

# News from the



**FRIENDS OF THE  
BERNARD  
BIOLOGICAL  
FIELD STATION**

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Email to: [friends@fbfbs.org](mailto:friends@fbfbs.org)

Website at: [www.fbfbs.org](http://www.fbfbs.org)

P.O. Box 1101, Claremont, CA 91711

## Join us on the 4<sup>th</sup> of July!

We will have a booth as usual at the celebration in Memorial Park and a group marching in the parade as well. If you'd like to help staff the booth, send us an email. You can decide to march on the spur of the moment—just check at the booth for our location in the parade.

**Silent Auction:** *This was a great success—many thanks to those who donated and those who bid!*

## Meet the Inhabitants



### Climbing Milkweed

*Funastrum cynanchoides*

Native to California, Utah, Arizona and south to Mexico, this evergreen vine was found in the east field twining up the dried grass stalks. It has a toxic sap as do most milkweeds, but is not a favorite for Monarch butterfly caterpillars like the ones in the genus *Asclepius*. It does, however, act as a host for queen butterfly larvae. Narrow, pointed leaves with flattened bases grow somewhat sparsely along wiry stems up to 6 ft in length, which often tangle around each other as can be seen in the photos. The inflorescence is about 2 inches across. The odd shape of the flowers makes them hard to pollinate so fruit set is generally quite low but, when it does occur, hundreds of seeds are produced.

## Sightings

- ✓ Masses of cream and pink buckwheat flowers abuzz with insects
- ✓ Non-native palo verde and oleanders blooming along the fence
- ✓ Foamy flowers on toyons
- ✓ Rushes swaying in breezes around the lake
- ✓ Orange dragonflies and blue damselflies darting
- ✓ Red berries, prickly leaves on endangered Nevin's Barbery
- ✓ Silver-gray shoots of purple California aster
- ✓ Round, red sawfly galls on willow leaves
- ✓ Cattail fluff full of seeds, dispersing in air and water
- ✓ The rustle of dry seed pods on royal penstemons
- ✓ The last clusters of dark blue fruit on elderberries
- ✓ Bright yellow sundrops dotting the paths
- ✓ The peculiar smell of laural sumac leaves
- ✓ Happy citizens taking plant and bird tours at the Earth Day celebration
- ✓ Orange cones and other indications of Pitzer's work renovating the infirmary
- ✓ Golden currants gleaming
- ✓ Huge white trumpets on Datura
- ✓ Seeding grasses, providing food for birds and insects
- ✓ Hawks hovering overhead

## Robber Flies

*Leptogaster*, *Lestomyia*, *Machimus occidentalis*, *Neoitamus*, *Stenopogon californiae*, *Mallophora fauatrix*



Robber flies are members of the family Asilidae and they prey on quite a range of other insects: wasps, bees, dragonflies, grasshoppers, other flies, and even some spiders. They like dry, sunny habitat so the BFS is full of them. You can see from the photos (by Nancy Hamlett) that they vary a lot in shape and color, but all have prominent eyes with a distinct dip between them. They have hairy bristles on their legs which help them capture their prey, and species vary from tiny (1/8 inch) to quite large (2 inches). Larvae are also predatory and overwinter in the soil as larvae or pupae. Some species take up to three years to develop into adults. Robber flies perch on plants, usually in sunny areas, and zip out to catch their victims in flight and inject them with chemicals that paralyze them and start the digestive process. The fly takes its meal back to its perch and sucks up the liquified goodies inside. These garden inhabitants help keep the insect pest population down.

## Fire at the BFS! (Blog post, May 20th, 2017 by Nancy Hamlett: more at [bfs.claremont.edu](http://bfs.claremont.edu))



Left: helicopter dropping water; palm tree in flames. Right: BFS Lead Dean Audrey Bilger and BFS Director Marty Meyer looking at the site where the fire started (about 20 ft from the west gate along College Ave). Photos by Nancy Hamlett

“Late in the afternoon of May 18, a fire started inside the BFS fence along College Avenue. Although the fire was thought to have been quickly extinguished, the wind came up and blew embers east so that the fire quickly spread to pHake Lake and along the south shore of the lake.

The fire eventually covered about four acres before it was stopped just east of the lake, thanks to an outstanding response from the Los Angeles County Fire Department. Fortunately, no one was injured and no structures were damaged. The native sage scrub, which is fire-adapted, will recover.

The cause of the fire is unknown, but it must have resulted from human activity since there was no lightning or other natural cause that could have started the fire. This is, alas, too typical of Southern California as a whole, where 95% of wildfires are caused by humans (Syphard et al. 2007). The resulting increased frequency of wildfires can mean that even in fire-adapted plant communities, some organisms have insufficient time to re-establish between fires (Koh and Levins 2010).

The early May date for this fire – much earlier than the start of the traditional fire season in Southern California – may in part reflect cumulative effects of the multi-year drought and on-going climate change, a topic addressed by Professor Char Miller, Pomona College, in a commentary in the Daily Bulletin. Climate change models predict that the area burned in California will increase over the next 30 years. Recent work, however, indicates that a substantial portion of the predicted increase is actually due to human activity rather than climate change per se (Mann et al. 2016).

Understanding the interplay of these various factors is obviously important for managing fire in Southern California, especially at the urban-wildland interface. We at the Claremont Colleges are fortunate that students have a resource like the BFS, where they can study these issues.”

## **Fire Adaptation**

Fire in coastal sage scrub (CSS), chaparral, and grassland communities helps to reduce the amount of dry brush that shades the soil, prevents the growth of large shrubs and trees which could cause a change in habitat type, and returns nutrients from the burned matter to the soil. Because many CSS plants are annuals or drought-deciduous and die down or lose their leaves in the summer, quite a bit of fuel can accumulate, allowing fast, intense burning after lightning strikes (or human carelessness) which clears the brush but doesn't heat the soil very deeply. Many of the plants will sprout again from the roots, or new plants will grow from the seeds in the soil. These new or regenerated plants often produce a large amount of seed in their first year which invigorates the seed bank. Most CSS burns every 20 to 30 years or so but fire is usually prevented in habitat located in urban areas. This can allow the growth of plants which crowd out those characteristic of CSS (but on the BFS the long period without a burn allowed a previously unidentified species of lichen to grow—the BFS is now the type location for it). If fire is too frequent due to human actions, CSS may not have time to re-establish before it is replaced by exotic grasslands.

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## **Update on Redford Conservancy Renovation**

*Brinda Sarathy the Conservancy Director, sent this out April 13, 2017:*

Dear Friends and Users of the BFS,

I'm writing with a brief update on the Redford Conservancy renovation project, which is well underway.

**The Building:** So far, work has included installation of new roof sheathing and returning the original clay roof tiles, removal and/or remediation of hazardous material including lead and asbestos, installation of windows in the art and science classrooms, framing and drywalling, and installation of a sewer feed from the building to connect with the City's connection.

**Outdoor Classrooms:** The two outdoor classroom structures have been mostly completed and we expect solar panels to be installed by the end of this month (our goal is to be a net zero energy site).

**Lowell Emergency Access:** Per fire code regulations, we had to remove two trees in order to provide access to emergency and service vehicles. Work at the Lowell avenue access point also includes grading and making improvements to filter and capture stormwater flowing in from the surrounding neighborhood and putting in new landscaping.

**Foothill Main Access:** Work on the main entry at Foothill Boulevard will start later this month. At this point, this will entail putting in the frontage sign and gate. The pedestrian path from Foothill Blvd. will be 5 foot wide and made of decomposed granite. This path will only go in after the nesting season (end of July). We recently scouted this path with Marty Meyer (BFS Director) and Nancy Hamlett to ensure the least impact to habitat. The reason we have to put in a new path from Foothill Boulevard is to ensure access, in perpetuity, to the Conservancy building. Amherst Drive (the road everyone currently uses to enter the BFS) is on Harvey Mudd's property and Pitzer had to ensure an access point to our building should that road ever become unavailable or off-limits.

**Landscaping:** Landscaping work will begin in late fall (October or November) when the weather gets cooler and young native plants have a greater chance of survival. The landscaping around the building will consist

of native plants, the majority of which are being cultivated at the Rancho Santa Ana Botanical Gardens from seeds collected from the BFS.

**Timeline:** We very much hope that majority of construction work will be completed by the end of summer. As noted, new planting will take place in late fall and should be done by January. The site will be open for academic programming in the Spring of 2018.

**If you have any questions** about project construction or management, please feel free to contact Brian Worley (Project Manager): [brian\\_worley@pitzer.edu](mailto:brian_worley@pitzer.edu) or call him at (909) 758-2428.

I understand that any construction process can be stressful and I want to thank you again for your patience during this process. In the long run, we hope to have a facility that will help support and enhance research and teaching at the BFS.

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## Still No Announcement of a Change in BFS Protection

**Again we ask:**

***If the center part of the BFS which the lawsuit settlement calls the “temporarily restricted property” is now permanently protected as CUC promised, why not say so? If it isn’t, then why not? Please email Claremont University Consortium CEO Stig Lanesskog and ask [stig\\_lanesskog@cuc.claremont.edu](mailto:stig_lanesskog@cuc.claremont.edu).***

→Wouldn’t it be nice if the Colleges also preserved the 5.7 acres west of the TRP that Harvey Mudd returned to CUC when they bought their 12 acres on the east?

→**Alums:**, you might mention that efforts to preserve the BFS could affect donations!.

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## Some Recent Photos

Clockwise from upper left: Earth Day visitors; Prof. Elise Feree showing visor modified to keep bees out of hummingbird feeder; *Delphinium cardinale*; Mydas Fly (*Pseudonomeneura hirta*) on *Eriogonum fasciculatum*; Elegant Blister Beetle (*Eupompha elegans*) chomping on *Eriastrum sapphirinum* (courtesy of Nancy Hamlett)



## Tours of the BFS

Community and school groups can arrange to take tours. If you are interested in bringing your group to the BFS to learn about what is there, contact the Director: 909-398-1751 [wallace.meyer@pomona.edu](mailto:wallace.meyer@pomona.edu)

## BFS Volunteer Days

First Saturday of the month, 10:00 a.m. until noon, followed by a tasty pizza lunch for the volunteers. If you have questions or want to be added to the volunteer list, please contact the BFS Volunteer Coordinator: Nancy Hamlett (909-964-2731) ([hamlett@hmc.edu](mailto:hamlett@hmc.edu))

## Claremont Garden Club

Free and open to everyone interested in any type of gardening. Meetings are second Wednesday of most months, 6:30-8:30 pm at the Napier Center at Pilgrim Place, 660 Avery Rd. Talks start at 7pm. For more info [gardenclub@sustainableclaremont.org](mailto:gardenclub@sustainableclaremont.org) [www.sustainableclaremont.org](http://www.sustainableclaremont.org)

## See the Friends website

[www.fbbfs.org](http://www.fbbfs.org) for past newsletters and a map showing which colleges now own which parts of the Field Station.

City of Claremont: [www.ci.claremont.ca.us](http://www.ci.claremont.ca.us)  
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City Clerk: 399-5460  
Claremont Colleges: [www.claremont.edu](http://www.claremont.edu)  
The Claremont Courier : (909) 621-4761  
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*The Friends is a non-profit,  
grassroots organization*

*“Dedicated to Education  
and the Environment”*

## The BFS: A Facility of the Claremont Colleges

### 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. 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.

The current 85 acres from College to Mills is just large enough to maintain reasonable stability in the existing ecosystems. The center bit of the BFS alone, which is all that is currently protected, would not be sustainable if Harvey Mudd, Scripps, and Claremont Graduate University build on the parts they have now purchased.

### 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 and for research by other institutions.

### What's there?

There are over 30 acres of the fast-disappearing coastal sage scrub community along with a number of species of state or federal concern. 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.

**→ Since much of Claremont was originally covered with coastal sage scrub, it is a fascinating window into our past**



*“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” pg 708