The Mt. Diablo Buckwheat Working Group

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Critically Endangered Wildflower Discovered at Black Diamond Mines Regional Preserve - Plant on Brink of Extinction

ANTIOCH – Thanks in part to a team of renowned botanists contracted by the East Bay Regional Park District to survey wildland vegetation in Eastern Contra Costa County, the endangered wildflower Mount Diablo Buckwheat was identified as thriving at Black Diamond Mines Regional Preserve in Antioch, California.

Botanist Heath Bartosh working on behalf of EBRPD came across his discovery in May 2016, along with colleague Brian Peterson of Nomad Ecology. A collaborative called the Mount Diablo Buckwheat Working Group has been actively searching for the rare plant since it was first discovered Mount Diablo State Park in 2005. The Buckwheat working group is made up of members representing California Department of Fish and Wildlife, California Native Plant Society California State Parks, East Bay Regional Park District, Save Mount Diablo, UC Botanical Garden at Berkeley, the U.C. Berkeley Jepson Herbarium and U.S. Fish & Wildlife Service.

When the beautiful Mount Diablo buckwheat was rediscovered in 2005 at Mount Diablo State Park by U.C Berkeley graduate student Michael Park—after being thought extinct for 69 years—there were only 20 of the wildflowers at a single spot in the entire world. Locating the plant has been “the holy grail” for East Bay botanists and news of the rediscovery spread quickly.

The initial discovery of the plant in 2005 unleashed a tremendous amount of public attention around the world, coming just weeks after the possible rediscovery of the ivory-billed woodpecker, also long thought extinct. The buckwheat’s rediscovery attracted media attention in countries around the world and from sources as varied as conservationist Jane Goodall and from an L.A.-based Korean language news source where Park’s parents learned the news.

After the 2005 rediscovery at Mount Diablo seeds were collected and camera traps installed to monitor the wild population. Beginning in 2006, plants were propagated at UC Botanical Garden at Berkeley. Seeds are stored in multiple seed banks. Efforts made to increase the population at Mt. Diablo have been challenging, but were successful in increasing numbers even during repeated years of drought. The discovery site was kept secret to protect the species.

Habitat was mapped and explored over the next ten years but no additional populations of the plant were found. There was just one location for the critically endangered plant, on the brink of extinction, with just 100-200 plants. Until now.

In May, Heath Bartosh and Brian Peterson of Nomad Ecology were conducting botanical surveys on East Bay Regional Park District’s Black Diamond Mines Regional Preserve and found a second population of the Mount Diablo buckwheat. Unlike the sparse population of 100-200 plants at Mount Diablo, the new discovery site was estimated to include approximately 1.8 million plants – but in just two patches totaling approximately a half acre.

“I’m so thrilled to share this news, it's the find of a career” said botanist Heath Bartosh of Nomad Ecology. “Brian Peterson and I found a new population of Mount Diablo buckwheat while conducting rare plant surveys for East Bay Regional Park District. We were struck by the number of plants at this location and habitat. The most recent records of Mount Diablo buckwheat are from chaparral edges on Mount Diablo. But early California botanist William Brewer, the original discoverer, found it on dry hillsides near Marsh Creek. We recorded this species growing in grassland on highly erosive soils, most likely the same type of habitat Brewer observed. The new information will hopefully lead to the discovery of other new populations.These annual buckwheats have extremely small but resilient seeds; we have much to learn from them.”

Other partners in the Mount Diablo Buckwheat Collaborative shared their thoughts on the newest discovery of the tiny flowers:

- “Finding the Mount Diablo Buckwheat in Black Diamond Regional Preserve is exciting,” said Matt Graul, Chief of Stewardship at East Bay Regional Park District. “Both known locations of the plant are tiny and on steep slopes that could be easily damaged. A fire or a landslide might completely wipe out one or both of the populations. The locations are being kept secret to protect the endangered plant and the working group waited until the plants have gone to seed to announce the discovery. The Park District takes our responsibility to be good stewards of this rediscovered treasure incredibly seriously.”

- “Rediscovery of the Mount Diablo buckwheat was the holy grail for East Bay botanists,” said Seth Adams, Land Conservation Director for Save Mount Diablo. “This plant is so rare botanists haven’t been sure where to look and many references still suggest the species is extinct. On the one hand a second location is good news, but it could be dramatically affected by East County development pressure. Right now, for example, Antioch is considering plans for more than 4,000 houses.”

- “The Antioch population is a great discovery. Its habitat is quite different from the 2005 rediscovery site, and provides valuable information for efforts to develop new populations,” said Holly Forbes, Curator and Conservation Officer at UC Botanical Garden at Berkeley. Forbes initially collected the wildflower’s seed on Mount Diablo and a dozen plants were successfully germinated at the UC Botanical Garden. Seed have also been collected from the new site. “Our efforts to propagate this species at the Botanical Garden and to protect seeds in seed banks are insurance against natural disaster in habitat.”

- “The Mount Diablo buckwheat is a Bay Area treasure,” said Cyndy Shafer, a Senior Environmental Scientist for California State Parks. “The new population is giving us more hope than we’ve ever had for the future of this species. We are dedicated to preserving the small and fragile Mt. Diablo population. Luckily both are on public land, demonstrating the immense importance of protected lands in preserving biological diversity. This conservation story has inspired people around the world.”

Expanding the wild population at the Mount Diablo site has been difficult. At one experimental reintroduction site on Mount Diablo the Working Group in January 2015 sowed 80,000 seeds propagated at the UC Botanical Garden at Berkeley. But experimental plantings never yielded more than 100-200 small plants. The new site at Black Diamond Mines refocuses our understanding to a forgotten kind of habitat.

Eriogonom truncatum was first recorded on May 29, 1862 by William H. Brewer, a member of Josiah Whitney's California Geological Survey from 1860-1867. Brewer's chronicle of the survey, *Up and Down California*, is an important work of early California history. What is less well known is that his biological collections during the survey include many of the first discoveries of California species. This original “type” discovery of the plant was made on “Marsh’s Rancho” the 13,000 acre Mexican rancho acquired by Dr. John Marsh in 1837. Marsh was one of the area’s first American settlers. Over the next 78 years the Mount Diablo buckwheat was found just a handful of times, for a total of seven historic records.

Before the 2005 rediscovery, little had been known about the Mount Diablo buckwheat, *Eriogonom truncatum*. The plant had been known from just seven locations historically, the last in 1936 by botanist Mary Bowerman

who later became co-founder of Save Mount Diablo. The plant had been presumed globally extinct before its discovery at a single site in Mt. Diablo State Park on land which had been protected by Save Mount Diablo.

Since then Eastern Contra Costa has become a nationally recognized biodiversity hot spot for rare species, as well as for intense development pressure. Thousands of acres have been preserved, including at Black Diamond Mines, the new Deer Valley Regional Preserve, and Marsh Creek State Park. However the area is also threatened by rapid development and thousands of houses proposed in Pittsburg, Antioch, Oakley and Brentwood.

California has about 6,300 native vascular plant species, about 1/3 are endemic (found only) in the state. Mt. Diablo has 900 plant species of which a quarter are non-native, yet non-natives represent a vast majority of what you see in grassland areas. Twenty-nine plant species on Mt. Diablo are considered rare or endangered and eleven are endemic to Mount Diablo region, including the Mount Diablo buckwheat.

The Mount Diablo buckwheat (*Eriogonom truncatum*) is an annual herb, 3-24" in height with white to rose colored flowers from mid-April to May (although records show April to December, with May most common). It was historically found in Chaparral, Valley Grassland, and Northern Coastal Scrub habitats, in sandy soil and grassland slopes. It is thought that competition by introduced non-native plants is responsible for its rarity. In recent years its historic habitat has been threatened by development pressure.

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Previous Press Announcements:

Rediscovery, May 2005: http://www.berkeley.edu/news/media/releases/2005/05/24_buckwheat.shtml

First Propagation, May 2006: http://www.berkeley.edu/news/media/releases/2006/06/07_buckwheat.shtml

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Images, High Resolution: https://www.dropbox.com/sh/9ja5v4bcgsrside/AAD8KdTn7b0axXT_pjxwwytga

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