

News from the

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Email to: friends@fbbfs.org

Website at: www.fbbfs.org



**FRIENDS OF THE
BERNARD
BIOLOGICAL
FIELD STATION**

Stop by our booth in Memorial Park on the 4th of July 10 am to 2pm, and join us in the 3 pm parade!

Meet the Inhabitants



Band-tailed Pigeon **(*Patagioenas fasciata*)**

Band-tailed pigeons, the closest living relatives to the extinct passenger pigeon, are medium-sized, larger than ordinary pigeons but smaller than crows. Their feathers are grey-blue above and lighter with a somewhat purplish cast below, with a white crescent on the back of the neck and dark band on the tail. They can be found throughout Claremont as well as in the BFS. They are fairly quiet, making a low, owl-like two note call every so often and sometimes a harsher squawk. They tend to fly in groups of up to 50, seeking out acorns, assorted seeds, and fruit from toyon, madrone, and elderberry (as in the photo), often hanging upside down to reach tasty morsels. They also will eat buds, leaves, flowers, and the occasional insect. The birds build nests of twigs (the males bring the sticks and the females put them together) high up in trees. They lay only one or two eggs and both parents help incubate them for 18-20 days. The chicks are fed "pigeon milk", a secretion from the parent's crops and are ready to go out on their

Sightings

- ✓ BFS volunteers energetically attacking invasive species
- ✓ Rings of petals and stems starting to surround harvester ant nests
- ✓ Rushes blooming at lake edge
- ✓ Coots swimming and diving
- ✓ Masses of tasty berries on golden currants
- ✓ Low swathes of bright blue eriastrum carpeting paths
- ✓ Dragonflies motionless, waiting for prey
- ✓ Bright metallic-green bees visiting pink and white buckwheat
- ✓ Patches of silver: cottonthorn with yellow tufts of flowers, soft mounds of doveweed, upright stalks of California aster preparing to bloom
- ✓ Pollinators visiting groups of the small, white, bell-shaped flowers of yerba santa
- ✓ The last of the spring annuals--white popcorn flower, purple phacelia, yellow amsinckia--but the first of the datura
- ✓ Pink and green plumes of wild rhubarb above large, grey-green leaves



own about a month after hatching, although the parents continue to watch over them for a while. Once over-hunted, they started to recover but numbers are once again declining, possibly due to habitat loss and new parasites. (Photo by Nancy Hamlett; from BFS website)

Distant Phacelia

(*Phacelia distans*)

Distant phacelia is a member of the borage family and is also called “scorpionweed” because its inflorescence is coiled in a way that reminds some of a scorpion’s tail. The proper name for this shape is a “scorpioid cyme” and it

is found in our native phacelias, rancher’s fireweed, and popcorn flower as well as in the beautiful blue culinary herb for which the family is named. Distant phacelia is an annual that starts into growth in late winter after the rains and finishes blooming by May in our area. The plants are 12-18" tall with brittle, hairy stems and hairy leaves up to 4" long with lobed leaflets. The funnel-shaped flowers are about a quarter inch long and are arranged on only one side of the flowering stem as can be seen in the photo. When in bloom, this plant is a pollinator magnet, attracting all sorts of bees, flies, beetles, and tiny wasps (one small dark pollinator can be seen in the lower middle)!

You spoke and the City listened!

The City planned to mow the area outside of the BFS fence in February but, after many BFS supporters wrote in to protest losing the wildflowers before they could go to seed, the City agreed to wait until the phacelia and the amsinckia had finished blooming. Many thanks to City staff and to all who voiced their concern!

(Photo by Nancy Hamlett)



Contributions to Regional Ecological Knowledge

Wallace Meyer, Director of the Bernard Field Station

The Bernard Field Station’s (BFS) importance as a location for ecological research has largely been underestimated. As the three most common low elevation habitat types in the region reside in close proximity, the BFS offers excellent opportunities to study how landscape transformations influence organisms and key ecosystem services (e.g., carbon storage). For example, most of the BFS is composed of the endangered California sage scrub ecosystem, the once dominant low elevation ecosystem type of southern California. Estimates indicate that sage scrub has declined by nearly 50% since the 1930s and that less than 10 % of the original sage scrub distribution remains, largely in small isolated patches. These are increasingly threatened by a variety of disturbances, including urban development and habitat modification, altered fire regimes, and establishment of nonnative species. As the BFS includes areas dominated by non-native European grasses and is surrounded by a myriad of urban/suburban habitats, it provides a perfect microcosm in which to study southern California ecology. In addition, recent fires in 2013 and 2017 have provided opportunities to explore how this increasingly common anthropogenic disturbance influences our regional biota.

Students from the Claremont Colleges have embraced these opportunities and are contributing to a better understanding of regional ecology. Here, I spotlight a few recent papers published from the BFS over the last two years that highlight the many research opportunities the BFS offers:

1. Tessa Adams (Pomona College, photo at right showing her setting up traps for ants after the 2013 fire) published her senior thesis research in *Southwestern Entomologist* highlighting data showing that ants are resilient to fire disturbances, an emerging pattern found in many semi-arid and arid regions.
2. Tal Caspi (Scripps College) took the lead on two multi-student (Scripps, Pitzer, Pomona) authored manuscripts in *Geoderma Regional* and *Ecology and Evolution* that provide crucial insights into how transitions from native sage scrub to non-native grasslands influence carbon storage in the soil. The students estimated that over 940 tons per square kilometer of carbon are lost when sage scrub converts to nonnative-grass dominated habitat. (Anne Berhe at right collecting soil samples from the nonnative grassland at the BFS).
3. Weston Staubus, Savannah Bird and Savannah Meadors (Pomona College), recently published a manuscript in *Insects* that stemmed from their summer research examining the distributions of arthropods across low elevation habitats. Their manuscript highlights that water subsidies contribute to the spread of non-native species and that we have the power to limit invasion throughout the region.
4. John Litle's (Pomona College) recent manuscript in the journal *Plant Ecology* provides new insights into the role of herbivores in the sage scrub ecosystem.



To view more recent publications, and explore the amazing research being conducted by students and researchers from the Claremont Colleges and institutions across the region at the BFS, please visit our publications page:

(<http://www.bfs.claremont.edu/publications/index.html>).

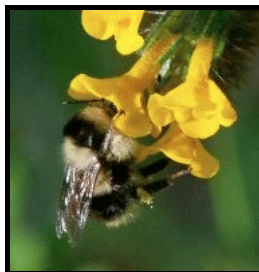
We are still asking:

If the center part of the BFS which the lawsuit settlement calls the "temporarily restricted property" is now permanently protected as was promised when the eastern 36 acres were sold to Pitzer, Harvey Mudd, and Scripps, why not say so? If it isn't, then why not? Please email TCCS (The Claremont Colleges Services, formerly known as the Claremont University Consortium) CEO Stig Lanesskog and ask. stig_lanesskog@cuc.claremont.edu.

INSECT APOCALYPSE?

Recent studies have provided alarming evidence about a decline of insects worldwide,

so supporting native plants is evermore important! For more info about what is known, why we should worry, and lovely photos like this, see Nancy Hamlett's [BFS blog](#)



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

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)

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 about the club: www.claremontgardenclub.org info@claremontgardenclub.org

Friends website

www.fbbfs.org
for past newsletters and a map showing which colleges now own which parts of the Field Station.

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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