soils. Plant in full sun. Grows 40'-50' with 25' spread. (Zones 1 to 7)"*

Read more at http://www.arborday.org/treeguide/treeDetail.cfm?ID=122

Quaking Aspen is extremely adaptable, finding itself at home to USDA zone 1.

It prefers moist but not soggy sites and is often planted in groups.

This tree forms a dense root system and is an excellent choice for soil reclamation projects or planting after a fire, propagating through its roots to form groves. In its role as a succession tree, it seeds in quickly and forms the nursery for pine, fir and spruce seedlings.

Photo by Walter Siegmund at Klamath Marsh National Wildlife Refuge

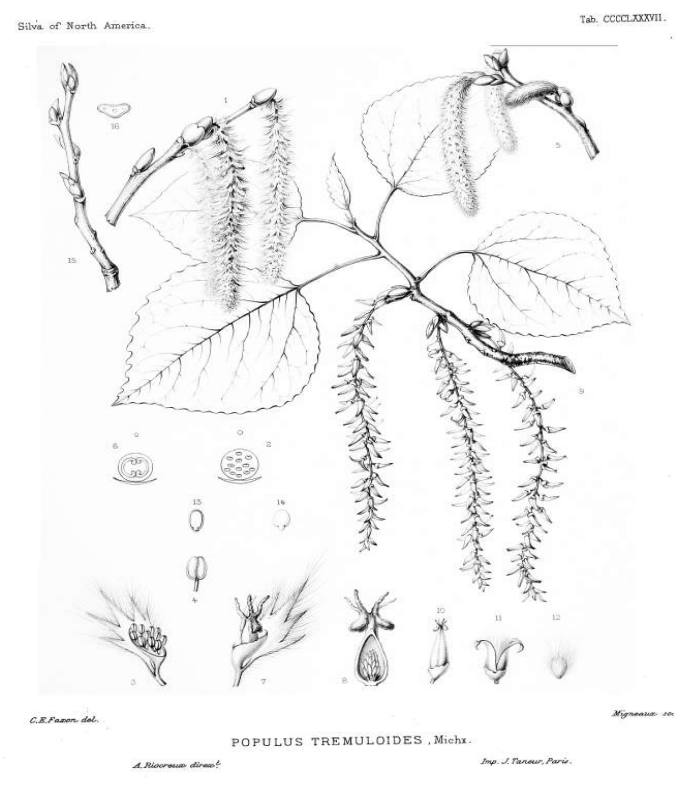
The sapwood of this tree is white, blending into the light brown heartwood. It is uniform in texture, with a straight grain, does not shrink overly much. It is not the best choice for carpentry using nails, but does take handily to glue and paint and turning. It is commercially useful for pulping for paper, fiberboard. The lightness of the wood does well for crafting, veneers, even match sticks and tongue depressors.

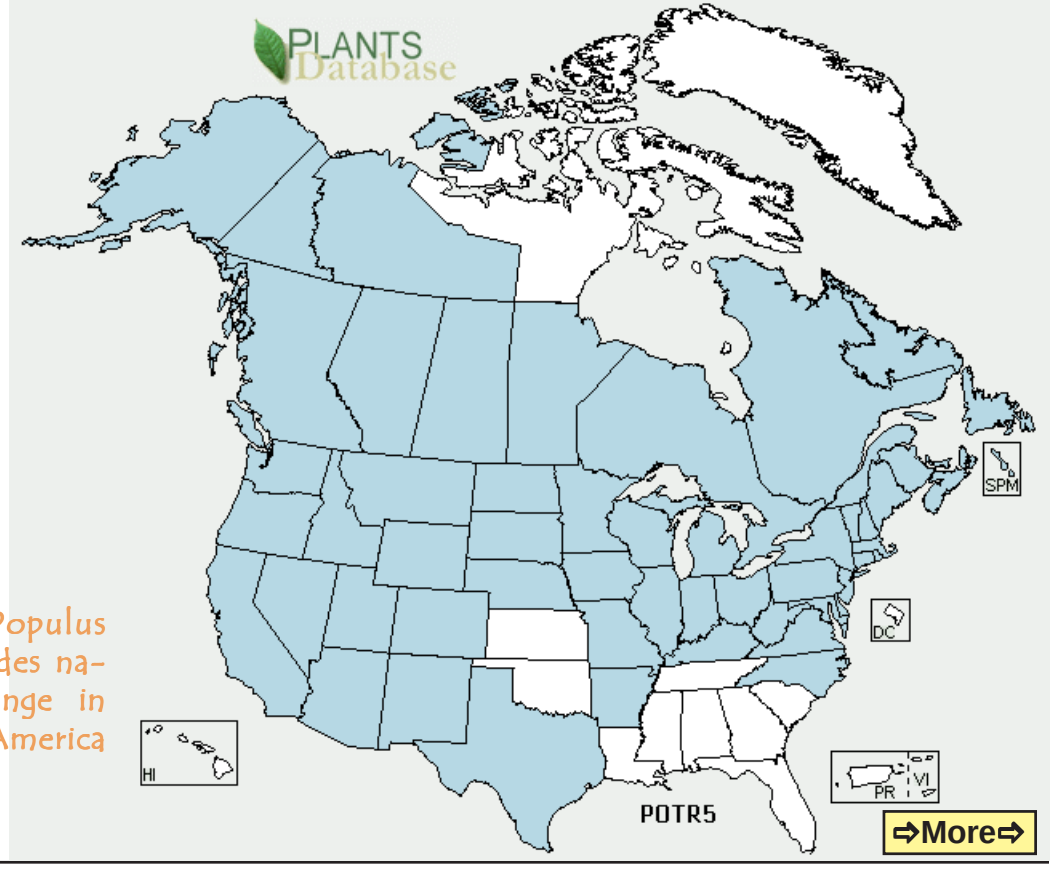
⇨More⇨

Old-fashioned tree, continued

Another service by this aspen comes from the very thin outer bark that synthesizes sugars throughout the winter when the other deciduous trees are dormant. Deer and elk survive on this green bark when winters are harsh, as do moose, sheep and goats. Beavers, rabbits and other mammals eat the bark, leaves and buds.

Quaking Aspen communities provide important feeding and nesting sites for a diverse array of birds. Bird species using Quaking Aspen habitat include sandhill crane, western wood pewee, six species of ducks, blue, ruffed, and sharp-tailed grouse, band-tailed pigeon, mourning dove, wild turkey, red-breasted nuthatch, and pine siskin. Quaking Aspen is host to a variety of insects that are food for woodpeckers and sapsuckers. Generally, moist to mesic Quaking Aspen sites have greater avian species diversity than Quaking Aspen stands on dry sites.





Populus tremuloides native range in North America

Old-fashioned tree, continued

Food: The inner bark can be peeled and eaten raw or cooked. It is often quite bitter, but is more palatable in the spring. This layer is the food transportation network for the tree, so it contains a fair amount of sugar. Success has been recorded by drying this bark, grinding it into a powder and using as flour. It is usually mixed with other flours for making bread. It can be used as a thickener in soup.

The sap from the tree can be used as a drink alone or as flavoring, especially with wild strawberries or other fruits. The catkins are edible raw or cooked, but bitter.

The white powder found on the outside of the tree contains a natural yeast. Used to start sourdough, it is said to have great flavor as bread, pancakes and other baked foods.

> *"Try scraping off a few teaspoonfuls, and add it to a soupy mix of flour and water. Throw in a tablespoon of sugar for good measure and wait a few days, stirring each day. The mix should begin to foam and smell "yeasty." Once this has occurred, add a portion of the mix to a bread dough recipe, replacing what you remove to perpetuate the starter. Check out a good cookbook for specific recipes for making sourdough bread."*
>
> *From Wilderness Survival Arts: The Quaking Aspen by Paul J. Van Horn*

Photo by Fairsing
Taken at Jasper National Park Alberta, Canada

Old-fashioned tree, continued

Quaking Aspen bark, photo by Tewy

The poplar family is well known for its medicinal qualities. The leaves, buds, and inner bark of all the poplars contain varying amounts of populin and salicin. These chemicals add up to a natural form of our synthesized aspirin. The inner bark or leaves may be steeped in water for a pain-relieving tea. In addition, the buds may be placed in a jar with olive oil to make a soothing salve for skin irritations and abrasions. The white powder found on the outer bark makes a good emergency sunscreen.

Finally, twigs can be chewed to fiber, and used to good effect as a toothbrush.

⇨More⇨

Old-fashioned tree, continued

Medicine: There is a long history of medicinal/herbal use by many native North American Indian tribes who valued it especially for its antiseptic and analgesic qualities, using it in the treatment of wounds, skin complaints and respiratory disorders. The bark was boiled into a cough syrup by the Cree. Mohawk brewed a bark tea to expel worms. Delaware boiled the roots for debilities. Fox people boiled the buds with fat for a salve for a sore nose from a cold. The root was eaten by Chippewa women to prevent premature childbirth and also for a heart medicine. Others used parts of the tree to treat fever, scurvy, cough, pain, and as an anti-inflammatory. The inner bark of this tree contains salicin, a substance similar to the active ingredient in aspirin.

The therapeutic qualities discerned so long ago are still valued by herbalists today (documentation exists that this species was introduced to members of the Lewis and Clark expedition by original peoples as they helped guide the pioneers).


Newly hatched foliage

The stem bark is anodyne, anti-inflammatory, antiseptic, astringent, diaphoretic, diuretic, febrifuge, nervine and stimulant. The bark contains salicylates, from which the proprietary medicine aspirin is derived. It is used internally in the treatment of rheumatism, arthritis, gout, lower back pains, urinary complaints, digestive and liver disorders, debility, anorexia, also to reduce fevers and relieve the pain of menstrual cramps. Externally, the bark is used to treat chilblains, haemorrhoids, infected wounds and sprains. The bark is harvested from side branches or coppiced trees and dried for later use. An infusion of the inner bark is considered to be a remedy for coughs and an appetite stimulant, it is also used in the treatment of stomach pains, urinary ailments, VD, worms, colds and fevers.

⇨More⇨

Old-fashioned tree, continued

The root is poulticed and applied to cuts and wounds. A tea from the root bark is used as a treatment for excessive menstrual bleeding. The leaf buds are used as a salve for colds, coughs and irritated nostrils. The German Commission E Monographs, a therapeutic guide to herbal medicine, approve Populus tremuloides American Aspen for haemorrhoids, wounds & burns.

Warnings: The sawdust of this tree may cause dermatitis.

In valleys west of the Cascades in Oregon and Washington, Quaking Aspen alternates dominance with Douglas Hawthorn (Crataegus douglasii). Quaking Aspen grows through the Douglas Hawthorn overstory, resulting in reduced vigor of Douglas Hawthorn. Quaking Aspen eventually dies back, releasing Douglas Hawthorn in the understory.

⇨More⇨

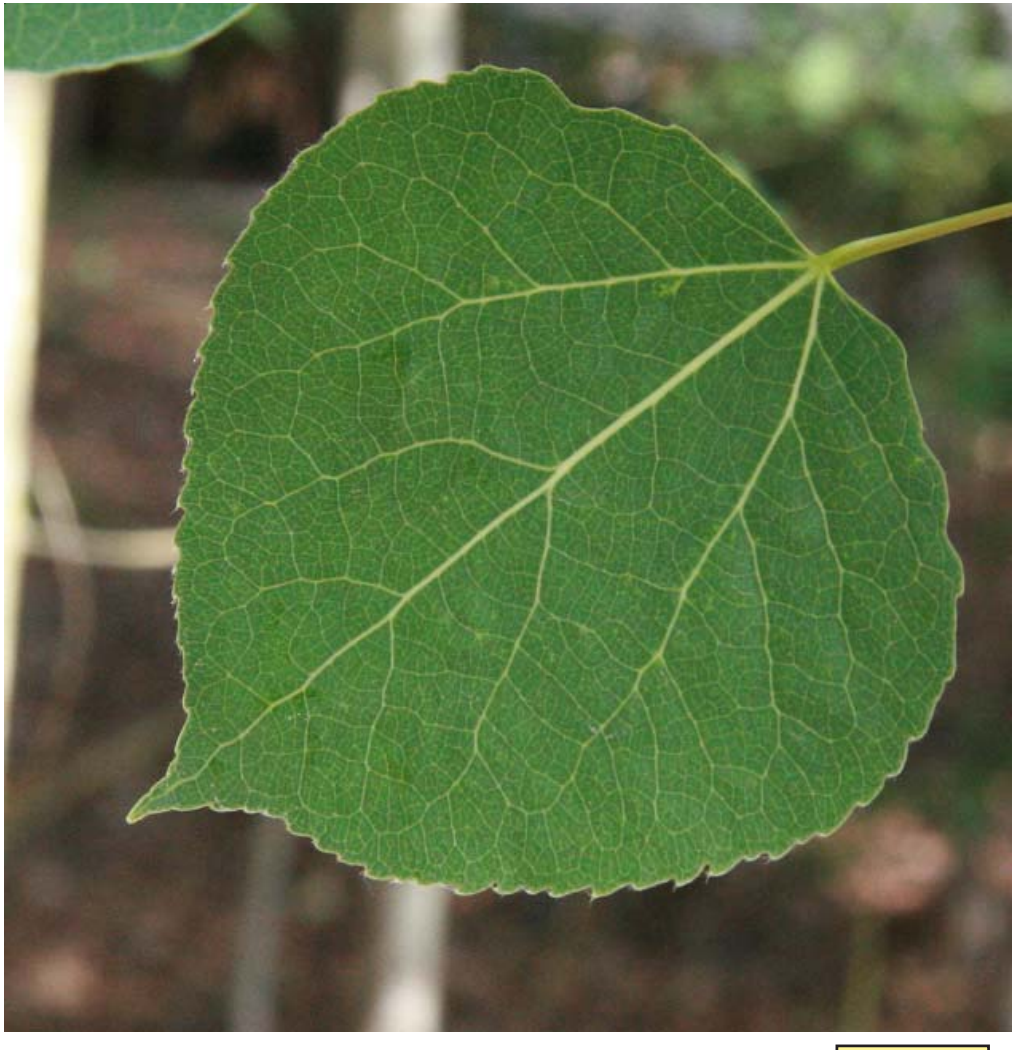
Old-fashioned tree, continued

In *Emblem of the West Is Dying, and No One Can Figure Out Why*, Katie Kelley tells us:

> *"The aspen, an emblematic tree of the West and the most widely distributed tree in North America, is rapidly and mysteriously dying.*
>
> *"Its rapid decline is bewildering scientists and forest ecologists, who say they cannot pinpoint a cause.*
>
> *"What's causing the aspen to die?" asked Wayne Shepperd, a veteran researcher at the Rocky Mountain Research Center of the United States Forest Service. "We don't know. Maybe this has been there all along, and we haven't noticed it before, or maybe it's something new."*

In Aspen Can Be a Troublesome Tree, Robert Cox, horticulture agent, Colorado State University Cooperative Extension states:

> *"Ask a horticulturist about the use of quaking aspens (Populus tremuloides) in the home landscape and the advice you likely will hear is "OK, but...."*
>
> *"That's the good news. Now for a reality check: Aspen is affected by numerous insects, diseases and cultural problems. While there are plenty of good-looking aspen around the region, it also is the most common problem tree discussed in calls or samples brought to Colorado State University Cooperative Extension's Plant Diagnostic Clinic."*



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Old-fashioned tree, continued

Rich Wolf's *Tales from the Trails: Observations from Colorado's Hiking Trails, Quaking Aspen Expose*, first gives us a poetic description that could only have been written from true appreciation of this tree:

> *"The Quaking Aspen is a graceful tree whose leaves dance in the slightest breeze. They are usually found swarming in large groves and at this time of the year their colorful season finale descends from the high altitudes in a glorious display. These swarms turn yellow and red and we Coloradans log on to the local weather to find out where to worship them with our cameras."*

Then Mr. Wolf writes about the species decline we read of from Robert Cox and Katie Kelley:

> *"Enjoy them while you can. Almost a third of Colorado's aspen trees could be dead in the next few years. The white-barked tree is suffering from what scientists call "sudden aspen decline" or SAD. ...*
>
> *"Entire aspen colonies can be lost due to the encroachment of spruce and fir into its ecosystem. Aspen is dependant on fire, avalanche, or other "clearing" disturbances to keep stands open allowing sunlight to permit reproducing from suckers. Grazing and fire suppression are causing loss of aspen habitat."*

The total demise of Populus tremuloides in the wild may, indeed, be another in the ever growing list of flora and fauna we've killed. We can continue to enjoy this lovely tree in our gardens for the foreseeable future.

Photo by Evergreen Purity

⇨More⇨

Old-fashioned tree, continued

There is good news about our trembling tree: On May 13, 2014, Populus tremuloides (Quaking Aspen) officially became the state tree of Utah. In celebration, The Salt Lake Tribune ran an article by Sheena McFarland titled, "*7 fun facts about Utah's new state tree, the quaking aspen.*" Basically, Ms. McFarland's article points out:

"The Colorado blue spruce is out and the quaking aspen is in. Here are seven fun facts about the tree you may not have known:"

1 » The stems of the leaves allow them to move.

2 » The scientific name is Populus tremuloides, so it is often called trembling aspen.

3 » The largest living organism on Earth, Pando, a huge grove of aspen clones is in Central Utah, near Fish Lake.

4 » Old timers boiled aspen branches to make a cleanser for guns, traps, buckskins and stinky humans.

5 » Chopsticks are made from aspen for export.

6 » It's the most widely distributed tree in North America, found in all of the Canadian provinces and all but 13 states.

7 » The wood is now used to make plywood, particleboard, pallets, crates, excelsior, matches and pulp for paper. It can be used for sauna benches and playground equipment because it does not splinter.

⇨More⇨

Old-fashioned tree, continued

Quaking aspen haiku

Against lazy clouds
and sapphire sky, emeralds
silently quiver.

Bruce Stambaugh
August 18, 2010

Aspen tree grove in Shoshone National Forest

⇨More⇨

Old-fashioned tree, continued

Springtime leaves, so tender and fresh

Ernest Thompson Seton (August 14, 1860 – October 23, 1946) was a British author, wildlife artist, founder of the Woodcraft Indians, and one of the founding pioneers of the Boy Scouts of America (BSA). He brought American Indian elements into the traditions of the BSA. An early pioneer of animal fiction writing, his most popular work being Wild Animals I Have Known (1898).

Excerpt from Woodland Tales

By Ernest Thompson Seton

"The name "quaking" was given because it is forever shaking its leaves; the slightest wind sets them all rustling. They move so easily because each leaf-stem is like a thin, flat strap set on edge; while the leaf-stem of such as the oak is nearly round and scarcely rustles at all. Why does the Quaking Asp do this? No doubt, because it lives in places where the hot dust falls thick on the leaves at times, and if it did not have smoe trick of shaking it off, the leaf would be choked and bent so that the tree could scarecely breathe; for the leaves are the lungs of the trees. So remember, when the Poplar rustles loudly, it is coughing to clear its lungs of the dust.

"Some trees try to hide their troubles, and quickly cover up their wounds; but the Aspen has a very touchy skin and, once it is wounded, it shows the scar as long as it lives. We can, therefore, go to any Aspen tree, and have it tell us the story of its life."

⇨More⇨

Old-fashioned tree, continued

Riding Through a Grove of Aspens

The sweeping of our horses' manes
Showed us the wind and which way it blew,
But it was the aspens that gave it voice.

Swirling leaves,
Like erratic wings of butterflies,
shimmered, shook, slapped,
Simultaneously clapping as we passed.

Grace in the grove, the ticking,
whispering clatter of the breeze
Passing back and forth between worlds,
Spirit and sound merged together.

There,
We didn't question deserving,
Or consecration,
Or forgiveness.
Rather, we listened,
wide-open and happy.

And finally, as if beckoned,
The cry of crow and its echoes,
Defiant, yes, and provocative
The rasping call to the universe
The caw-caw of survival,
As we rode, quiet, through.

Linda Reznicek, June 23 2011

⇨More⇨

Old-fashioned tree, continued

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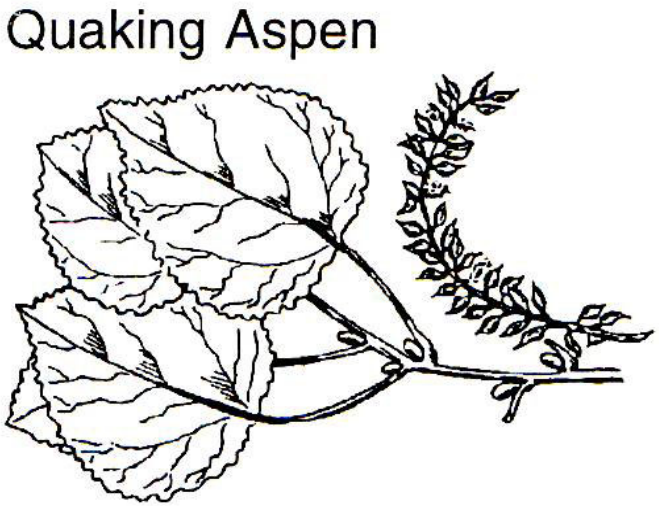

This & That

Notes from Jennifer

The water timers are now set up all around the gardens, just in time for summer's hottest days. Such a relief! I have never been very consistent with watering.

Whenever I go outside, I may be on a mission to cut a bouquet or harvest some herbs or to lie in the hammock; I may be deciding where to place the boulders I've brought with me from home to home; I may be checking on the welfare of some particular bird. I am focused on the purpose of the outing and reluctant to take in a sideline lest I forget what I was out for. A plant can be lying on the ground moaning "water, help me," and I'll not even notice it at all.

ADD is not especially copacetic with old age. If I'm not careful I'll be tidying up the spring flowers that are done or investigating the contents of the garden shed. Hours can go by before I return to the house, usually prompted by a need for a large drink of water.

My style of gardening is very relaxed and not at all judgemental. If a plant chooses to move to a different spot in the landscape, that's fine with me. I know the move was probably instigated by one of the squirrels or birds. In fact, when I add new plants to the garden it is intended to be only a suggestion--any plant that does not desire to live here is free to go elsewhere. A bit bohemian, but mucho stress-free.

Until next time,
Jennifer