

Reaping Without Sowing

Urban Foraging, Sustainability, Nutrition, and Social Welfare

Objective

This project tested the hypothesis that in some urban “food deserts” there is in fact an abundant, sustainable source of fresh, free, and nutritious vegetables—namely, wild foods. By supplying accessible nutritious food, foraging for wild foods could provide a supplementary food source within the urban and peri-urban landscape as a means to help address inequities in access to nutritious foods.

The spatial sampling estimated the size of the resource, and thereby estimated the impact that more complete, but sustainable use of the wild foods would have on nutrition in three East Bay neighborhoods. This study has formed the basis for future work to improve nutrition in so-called “food deserts” by investigating barriers to wider utilization of urban foraging and educating residents about the bounty beneath their feet.

Methods and Findings

Mapping Abundance

The research team mapped the abundance of wild and feral foods in three urban food deserts in Richmond, Berkeley, and Oakland using iNaturalist—an online platform where people can record images and details of plants seen in daily life—to capture a total of 623 observations. Over 100 edible wild or feral species were documented in the East Bay area, ranging from wild onions to mallow to various fruit trees.



Western Lettuce (*Lactuca ludoviciana*)
Last seen on May 12, 2015 in 1681
16th St, Oakland, CA, US ([View all](#))

Example of an iNaturalist submission



Foraged weeds. Photo by Kristen Rasmussen.

Testing Soil & Nutrition

The team tested soils in the Richmond and Oakland food deserts for metals, and tested tissue from plants growing in the most challenged soil. It was found that in these areas, for the species in question, the level of metals in the plants is safe to eat after the plants are washed. The team estimates that, from the plots with the highest levels of lead and other metals, one could eat a kilogram of dried weeds daily without reaching harmful levels.

Early nutritional tests showed that foraged dandelion has twice as much calcium and fiber and 2.5 times as much iron as store-bought dandelion. Foraged mallow has more calcium than milk and 8 times as much iron as spinach, by volume.

Social Viability

The team conducted surveys of consumer knowledge and acceptance of wild/feral foods in farmers’ markets in the East Bay. UC Berkeley students surveyed 240 individuals at 5 farmers’ markets to investigate the cultural barrier to consumption. Social viability is important to investigate because the multi-faceted benefits of wild foods cannot be realized so long as these foods are not consumed.

Outcomes

Berkeley Open Source Food

The team formed Berkeley Open Source Food (BOSF) and an advisory board that includes food journalist Mark Bittman, UC Berkeley Ethnic Studies lecturer AshEL Eldridge, food writer Daphne Miller (chair), and chef Alice Waters. BOSF provides a public platform to document research activities, findings, test results, outreach, and press coverage through its website: forage.berkeley.edu.

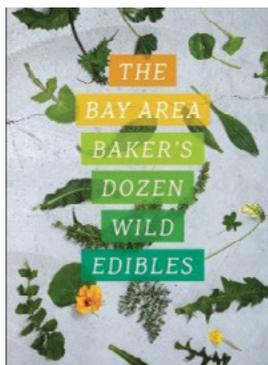


Wild & Feral Food Week

As part of this project, the team orchestrated “Wild & Feral Food Week” to raise awareness of wild and feral foods and demonstrate that they are “culinary, gastronomic ingredients” rather than “survival fare” by having weed-centric meals at thought-leading restaurants in the Bay Area, including Chez Panisse, Cesar, Mission Heirloom, and The Perennial. Over 20 restaurants participated in the 3rd annual event in 2017.

Field Guide

BOSF published a brief field guide to thirteen of the most common, delicious wild and feral greens in the Bay Area, involving 23 undergraduate students and four graduate students in the research. The Field Guide is available on the BOSF website.



Vision for an Edible Campus

BOSF wrote a vision statement for an edible campus at UC Berkeley, emphasizing reducing water and carbon footprints and increasing sustainability and food security, signed by nearly 50 key faculty and staff at UC Berkeley.

“UC Berkeley can save water, reduce the exposure of staff, students, and faculty to toxic chemicals, reduce environmental contamination, and improve nutrition and food security by allowing foraging of edible, non-native, invasive species on campus and educating the campus community. We can think of the Berkeley campus as an ecosystem, rather than a landscape.”

– Vision for an Edible Campus

Research Team

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