

News from the Friends of

The Bernard Biological Field Station

Of the Claremont Colleges

Volume 4 No. 3 October 2003

P.O. Box 1101, Claremont, CA 91711

bfsfriends@earthlink.net

www.fbbfs.org

Volunteer for Village Venture!

Be part of this fun event! Spend a couple of hours at the info booth or game booth on October 25th. Send an email to bfsfriends@earthlink.net if you can help.

A Good Friend Lost

On Monday, September 8, 2003, Lyle Gustaveson died unexpectedly of a heart attack at age 66. Lyle was a civil engineer for 30 years, in charge of many projects both in the US and abroad. He later earned a teaching credential and taught mathematics in several local schools. Lyle worked hard to help keep Claremont a good place to live. He was president and treasurer of the Friends of the Claremont Library, a scoutmaster and AYSO coach, as well as a member of Active Claremont, and of course, he was a Friend of the Bernard Field Station. His engineering expertise was extremely welcome during the efforts to prevent approval of the North Campus Master Plan. Lyle will be very much missed by all who knew him. Our most heartfelt condolences go out to his wife, Valerie, who also volunteers many hours serving the community, and to his son, Jan-Erik.

General Plan Revision

General Plans provide long-term, comprehensive guidance for the physical development of a city and for land outside of its boundaries over which it has control. Ours was last revised in 1980 and no longer accurately reflects the state of the city.

The City has begun looking for volunteers to work with the Planning Commission as part of a General Plan Advisory Committee. The Advisory Committee will be as representative as possible in terms of qualifications, special interests, geography, age and cultural diversity. It is most likely that the members of this committee will head sub-committees whose membership will be open to all those interested.

There are seven mandatory elements to a General Plan: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. Claremont also includes several optional elements: Historic Preservation, Community Design, Scenic Routes, Social and Redevelopment.

This is a great opportunity to influence the future direction of City growth since all specific plans which are proposed (including the forthcoming Claremont Colleges Master Plan) must be in accordance with the General Plan. If you would like to help shape the future of Claremont, call the City Clerk at 399-5460 to receive an application.

SILENT AUCTION

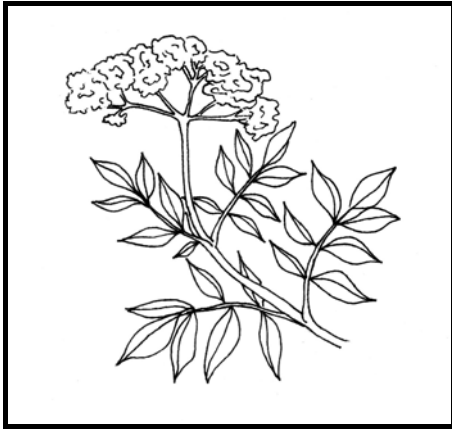
October 7-21 at the Folk Music Center, 220 Yale

This is our major fundraiser, so please stop by and make a bid on one of the wonderful artworks. Get an early start on your holiday shopping!

✓✓✓ Sightings

- Harvester ant nest openings surrounded by rings of russet buckwheat petals.
- Lacy skeletons of prickly wild cucumber fruit underneath the oaks.
- A few, last, lingering cherries on the trees, and their remains in coyote scat.
- Birds landing on dried flowering spires of white sage, knocking out dozens of small, dark seeds.
- California sagebrush with thin summer foliage.
- Rabbits and ground squirrels dashing around.
- Quail flying to provide a distraction from their offspring hidden in the poison oak.
- Maturing acorns and pale new growth on the oaks.
- The bright green accent of goldenbush in fields of autumn colors.
- Stems of orange deerweed, gray popcorn flower, olive-green sagebrush and coppery penstemon.
- Late *Lysingia* with delicate purple or yellow flowers.
- Shady nooks around the lake, with green, cone-like flowers of alder towering above.
- Coyote brush ready to burst into bloom.
- A flash of wings as a blue heron takes flight.
- Orange and black dragonflies buzzing mosquito fish.
- Wind rustling the willow leaves.
- The endangered least Bell's Vireo in the west.

Meet the Inhabitants



Blue Elderberry
Sambucus mexicana

Blue Elderberry is a large, deep-rooted shrub or small, multi-trunked tree with light green leaves. The leaves generally have 7 leaflets and may be anywhere from 4" long in dry areas, to 8" long in wetter ones. The cream-colored flowers occur spring through early summer in our area. They are tiny and arranged in flat-topped groups 3-6" across. These are followed by heavy clusters of small black fruit which are covered in a white bloom making them appear blue. Animals love them and they make great jam, jelly, sauces, syrup and wine. The fresh fruit makes some people nauseous, but drying or cooking the fruit prevents that. Elderberry is semi-deciduous and makes a great garden tree, attracting many birds as well as looking lovely.

The Tongva used "Kuut" in many ways. The flowers were eaten raw or grilled on hot stones. Today, Tongva cooks dip the flowers in a light batter and quickly fry them like Tempura. The Los Angeles Basin Tongva dried and stored the vitamin A and C-rich fruit during the summer for use during the cold, dark days of winter.

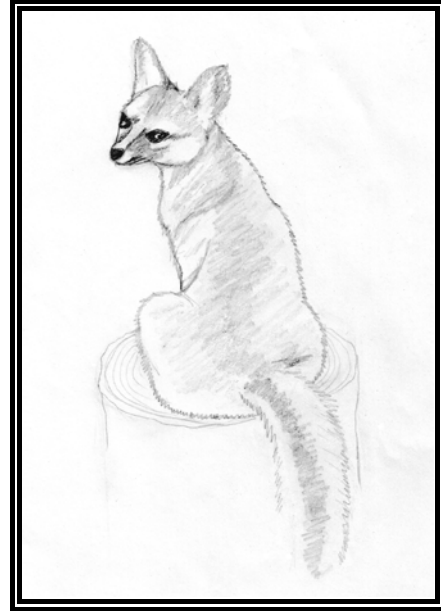
The plant had many medicinal uses as well. Older flowers were soaked and the wash used as a soothing skin conditioner. Flowers were also brewed into a tea to treat fever and upset stomachs, and to use as a dental wash. A wash of boiled flowers and leaves was used for wounds and for eye washes, and a thick tea was brewed to sweat out fevers and to clear chest congestion. Aching feet were relieved by a wash made from a mixture of Kuut and Manzanita leaves. Mashed leaves were placed on sores and applied to the nose for nosebleeds. Roots were boiled and mashed and applied to inflammations, and the inner bark was used to produce a strong emetic. Leaves were crushed into a green paste and applied to poison oak infections.

Longer elderberry stems were made into light arrow shafts. Shorter stems were hollowed out and plugged at each end for use as a tobacco container. These were placed in the earlobe as an ornament. The leaves were used to produce a light yellow to green dye and the twigs and fruits to produce a black dye used in basket making.

Elderberry was widely known as the "Tree of Music", because it was used to make traditional clapper sticks, the best known

musical instruments used by the Kumitaraxam, Chumash, and Tongva. It was also used for flutes and whistles after the wood was extensively leached and cleaned.

Cautionary notes: First, since it is a strong purgative, *Sambucus mexicana* should not be used during pregnancy. Second, do not confuse it with red elderberry (*Sambucus racemosa*, found mainly along the north coast) which is toxic.



Gray Fox
Urocyon cinereoargenteus

Gray foxes are medium-sized, weighing 7-12 lbs, grayish on top with reddish brown legs and tawny sides. They are white on their throat and cheeks, and along the mid-line of their underside. There is a black patch along each side of their muzzle. The tail has a black tip and a dark stripe on the top. They are found throughout the west and into Texas in brushy areas near woods. One was seen recently behind the manager's apartment at the BFS.

Gray foxes are very good at climbing trees, particularly if there are low-hanging branches, and will do so to escape dogs or people. They are not strictly nocturnal. Although they are much more active at night, they can sometimes be seen foraging in the daytime too. When they see an intruder, they often hide behind vegetation and wait quietly until it passes.

Gray foxes usually make their dens in rock crevices, in underground burrows, under rocks, in hollow logs, or in hollow trees, sometimes as high as 30 feet up. They have even been known to make dens in woodpiles and fields of sorghum!

These foxes are omnivorous and eat small mammals, insects, and birds in the winter and spring. In late summer and fall, they add fruit and nuts (mostly acorns) and the occasional crayfish.

Breeding begins in December and continues on into March. Between three and six pups are born in April or May. The pups grow rapidly and soon leave to find their own shelter. There is some evidence that where coyotes formerly were numerous, the gray fox is scarce and that, if the coyote population decreases, the gray fox becomes more abundant.

Gray foxes are thought to live six to 10 years in the wild. The main causes of death are predation, parasites, diseases, and, of course, people.

pHake Lake

by Stephen Dreher, BFS Manager

The BFS landscape is influenced by a mix of natural processes and human influences. Our one-acre lake is a good example of these interactions.

This body of water is, of course, man-made. The soil is so sandy and dotted with large rocks (the famous “Claremont potatoes”) that puddles rarely form even during the heaviest of our winter rainstorms. A section of the BFS was once part of the great San Antonio Wash, an alluvial system and rare habitat now essentially destroyed by dams, concrete culverts and urban development. A small remnant wash still takes the run-off from the suburbs north of the field station (which were laid atop old drainage patterns). That wash can flow tumultuously during heavy rains, but even these large volumes of water simply disappear with no trace in the fields along Foothill Blvd.

Construction of the lake, then, was a major effort. The project was undertaken shortly after the BFS was formed in 1976. Tons of heavy clay soil had to be imported to line the bottom to prevent the water from draining away. The form of the lake is more that of a glacial lake than a rancher’s pond. From the shoreline, the bottom drops off rapidly and steeply with water depths of 15 feet only a few yards from the edge. The center of the lake is up to 25 feet deep. It’s a lot of water from any perspective. Perhaps the design was intended to promote warm/cold water convection, support varied wildlife or simply account for soil fill-in over time. Generally, it seems to have worked quite well. A four-inch main brings water to the location.

From these human beginnings, the lake habitat has matured. That is not to say it functions without continued manipulation, but it has also taken on its own dynamic and natural processes. The initial planting of riparian tree species, primarily alders and willows, now forms a moisture-holding shade canopy under which a more diverse understory continues to develop. Some understory species were planted at the time of construction (e.g. the bulrushes), but many others have migrated in through wind, animal, bird or human dispersal. Among these are *Horkelia cuneata*, *Typhus latifolia*, *Ludwigia repens*, *Eleocharis atropurpurea*, *Ribes aureum*, *Vitis californica* and species of *Juncus*. One Western Redbud tree (*Cercis occidentalis*) has also established itself.

Wildlife at the lake also represents these mixed interactions – some has been introduced, some became established on their own. The two fish species, bass and mosquito fish, clearly did not find their own way into the lake. Endangered Western Pond Turtles displaced by development were also placed at the lake. On the other hand, with the natural arrival and expansion of the cattails (*Typhus latifolia*), suitable habitat became available for our resident coots. Crayfish live in the cattails and redwing blackbirds nest and breed in them. Many migratory birds visit the lake regularly and this year blue herons, green herons, ruddy ducks and mallards have remained for significant periods of time. It’s also likely that the resident California quail and mammals use the lake as a water source. Cooper’s Hawks are often spotted in the canopy, attracted by the various bird species in the habitat.

This resource, however, does require sustained habitat management to remain viable and vital. The cattails serve as wonderful shelter for a few species, yet pose a risk if permitted to dominate. In recent years the cattails were allowed to form a thick, impenetrable barrier around the entire lake, eliminating any visible shoreline. This served to repel many water birds and led to decreased water movement and stagnation which may have aided the formation of the thick, green carpets of algal bloom seen during the last couple of years. Over the last year we have removed a few significant sections of cattails (while intentionally leaving others) and installed a new water system. The increased water movement and oxygen levels have resulted in no algal bloom at all this year, while the mallards and ruddy ducks have remained longer than usual. We even resurrected a small island, part of the original design, which had disappeared among the cattails and fill-in of soil over the years. We re-excavated the moat around the island, removed the cattails and changed the shore contours, hopefully making the island more attractive to additional water birds.

Our lake is an important BFS research component and a vital wetland in a landscape of increasing habitat destruction.

To get info about the BFS:

You can get information about the history and features of the station, as well as about its plants and animals (and some great pictures) at www.bfs.claremont.edu.

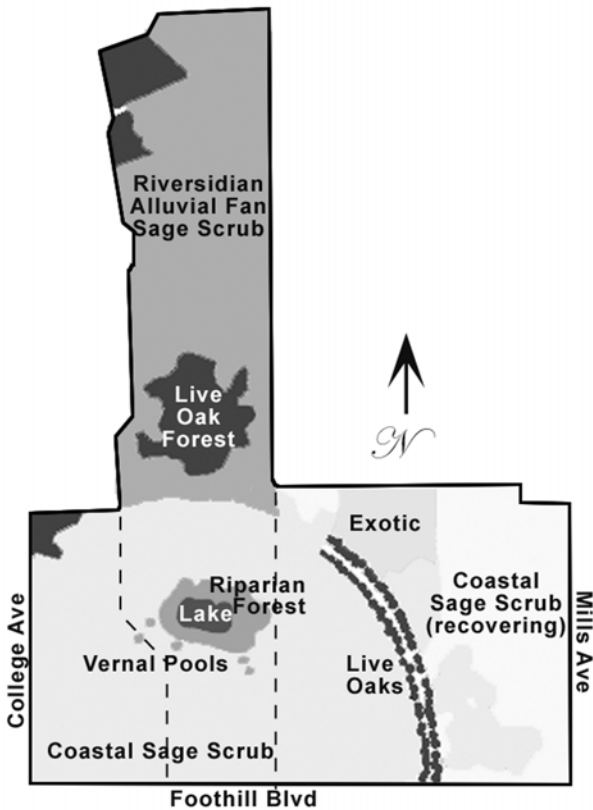
Community use!

Community groups can use the Field Station for educational purposes, so if your school class, scout troop, or similar group with insurance, would like to visit the Station, please phone the manager, Stephen Dreher (909-624-6661), and discuss details with him.



“A tour of the property readily convinces visitors of the importance of keeping such a beautiful expanse of land, shrubs, and trees for scientific purposes .”

Robert J. Bernard in “An Unfinished Dream”



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Useful addresses	
City of Claremont:	P.O. Box 880, Claremont, CA 91711 www.ci.claremont.ca.us
Claremont Colleges:	www.claremont.edu
The Claremont Courier:	111 S. College Ave, Claremont CA 91711 Phone: 621-4761
The LA Times:	Inland Valley Edition, 5555 Ontario Mills Parkway, Ontario CA 91764
Inland Valley Daily Bulletin:	2041 E. Fourth St, Ontario CA 91761

How big is big enough?

A field station is land left in its natural state for use in the study of complex interactions between plants and animals. The usefulness of such natural laboratories depends on size and shape. Extinctions occur frequently in small areas, due to smaller populations. The current 85 acres is just large enough to maintain reasonable stability in the existing ecosystems. Narrow shapes increase the amount of pollution by noise, air, water, and pesticides from surrounding areas, and increase the chances of competition from exotic (non-native) species.

Who uses it?

The BFS is used by Claremont Colleges faculty and hundreds of students every year, as well as by many schoolchildren from Claremont and the surrounding areas. It has also been used by college classes from as far away as Long Beach, by scout troops, and by members of the public.

What's there?

There are over 30 acres of the fast-disappearing coastal sage scrub community with a number of Species of Special Concern. *Since much of Claremont was originally covered with coastal sage scrub, it is a fascinating window into our past.*

There is a stand of oak woodland in the north where water wells up along an earthquake fault, there is annual grassland slowly returning to coastal sage scrub in the east, and there is a one-acre, man-made lake excavated in 1978 which is a sanctuary for western pond turtles displaced by development.

*“Dedicated to Education
and the Environment”*