

Fall 2007

Darlingtonia

Newsletter of the North Coast Chapter of the California Native Plant Society
Dedicated to the Preservation of California Native Flora

FORESTS, CARBON, AND GLOBAL WARMING

Submitted by Jennifer Kalt

From an article written by Oregon Wild, an organization formed in 1974 to protect and restore Oregon's wildlands, wildlife, and waters. The entire article is available on their website at http://www.oregonwild.org/oregon_forests/global-warming-and-forests

The Intergovernmental Panel on Climate Change (IPCC), made up over 1,000 scientists, from over 100 countries around the world is releasing in four installments this year its latest report on global warming. The IPCC summary for policy makers includes the strongest statement to date linking human activities to global warming. The IPCC finds that it is "very likely" (90 percent probability) that human activities are the main cause of global warming and highlights the need for action today to address this extremely serious global problem that will affect our climate, ecosystems, and the institutions that support humanity.

More than any other issue, humanity's response to climate change will define our times. To preserve options for future generations it is prudent to both mitigate impacts and begin preparing for anticipated changes. Significant reforms are necessary to address climate change in a comprehensive way, including changes in energy policy, transportation policy, land use, urban design, agriculture, etc. This report focuses on a subset of the problem, how climate change will affect forests and how sound forest conservation can play a role in mitigating climate change.

Predictions of specific climate changes at any given place and time are highly uncertain, yet scientists can confidently predict a few notable large-scale trends, such as general climate warming, altered patterns of precipitation, rising sea level, and significant disruptions of terrestrial and aquatic ecosystems.

Forests are the most significant terrestrial stores of living carbon and their destruction and mismanagement over the last century has contributed significantly to the carbon dioxide (CO₂) pollution that threatens our climate. In the future, we need to manage forest to (a) make forests more resilient to the anticipated changes brought by climate change, and (b) manage forests to help mitigate climate change by allowing forests to fulfill their full potential for storing carbon in living systems.

To make forests more resilient to climate change we need to protect the full diversity of life in our forests. Every species and each biotic community is a record of successful adaptation to past changes. Even though the future may not mirror the past, the diversity of life that exists currently represents the full catalog of successful adaptations that are available for the profound restructuring of ecosystems to come. We should not be throwing tools out of the toolbox by allowing species to go extinct.

Since northern hemisphere ecosystems are expected to shift north and toward higher elevations in response to warming climate, we need to expand our existing system of protected areas to give forest ecosystems enough room to migrate via natural processes of disturbance, dispersal, and regeneration.

To help forests store more carbon we need to let our forests grow. Photosynthesis is the mechanism plants use to capture CO₂ and convert it to plant matter that feeds the base of the entire planetary food chain. Old-growth trees store massive amounts of carbon in their trunks as well as in the soil. Logging stops photosynthesis and initiates decay processes that transfer much of the carbon in the trees and soil back to the atmosphere. Forest conservation allows forests to grow large and complex, which not only helps mitigate climate change but also enhances water quality, wildlife habitat, recreation, and quality of life.

Below is the appendix on myths.

Myth: Fast-growing young forests are better carbon stores than slow-growing old forests.

Fact: An honest accounting reveals that logging and industrial forestry release vast amounts of carbon that is not captured and stored in wood products. Young forests continue to release carbon for decades after harvest due to the decomposition of rich carbon stores maintained by the previous

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FIELD TRIPS AND PLANT WALKS

Please check our Web site (www.northcoastcnps.org), watch the local papers, or join our e-mail notification group (go through our Web site) for later additions.

October 20, Saturday. Fall Colors Day Trip. Glowing yellow maples, bronzy oaks, fiery red poison oak and dogwoods, and grand mountain vistas are what we hope to find on a lovely fall day as we drive Highway 299 to Titlow Hill Rd., south to Friday Ridge Rd, and down the east side to 299 near Salyer, with a side trip to Brush Mt. Lookout. We will stop to poke around at Horse Mt., Spikebuck Mt., Brush Mt. Lookout, and East Fork Campground. This could be a good tree and shrub review. Meet at 9:00 a.m. at Pacific Union School (3001 Janes Rd., Arcata) to carpool, or arrange another meeting place. Dress for the weather; bring lunch and water and, if you have one, a walkie-talkie radio. Any car may head for home any time; all will be home by dark. 822-2015.

November 4, Sunday. Redwood Trails Day Hike. Without the distraction of spring flowers we'll see the habitat and perennial greenery in beautiful redwood forests on three trails in Prairie Creek State and Redwood National Parks: Ah Pah Interpretive Trail (0.8 mi round trip) to see some watershed restoration; Trillium Falls Trail (2.5 mi loop) for meadow, wetland, old growth forest and a waterfall; Lost Man Creek Trail (as far aw we want) for rich, shady riparian. Meet at 8:30 a.m. at Pacific Union School (3001 Janes Rd., Arcata), 10 a.m. at Ah Pah Trailhead, or arrange another place. Dress for the weather and hiking; bring lunch and water. Return by dark. 822-2015.

FIELD TRIP REPORTS

BOARD CAMP MOUNTAIN

by Carol Ralph

Mid-summer is a great time to head high into these mountains "behind" us here on the coast. Three of us traveled out Titlow Hill Rd. off Highway 299 on Saturday July 7, 2007, and camped one mile down 5N04, on the east side of Grouse Mt., at a place known to the Advanced Plant Taxonomy class as Veratrum Camp. It is under the white firs *Abies concolor* on an old log deck by a spring and small stream. Wonderful botanizing is an easy walk down the road from there. General moisture coming out of the mountain nourishes vast, lush beds of *Polygonum phytolaccifolium*, a 5-ft-tall knotweed. On the roadbank and in the roadside ditch were blooming a stunning assortment including California lovage *Ligusticum californicum*, a dark green, mid-size umbellifer smelling like celery; two species of bog-orchids, *Platanthera leucostachys* with its white flowers close together and *P. sparsiflora* with them farther apart; and queen's cup *Clintonia uniflora*, the pure white, single, flowers nestled in the smooth green, strap leaves. For the *Ribes* enthusiast there were currants and gooseberries galore: *R. sanguineum* (red flowering currant), *binominatum* (trailing gooseberry, spreading, leaves sticky, fruit prickly), *lobbii* (gummy gooseberry, upright, fruits large and gummy), *viscosissimum* (sticky currant, very sticky, big leaves, stems gray, sprays of big, creamy flowers). Most exciting to me were the first, pink flowers opening on the globemallow *Iliamna latibracteata*, an UNCOMMON, robust, hollyhock-like perennial noted for its stellate hairs (visible with a lens, clusters of tiny, clear spines), as well as its attractiveness. Down the road near the next log landing a group of stately, pinky white Washington lilies *Lilium washingtonianum* glowed in the shade under the firs. After an inspiring sunset seen from the very top of Grouse Mt. one of us slept under the vast sky there, by the wind-sculpted chinquapin *Chrysolepis chrysophylla*, and the others in the shelter of the white firs at the camp.

Sunday morning the three campers met with 7 day-trippers farther south along Forest Highway 1 at the turn-off to Board Camp Mt., currently unmarked, and consolidated passengers for the couple miles, which have some very lumpy places, up to a level stretch by a campsite under white firs, where we parked. We walked up the remaining road (which was even worse) through forest and a brushy patch to the foundations of the old lookout tower at 5,187 ft above sea level. The pussypaws *Calyptridium umbellatum* were underfoot, the vast sky above, and the rows of mountains rolled off in the distance in all directions.

We then headed out the trail, which heads west, marked with a sign, from the road about 1/4 mile below the top. This is known as the Bug Creek Trail, 4E26, where the Wilderness Coalition takes people to show them the Mad River Buttes area. Motorcycles obviously come out this trail too. We walked about 2 miles out this trail. Much of this was under dense white fir, which is boring if you are looking for flowers but exciting if you like to study dead trees. We crossed a crumbly slope of diverse shrubbery, including canyon oak *Quercus chrysolepis*, huckleberry oak *Q. vaccinifolia*, manzanita *Arctostaphylos manzanita*, creeping snowberry *Symphoricarpos mollis*, Fremont silk tassel *Garrya fremontii*, and deerbrush *Ceanothus integerrimus*. We were surprised to find in this chaparral setting species such as prince pine *Chimaphila umbellata*, fat Solomon's seal *Smilacina racemosa*, and western coralroot *Corallorhiza mertensiana*, that we expect in the woods or woodland. We were most surprised and delighted by several 5-foot-tall Washington lilies holding their big, white, finely speckled, fragrant trumpets horizontally among the manzanita. When not watching our step or focusing on plants we savored the top-of-the-world vistas.

The trail arrived at "The Knob", a bald, rock outcrop set in a dry meadow overlooking the Mad River watershed and a horizon of mountains. Knee-high Brewer's oak *Quercus garryana* var. *breweri* covered a good portion of this clearing. Clear purple trumpets of *Brodiaea elegans* (3 white, upright "tongues") and *Triteleia bridgesii* (sparkly throat; six stamens) and a few red cylinders of firecracker flower *Dichelostemma ida-maia* hung above the oak carpet. In the hard, gray gullies around the sparsely covered meadow were not just one, but two species of yampah *Perideridia*. Some determined trowel-work in the hard ground and hot sun revealed that the slender, short, blooming yampah with bracts and bractlets had two round, blueberry-sized tubers (*P. oregana?*), while the leafier, larger yampah still in bud had a clump of radiating, slender carrot-like roots.

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OTHER EVENTS AND ACTIVITIES

CNPS PLANT SCIENCE TRAINING PROGRAM—UPCOMING WORKSHOPS

For more information visit CNPS state website at <http://cnps.org/cnps/education/> or call / email Josie Crawford at (916) 447-2677 or jcrawford@cnps.org

Oct 16-18, 07 Vegetation Mapping, UC Berkeley/ Mount Tamalpais—Primary Instructors: Todd Keeler-Wolf, Julie Evens, John Menke

Nov 7- 8, 07 Riparian Ecology and Plant Identification for Professional Botanists, Casitas Springs, Ventura Co. - Primary Instructors: David Magney, Cher Batchelor

Mar 4-5, 08 Rare Plant Surveys, San Diego County—Primary Instructors: Fred Roberts, Michele Balk

Mar 25-27, 08 Vegetation Rapid Assessment, Jasper Ridge. -Primary Instructors: Todd Keeler-Wolf, Julie Evens, Nick Jensen

April 14-16, 08 Vernal Pool Plant Taxonomy, UC Davis and Sacramento-San Joaquin Valley vernal pools—

Primary Instructors: Carol Witham, Ellen Dean, Jennifer Buck.

May 4-5, 08 Weed Identification, Ecology, and Invasions— Primary Instructors: Joe Di Tomaso, et al, location tba

May 20-22, 08 Wetland Plants of the Lower Sacramento Valley - Primary Instructors: Virginia Dains, Bob Holland, and Captain Tule

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From this meadow some of us started back to the trailhead, while others turned onto a trail to the right leading down a mostly-dry creek, nevertheless decorated with a pink "aster," death camas *Zygadenus*, wild hyacinth *Triteleia hyacinthina*, and more. We scrambled across the creek and up a hill well crossed by fallen trees to "Wyethia Meadow," a knoll fully carpeted by the rough, pointed, dark green leaves of two species of mules ears *Wyethia*, both finished blooming. Capping the knoll was an enchanted grove of miniature (15-ft-tall) white oaks *Quercus garryana* var. *breweri*, their white, chalky bark blotched with patches of yellow-brown moss, clean in the dappled light. We appreciated their shade for awhile before facing the hot climb back up to the trail and the trailhead.

The gravel of the knoll crunched under our boots; the dry needles and twigs under the white firs crunched and snapped under our boots; the gravel of the trail crunched and slid under our boots. Our tree-reader shared the tortuous history he saw in the twisted pine on the opposite ridge. We noted a western white pine *Pinus monticola*, which is here an outlier of the main population. The butterflies flocked around the coyote mint *Monardella* in the afternoon sun. Most of us had brought enough water; all of us were glad for the watermelon waiting at the cars.

Along Titlow Hill Road the summer heat accompanied the festive purple *Brodiaea elegans* among the dry grass; the small, floating, white pompoms of barestem buckwheat *Eriogonum nudum*; the cheerful yellow heads of wooly sunflower *Eriophyllum lanatum*; and the gentle fragrance and pure white blossoms of mock-orange *Philadelphus lewisii* shrubs tucked into cooler pockets on the hillside. Along Highway 299, as it descended toward the coast, the summer heat accompanied white umbels of wild carrot *Daucus carota*, pink and white banners of everlasting pea *Lathyrus latifolius*, blue pinwheels of chicory *Cichorium intybus*, and classic, yellow-centered, white ox-eye daisies *Chrysanthemum leucanthemum*, all immigrants from other continents and somehow anticlimactic after the diverse, intricate, vast show on our geologically diverse mountain tops.

IRIS GARDENS IN THE SISKIYOU

June 9, 2007, by Barbara Kelly and Carol Ralph

After gathering at the Patrick Creek Campground, east of Gasquet on Highway 199, and admiring its trail plants and inside-outflowers, 9 people in 4 cars (to accommodate various departure needs) drove northeast a bit and turned up into the mountains on Little Jones Creek Rd. We traveled good, gravel Forest Service roads all day in a 26.4 mile loop, following 16N05 (Jawbone Rd), then 17N04, and then 411, which is French Hill Rd. and returns to 199 at Gasquet.

The group was ready to focus on iris, and the iris were in full bloom. For the first 5 miles the irises were uniformly buff-colored with yellow central streaks and purple veins on the showy sepals. We had to learn iris anatomy while we studied the characters used to distinguish species: perianth tube length and shape (between the ovary and where the "petals" flare out), style crest length ("ears" on showy, narrow, strap-shaped, petal-like style), leaf width, ovary shape (the green, thick part that becomes the seed pod), stem branching and bracts, spathe shape (short, leaf-like things enclosing flower), etc. Color is one of the most obvious characters to us but is so variable within species it is of secondary importance to iris taxonomists. The four irises we thought we might find were *Iris douglasiana*, *I. innominata*, *I. bracteata*, and *I. chrysophylla*. Armed with diagrams from an iris publication (*A Guide to the Pacific Coast Irises* by Victor A. Cohen; British Iris Society 1967. The diagrams and other great iris information is on the Web site of the Society for Pacific Coast Native Iris, www.pacificcoastiris.org), we studied the stunning, creamy iris along the road up, the multitude of beautiful white, lavender, or purple iris at the lunchtime log deck, and the glowing purple iris along the road down. All were gorgeous. None fit a single species description. None had the very long perianth

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CHAPTER PROGRAMS AND MEETINGS

EVENING PROGRAMS

The North Coast Chapter of CNPS (www.northcoastcnps.org) holds free Public Programs on the second Wednesday of each month (September through May) at the Six Rivers Masonic Lodge, 251 Bayside Rd., Arcata. Refreshments at 7:00 and program at 7:30 p.m. You don't have to be a CNPS member to attend! Contact Audrey Miller, Programs Chairperson at taurdrey-birdbath@suddenlink.net or 786-9701, with speaker or botanical subject suggestions.

- October 10** **"Exploring California's Deserts"** A discussion with slides of flowering plants in the Mohave Desert and some of the Great Basin in Colorado Desert areas. **Jeff Hogue, CR professor**
- November 14** **"Poseidon to Zeus. A snapshot of the Oregon Coast Range, its geology and botany."** **Don Begnoche** See speaker profile on page X.
- December 12** **"Native Plant Show & Tell"** An informal evening for anyone to share photos, artifacts, readings, or food related to native plants and their habitats. Share the beauty, botanical interest, conservation importance, or fun of a plant, place, or trip. Your garden, your pine cone collection, or a favorite passage from a book. One photo or a series. It's your chance! Before December 1 tell Ron Johnson (677-0145; beth@reninet.com) what you want to share, so he can plan the timing and equipment.
- January 9** **"Killers in the Garden, Murderers in the Wild."** **Barry Rice**, author, photographer, scientist, horticulturist, will discuss carnivorous plants with an emphasis on local species
- March 12** **"Designing California Native Gardens."** **Alrie Middlebrook**, author-owner of Middlebrook Gardens, a native landscaping company in San Jose, will talk about creative design in your garden with natives.

BUSINESS MEETING

The North Coast Chapter of CNPS holds business meetings to discuss a variety of topics related to running the organization. The next meeting is Tuesday Oct. 16 and the following one is on Nov. 20. Meetings are from 7:00-8:30 p.m. at the Northcoast Environmental Center, 1465 G. St., Arcata. You must be a North Coast CNPS member to attend.

GET INVOLVED

Contact an appropriate person from our roster.

- Become our **Invasive Plant Chair**. Focus on what fits your time and talents in this wide arena.
- Organize our **plant walks**. We provide the lists of leaders and places. You communicate.
- Coordinate our **Spring Wildflower Show**. Oversee the talented volunteers who make this spectacular event happen. You get the credit.
- **Reletter signs** for wildflower show. Stick-on letters.
- Keep our **Membership list** up-to-date. About an hour/month; Excel program.
- Bring **refreshments** to a program.
- Suggest a program **speaker, field trip destination, or garden**.

THANK YOU, FRESHWATER FARMS

by Carol Ralph

Freshwater Farms, on Old Arcata Rd. near Freshwater Rd., is a familiar and important place for many chapter members and for our chapter. Rick Storre, owner and operator of this wholesale nursery, has been churning out native plants from this site for more than 20 years. The burgeoning restoration and mitigation movements require massive numbers of native plants. Nurseries like Rick's supply them.

Luckily Rick also has a farm stand operation, so we backyard gardeners can take advantage of the wide range of local species that he propagates. As we inspire other gardeners to plant native species, they need a place to buy them. Our volunteer plant sales don't begin to provide the variety and volume necessary. Nurseries like Freshwater Farms are essential to our CNPS mission.

Rick's enthusiasm, expertise, and generosity have benefited our chapter and native plants in other ways as well. Rick has donated many plants to our plant sales and to many non-profit landscaping efforts. He has hosted workshops on native plant propagation. He spreads the excitement of native plants in his weekly column in *The Times-Standard*, as well as in his nursery. His nursery is a source of ideas and inspiration for those who go there. He gets people involved in native plants, like high school kids planting native wildflowers along the highway.

Thank you, Rick, for your many years of native plant vision and energy.

If you want to shop at Freshwater Farms, you can stop in 9 a.m.-5 p.m. daily, but it's best if you phone ahead to be sure staff is available to help you 444-8261.

OPEN GARDEN

Closing the 2007 Gate and Opening the 2008 Gate

The inaugural Open Garden Series was a fun time for both loyal and new native plant enthusiasts. Instead of a hurried, one-day, multi-garden tour, we held open gardens at four local homes on four different days. One garden was in Fortuna, two in Eureka, and one in Bayside, providing geographic variety as well. Although the emphasis was on sharing, educating, and increasing awareness, we raised about \$400 in donations.

Thank you, garden owners! It is really important and meaningful for people wanting to plant natives to see them in use. The hosts were Gail Popham, Janelle Eggers, Jude Powers and David Fix, and Marty Vega (with Kathy Dilley). We appreciate you sharing your space, knowledge, experience, and time. We hope you are enjoying looking at your tidied-up gardens.

Thanks is also due the greeters who tended the welcome tables at the various yards: Sylvia White, Pete Haggard, Zephyr Markowitz, Donna Wildearth, Jennifer Tompkins, Anda Webb, Jackie Hamilton, and Nancy Moore.

If you would like to help plan future garden events or nominate a garden to share, please contact Pete Haggard 839-0307 or Carol Ralph 822-2015.

NATIVE PLANT CONSULTATION SERVICE



Are you wondering which plants in your yard are native? Are you unsure if that vine in the corner is an invasive exotic? Would you like to know some native species that would grow well in your yard?

The North Coast Chapter of the California Native Plant Society offers the Native Plant Consultation Service to answer these questions and to give advice on gardening with natives. If you are a member of CNPS, this service is free, if not, you can join or make a donation to our chapter.

A phone call or e-mail to our coordinator, Kathy Dilley (825-7665 or vandk@quik.com), will put you in touch with a team of volunteer consultants who will arrange a visit to your property to look at what you have and help choose suitable plants for your garden.

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tube of *chrysophylla*; none had the very short tube of *bracteata*. Many characters fit *innominata*, but broad leaves and triangular ovaries indicated *douglasiana*. And who contributed the long style crests on some? The truth about our Pacific Coast iris populations is that they are still mixing their genes. We may be frustrated that we can not categorize every iris we find, but we get to see evolution in action.

An abundance of variously colored iris prompted our lunch stop at a wide, packed-gravel, old log deck 5.5 miles up from 199. Here we enjoyed the finest variety of serpentine plants I (BK) have ever seen in a single place. It was a paradise of serpentine endemics, many of them rare, surrounded by Douglas fir (*Pseudotsuga menziesii*), Jeffrey pine (*Pinus jeffreyi*), and western white pine (*Pinus monticola*). Glowing spears of blooming beargrass (*Xerophyllum tenax*) punctuated the low shrubbery; fresh, pink blossoms of rhododendron (*Rhododendron macrophyllum*) decorated the clearing edge. Ground-hugging plants included *Ceanothus pumilus* (Siskiyou mat), *C. cuneatus* (wedgeleaf ceanothus), bush chinquapin (*Chrysolepis sempervirens*), huckleberry oak (*Quercus vaccinifolia*), and Oregon-grape (*Berberis aquifolium*), interspersed with common juniper (*Juniperus communis*) and a manzanita (*Arctostaphylos*). One of the manzitanas supported a dry inflorescence of the root parasite *Boschniakia strobilacea* (California ground cone). Other species in flower or bud included corn lily (*Veratrum*), Bolander's lily (*Lilium bolanderi*), *Calochortus tolmei* (pussy ears), *Viola lobata* (pine violet), *Arnica spathulata* (Klamath arnica), a *Polygala*, a tiny mat *Galium*, a *Lomatium* (probably *howellii*), and a red *Castilleja* (paintbrush).

I (BK) enjoyed looking closely at the arnica while keying it out. It had cute yellow hairs on the tips of its petals. One pleasure of identifying plants is looking closely at them and seeing things you are otherwise sure to miss.

We found another spectacular, species-rich serpentine stop at a wide pull-out where a small, dry, rocky creek went under the road, a bit east of milepost 6 on 17N04. It had a completely different flora from our lunch stop. We saw *Phacelia* (probably *hastata*), *Erigeron foliosus* (probably var. *confinis*) (leafy daisy), *Triteleia bridgesii*, a *Galium*, a *Lomatium*, *Garrya buxifolia* (a silk tassel), *Aspidotis densifolius* (Indian's dream (fern)), *Montia parvifolia* (littleleaf montia), *Calystegia* (morning glory), *Lilium bolanderi*, *Erythronium californicum* (?) (fawn lily), *Eriophyllum lanatum* (wooly sunflower), azalea (*Rhododendron occidentale*), *Hieracium*, *Penstemon*, *Holodiscus* (creambush), *Frangula* (*Rhamnus*) *californica* (coffeeberry), *Polygala*, and a *Prosartes* here.

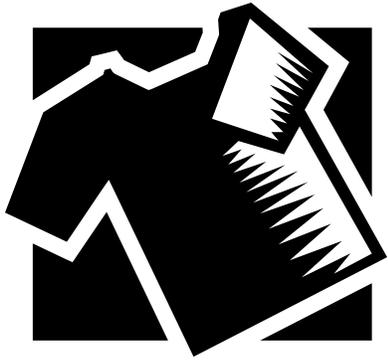
A sloped meadow shortly uphill from milepost 3 on French Hill Rd was a third, distinct serpentine habitat. The Jeffrey pines and clumps of native grasses marked it as serpentine, too harsh for the non-native, pasture grasses. Pink flowers of showy phlox (*Phlox speciosa*) and Hooker's Indian pink (*Silene hookeri*) were a new treat, seen in the light rain settling in at the end of this day. A diverse meadow including *Calochortus tolmei*, *Triteleia bridgesii*, *Sanicula*, *Iris*, *Viola adunca* (western dog violet), *Sisyrinchium bellum* (blue-eyed grass), *Horkelia*, *Perideridia* (yampah), *Castilleja*, *Zigadenus* (death camas), *Erigeron*, *Ranunculus* (buttercup), *Sidalcea* (checkerbloom), etc., assured hours of fun botanizing in the future.

This day made us understand why botanists love serpentine flora. That toxic soil, overloaded with minerals like cadmium and nickel and deficient in nutrients, nevertheless supports a diverse array of tough and rare plants which could not make it in more fertile soils.

The beauty and excitement of this route was not confined to the serpentine. Wallflowers (*Erysimum capitatum*), yerba santa (*Eriodictyon californicum*), bleeding heart (*Dicentra formosa*), deer vetch (*Lotus crassifolius*) three feet tall, false lupine (*Thermopsis robusta*) (an uncommon species), tobacco brush (*Ceanothus velutinus*), fairybells (*Prosartes* (*Disporum*)), and countless others impressed, delighted, or puzzled us. Bright pink clusters of rhododendron (*Rhododendron macrophyllum*) flowers decorated a palette of dark-, gray-, and yellow-greens and amber-colored new growth of the shrubbery.

It was a long day of discovery, unusually rewarding with lots of rare species, beautiful scenes and vast vistas. This route is well worth repeating both earlier and later in the flowering season.





CHAPTER T-SHIRTS AVAILABLE

Our popular chapter T-shirt features a dramatic rendition of our mascot, the California pitcher plant, *Darlingtonia californica*, by Arcata wildlife artist Gary Bloomfield.

The shirts are short- or long-sleeved, stonewashed green (A few are the gray-blue, previous printing), in adult sizes S, M, L, XL.

In time for your Christmas shopping, these T-shirts are available at our evening programs or at various events where we have our booth.

Additionally, thanks to Gail Popham, now you may order one shipped to you! Contact her at (707)444-3316(home), (707)445-5204(work), or popham@humboldt1.com.

Shirts cost \$16 short-sleeved; \$18 long-sleeved; \$2 discount for members. Shipping and handling for local orders is \$5 for one shirt and \$1 more each additional shirt; Gail will tell you how much for farther. Sorry, we don't do credit cards.

AN INTRODUCTION DON INTERPRETS THE LANDSCAPE

by Carol Ralph

I knew I had met a special person when I saw the notecards Don Begnoche had made to help identify plants in the field. He had condensed the genus keys from Jepson to just the species in his area and printed those small enough to glue on cards. Can't remember which *Vancouveria* has glandular hairs? Just flip to the *Vancouveria* card. Which iris have long tubes? The *Iris* card. It's the pre-Palm Pilot solution to the holey memory.

The cards have helped Don learn a lot of plants, which he photographs as well. He also knows a lot of geology, and he writes lyrically and with humor. This is quite apparent in the two books he has printed himself, detailed tours pointing out geological, historical, and botanical features. *Islands in Time* features 10 sections of roads in the Klamath Mountains, including Mt. Eddy, Coffee Creek, Weaverville, Willow Creek, and Happy Camp. *Siskiyou Sundays* covers an area closer to Don's home territory, Ashland, Oregon. Perhaps modern technology has a way to make more of these books available.

We will be treated to Don's interpretation of the southern Oregon coast at our November 14 program, "Poseidon to Zeus. A snapshot of the Oregon Coast Range, its geology and botany."



THANK YOU

Tony LaBanca, Jen Kalt, and Sydney Carothers for surveying and monitoring Lassics lupine as part of our cost-share project with Six Rivers National Forest.

Robin Bencie, Jen Kalt, Andrea Pickart, Suzanne Isaacs, Nick Sky, and Birgit Semsrott for leading plant walks.

Felicity Wasser for several, critical years helping the Northcoast Environmental Center (NEC) as our representative on the board and as treasurer

Suzanne Isaacs for helping spread the word about invasive plants as our Invasive Plant Chair for one year

Marisa D'Arpino for donating the new Microsoft Publisher to the chapter

Larry Levine for getting our notices into the newspapers

Jennifer Tompkins for getting our news into Econews

STEERING COMMITTEE MEMBERS/CONTACTS

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Wildflower Show	Position Open		Contact Carol Ralph for Details

COMMUNICATIONS

North Coast CNPS members have three ways to share information with each other: the **Darlingtonia Newsletter** (quarterly), our chapter's website (www.northcoastcnps.org - updated regularly), and e-mail lists/forums (Announcements, Business, and Gardening – subscribe from the **E-mail lists and Forums** page on www.northcoastcnps.org).

The *Darlingtonia* is the quarterly newsletter of the North Coast Chapter of CNPS. Items for submittal to *Darlingtonia* should be sent to marisa_nativecalifornian@yahoo.com by each quarterly deadline: December 1, March 1, June 1, and September 1. Botanical articles, poetry, stories, photographs, illustrations, sightings, news items, action alerts, events, factoids, tidbits, etc. are welcome and appreciated.

We, the North Coast Chapter of CNPS, are a member organization of the **Northcoast Environmental Center (NEC)**, a valuable voice for conservation in our area. This means we have a seat on the board of directors. It also means that as our member you are automatically entitled to receive the NEC's monthly publication, **EcoNews**.

Due to the vagaries of membership lists, you might not be receiving this informative newsletter. If you are a member of our chapter, do not receive *EcoNews*, and want to receive it, phone 707-822-6918 or e-mail nec@yournec.org and leave the pertinent information.

LYTHRUM SALICARIA (PURPLE LOOSESTRIFE) A LOCAL INVASIVE IN THE NEWS



Lythrum salicaria Photo courtesy Bob Case

Related Taxa: *Lythrum salicaria* L. View [12 genera in Lythraceae](#), [13 species in Lythrum](#)

Classification: *Lythrum salicaria* L.

Kingdom [Plantae](#) – Plants
Subkingdom [Tracheobionta](#) – Vascular plants
Superdivision [Spermatophyta](#) – Seed plants
Division [Magnoliophyta](#) – Flowering plants
Class [Magnoliopsida](#) – Dicotyledons
Subclass [Rosidae](#) –
Order [Myrtales](#) –
Family [Lythraceae](#) – Loosestrife family
Genus [Lythrum](#) L. – loosestrife
Species [Lythrum salicaria](#) L. – purple loosestrife

Purple loosestrife has made the local news in part due to the eradication method selected to remove it along the South Fork of the Eel River within the Humboldt Redwoods State Park.

Lythrum salicaria (purple loosestrife) is a wetland herb (family Lythraceae) that invades scattered freshwater wetlands of northern and central California. Infestations are found in northern California and the San Francisco Bay Area, as well as along rivers in the southern Sierra. It is a hardy perennial that can rapidly degrade wetlands, diminishing their value for wildlife habitat.

Alternate Names: spiked lythrum, salicaire, bouquet violet / Uses: Noxious and highly invasive

In such habitats, purple loosestrife forms dense, monospecific stands that can grow to thousands of acres in size, displacing native, sometimes rare, plant species and eliminating open water habitat. The loss of native species and habitat diversity is a significant threat to wildlife, including birds, amphibians, and butterflies, that depend on wetlands for food and shelter. Purple loosestrife monocultures also cause agricultural loss of wetland pastures and hay meadows by replacing more palatable native grasses and sedges (Mal et al. 1992; Thompson et al. 1987).

Purple loosestrife provides little food, poor cover, and few nesting materials for wildlife (Mann 1991). Waterfowl nesting becomes more difficult as clumps of *L. salicaria* restrict access to open water and offer concealing passageways for predators such as foxes and raccoons (Mal et al. 1992).

An important consideration in controlling purple loosestrife is its prolific seed production, the ease with which seeds are dispersed, and their ability to remain viable for several years. Also, this plant can spread vegetatively by resprouting from stem and rootstock cuttings. Other considerations in selecting control methods are their detrimental effects on native species and the possibility for reinvasion by purple loosestrife or other exotic species. In addition, native plants of similar appearance should not be subjected to control. Purple loosestrife may superficially resemble plants of the mint family or species of the genera *Epilobium* and *Liatis*. Proper identification is an important consideration in controlling exotic loosestrife.

Information excerpted from the California Invasive Plant Council's web site http://www.cal-ipc.org/ip/management/plant_profiles/Lythrum_salicaria.php and the USDA's Plant Profile database <http://plants.usda.gov/java/profile?symbol=LYSA2>

Please contact our chapter for more information about how to best control or eradicate this weed.

Join the North Coast CNPS—By joining CNPS you add your voice to that of other native plant enthusiasts wishing to increase awareness, understanding, appreciation, and conservation of California's native flora. Members receive the quarterly journal *Fremontia* (the statewide newsletter), our chapter newsletter, *Darlingtonia*, and the *Northcoast Environmental Center (NEC) newsletter, EcoNews*. Membership fees: Individual \$45; Family \$75; Student or Limited Income \$25 (Membership fee minus \$12 is tax deductible).

To join or renew, you can either:

- Send your name and address, check (payable to CNPS) or credit card information to CNPS, 2707K Street, Suite 1, Sacramento, CA 95816-5113.
- Pay on-line <http://www.cnps.org/cnps/join/>

Please notify the state office and/or our Membership Chairperson if your address changes.

MEMBERS—see your membership expiration date on the first line of your newsletter's address label

PLANT PROFILE

by Carol Ralph

COYOTE BRUSH *Baccharis pilularis*

It's fall. A still, clear, damp morning, or a dark night wrapped in fog...on a bluff overlooking the surf, in a hollow in the dunes, or among the dry, cricket-filled grasses on a mountainside. An unobtrusive, sweet odor adds to the magic of the moment and announces the blooming of the coyote brush.

The dirty white flowers are not showy, but a closer look reveals interesting features. Some flowers are fat and round, while others are like shaving brushes, and these kinds of flowers are on separate plants. The "flowers" are actually tight heads of very tiny flowers, a character of the aster family (Asteraceae, or Compositae. Think dandelion.). The



Gary A. Monroe @ USDA-NRCS PLANTS Database

© Gary A. Monroe

short, fat flower heads are composed of tiny tubes of slightly flared "petals" from which protrude central columns with yellow pads on them, and yellow powder comes off these. This is the pollen, a product of the male plant. The brushy flower heads when young have tiny, fine, forked, thread-like styles sticking beyond the bristles, waiting to catch pollen delivered by insects or wind, identifying these as female, which create the seeds. When older, the tufts of soft bristles (the pappus) become many tiny parachutes that carry the seeds away on the wind.

Coyote brush is a good colonizer, one of the most common shrubs in California and dominant in some habitats. It is home for many chaparral animal species and a nurse for many plant species. The flowers are popular with insects, especially in this dry time of year. As the fragrance is most noticeable at night, I suspect moths especially appreciate these flowers.

Evergreen, fast-growing, prunable, moderate-sized, fall-blooming, generally unpalatable to deer, tolerant of broad soil and moisture conditions, coyote brush sounds like the gardener's perfect shrub. Indeed, Judith Larner Lowry in *Gardening with a Wild Heart* writes of an informal group called Friends of the Coyote Bush. Don't pass it by because of its commonness, plain appearance, and easy culture. Its vigor, adaptability, and strong connection with the wild and wildlife will reward you if you invite coyote brush into your yard.

(Continued from page 1)

stand¹. Scientists discovered that old forests continue to absorb CO₂ even after tree growth appears to have slowed. This may be explained in part by the fact that old-growth trees are sending a lot of carbon into the soil to support the below-ground ecosystem that helps sustain them (e.g. symbiotic relation between old growth trees and mycorrhizal fungi)². Also, traditional tree farming models breakdown because they fail to view old forests as complete ecosystems, instead of just old trees. Old forest ecosystems continue to absorb and store carbon because they harbor a diversity of plants and because these well-developed ecosystems constantly recruit new plants that help maintain, on an ecosystem basis, a productive ratio of leaf area (where photosynthesis occurs) to sapwood (where respiration occurs)³.

Myth: Wood products store carbon. Some argue that logging is helpful because carbon is sequestered in wood products.

Fact: It turns out that well-conserved forests, on average, store carbon more securely than our throw-away culture does. First, only a small fraction of the carbon removed from logged forests end up as durable goods and buildings - most ends up as slash, sawdust, waste/trim, hog fuel, and non-durable goods like paper⁴. Second, wood products have short "life spans" compared to forests that are well-protected from logging. Most wood products are essentially disposable. Wood products which can reasonably be considered durable (e.g. buildings) may in fact be less durable than the wood retained safely inside an old-growth tree that could live to be hundreds of years old.

Myth: Forest fires release carbon stored in forests so forests are not good places to store carbon. Managing forests for carbon storage requires that we continue to practice aggressive fire suppression.

Fact: Forest fires do release CO₂ to the atmosphere, but only a small fraction of the total forest biomass is lost to the atmosphere. Due to the incomplete combustion of large wood, 70-80 percent of the carbon in tree stems remains after forest fires, and globally, 23 times more carbon is captured by photosynthesis than is emitted by fires⁵. Even after a forest fire, most of the carbon remains in the forest and contributes to carbon sequestration⁶. Salvage logging however would exacerbate the release of carbon from the fire. Taking a long-term view, forest fires represent a temporary localized dip in the landscape carbon pool that should eventually return to high levels with proper management. So called "salvage logging" would tend to exacerbate the carbon released by the fire because it would (a) disturb soils and release soil carbon, (b) convert the largest, longest-lasting logs into short-lived wood products, and (c) reduce the piece-size of the remaining material resulting in higher rates of decomposition.

Myth: Tropical forests are most important. Forests outside the tropics do not contribute significantly to global carbon storage.

Fact: Because of their high biomass and continuous growing season tropical forests are one of the most significant living terrestrial stores of carbon. However, tropical forests are being lost at an alarming rate while temperate forest are expanding⁷. In developing countries tropical forests are too often used for firewood which results in the immediate release of stored carbon. It is true that many temperate and boreal forests have shorter growing seasons, lower biomass per acre, and lower evapotranspiration. However, our northwest "seasonal rainforests" compare favorably to tropical forests. The northwest's low-elevation old-growth forests have long growing seasons due to the maritime influence of the Pacific Ocean, and they can store more carbon per acre than many tropical forests, so they too play a significant role in global carbon storage. Because they occupy such large geographic areas, other boreal and temperate forests cannot be dismissed (e.g., Canada, Russia, Scandinavia).

Myth: Forests tend to exacerbate global warming because they have low reflectance and absorb the sun's energy.

Fact: A recent modeling study looked at the combined effects of carbon and albedo on global climate under hypothetical scenarios of complete planetary deforestation or afforestation⁸. Not surprisingly, the model revealed that forests in relatively snow-free latitudes such as the tropics help cool the planet by storing carbon and the model showed that the absence of forests in the polar and boreal regions helps to cool the planet because it allows snow to reflect energy back into space. The implications are that expansion of forests toward the poles (which is expected to occur as the climate warms) may exacerbate climate change because the carbon storage benefit of the "new" forest is more than offset by the warming that will result from loss of albedo when highly reflective snow fields are converted to dark absorptive forests. Where snow is less prevalent and albedo is already low, such as forested areas of the tropics and mild temperate regions, carbon storage in forests is expected to contribute to cooling. Another recent study showed that the loss of carbon in boreal forests (expected due to increased fire occurrence) may not significantly contribute to warming because the loss of carbon is offset by the increase in albedo from snow⁹. Since maritime NW forests do not have long snowy winters and are already "dark" from an albedo standpoint, it is reasonable to assume that forests are a good place to mitigate climate change with carbon storage.

Myth: Timber industry representatives are experts on forests and provide reliable information on the effects of logging on climate change.

Fact: The timber industry appears to be advancing a public relations campaign intended to convince policy-makers and the public that "business-as-usual" forestry is good for the climate¹⁰. For instance, the timber industry likes to say that fast young forests are better at sequestering carbon than old forests, when the exact opposite is true, and they leave out important factors such as the loss of soil carbon after logging and the carbon value of retaining old-growth forests. The timber industry needs a lesson in honest accounting. Industry emphasize forests' role as a carbon sink, but the industry overstates the role of wood products in carbon storage, glosses over the fact that logging causes forests to become a net carbon source, and ignores old forests' potential as a long-term carbon store. Industry's analyses make assumptions that are favorable to wood products and biased against alternative building materials.

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CALENDAR

How to know what's happening: 1. Go to our Web site, www.northcoastcnps.org and 2. Follow the links from there to our e-mail notification list with Yahoo!

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Jan. 9, Wed	Program	4
Feb. 13, Wed	Program	4
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