

NCC Quarterly

October 2020 | Issue 2

Coordinating Science and Land Management across the Nature Reserve of Orange County

Pacific Pocket Mouse *Update*

The Pacific pocket mouse (*Perognathus longimembris pacificus*) has lived a challenged existence. Since the 1930's, its habitat of fine, sandy soils along the Southern California coastline has given way to urban development and agriculture. While the species was believed to be extinct following the early 1970's development of a site in the San Joaquin Hills where it was studied by UCI graduate students, it was rediscovered at the Dana Point Headlands in 1993, which resulted in its listing as a federally endangered species and the creation of a scientifically focused recovery plan. Many of Natural Communities Coalition's landowners, partners and stakeholders are now collaborators to this plan.

As you may know, the Pacific pocket mouse is a conditionally covered species under the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). In June of 2016, a project to reintroduce the species to the San Joaquin Hills within Laguna Coast Wilderness Park was initiated, involving the release of 50 mice from a conservation breeding facility that is operated off-exhibit at the San Diego Zoo Safari Park. With the vision of re-establishing a robust pocket mouse population, progress has not come easily. According to Will Miller, Biomonitor with the United States Fish and Wildlife Service, "The work has been incredibly

challenging (perhaps more than we anticipated) but we have learned a great deal about the mouse and have had quite a bit of success despite not yet reaching our ultimate goal of establishing a viable population of Pacific pocket mice at Laguna Coast Wilderness Park. However, we are still working at it, and I remain optimistic that what we have learned will help us to eventually establish a population at Laguna Coast Wilderness Park or elsewhere within the species historic range."

Miller also spoke favorably of two significant milestones regarding the project, which included getting captive mice born at the San Diego Zoo to breed in the wild following their release, and achieving high short-term survivorship of released and wild born mice. Both of these advancements, Miller indicated, are critical to establishing a viable Laguna Canyon Wilderness Park Pacific Pocket Mouse population, with the final challenge improving over-winter survivorship to achieve population persistence.

As an update to the work which started four years ago at Laguna Coast, the spirit of collaboration and shared expertise stand out as enduring project attributes. Professionals from the San Diego Zoo, Wildlife Agencies, OC Parks, multiple nonprofits and funding agents continue to work



Alamy

together for the preservation of the Pacific Pocket Mouse and conservation in Orange County.

While the Pacific Pocket Mouse was never truly extinct, it remains an endangered species. Habitat destruction, degradation, and fragmentation continue to be its greatest threats. The ongoing work at Laguna Coast Wilderness Park and the scientific contributions of Dr. Debra Shier, Shauna King and their colleagues at the San Diego Zoo provide hope for the creation of additional populations needed to help safeguard the survival of the species. Additional unsung heroes who have had a significant impact on the project include the many contributors from OC Parks, including Stacy Blackwood, John Gannoway, Barbara Norton, Brad Barker, Helen Edwards, Jennifer Naegele, Matt Major, Alisa Flint and OC Park's volunteer, Joan Miller.

Native Plant of the Quarter

Standing at the crest of Coal Canyon Ecological Reserve and looking down upon a forest of Tecate cypress trees is an awe-inspiring sight! For the first time visitor to the Tecate cypress landscape, it is easy to get the feeling you are in a truly unique place you have never seen or experienced before. For some, it may feel like being on the moon.



Alamy

There is something special about Tecate cypress. Its light green color, piney smell, and landscape wide coverage give it an artistic look, feel and aroma – in real time. American landscape artists, such as Maurice Braun or Maynard Dixon, would likely have found Tecate cypress as the ideal theme for one of their paintings. The problem is Tecate cypress are hard to find and thus endure in an almost out-of-sight and out-of-mind existence. Currently,

the trees can be found only along steep slopes and ravines at sparse locations in Southern California and Baja Mexico.

In all its glory, Tecate cypress are at risk of being wiped out by the force that gives it life, fire. Its tiny cones only open and release seeds through the heat of a mild wildfire. While it may take 30 years for a Tecate cypress tree to grow into reproductive maturity, the frequency and intensity of wildfires today places the survival of the species at extreme risk. As a consequence, the rare Thorne's hairstreak butterfly species stands to be further impacted due to its dependence upon Tecate cypress as a larval host plant.

[The Santa Ana Mountains Tecate Cypress Management Plan](#), prepared in 2010 by Susana Rodriguez-Buritica, Katharine Suding and Kristine Preston cites the frequency of large wildfires as the greatest threat to the Tecate Cypress population. The authors emphasized "The single most important thing that land managers can do to ensure the continued persistence of Tecate cypress is to reduce fire frequency."

For those wishing to see and experience the beauty of Tecate cypress at Coal Canyon Ecological Reserve, more information can be obtained by clicking [here](#). In addition, NCC landowners, partners and stakeholders may schedule a vehicle tour of the Tecate cypress at Coal Canyon by contacting Darin Loughrey at dloughrey@occonservation.org

Managing Artichoke Thistle

Artichoke thistle (*Cynara carunculus*) is an invasive species of the sunflower family which looks a lot like the common globe artichoke. Artichoke thistle is a spiny perennial herb, which at flowering stage shows bright purple clusters two to three inches in diameter. It is found largely in disturbed land areas and colonizes within coastal sage scrub habitats. It thrives in soils with heavy clay content, which are common throughout Orange County's Nature Reserve.

In the wild, artichoke thistle spreads only by seed. A mature plant can produce more than a dozen flowerheads with as many as 200 seeds per head. Its seedbank is believed to remain viable for up to five-years and seeds are commonly spread through gravity, water, birds, and contact with humans and other mammals.

The problems with artichoke thistle and its rapid proliferation are numerous. To begin with, its height, density and thorny stalks reduce forage production and create natural barriers which makes wildlife movement difficult. In addition, artichoke thistle has an expansive root system which outcompetes native vegetation for light, water and nutrients. When colonized in large numbers, artichoke thistle becomes a monoculture that excludes shrubs, herbaceous plants, and annual grasses.

While it makes perfect sense to suppress artichoke thistle, it is a task which has become increasingly difficult. One of the challenges is its tap root, which can extend up to eight feet deep in the ground. The tap root is almost impossible to remove manually and serves as the source for the plant to regenerate itself. Removal by means such as mowing, plowing, burning and even goat grazing have proven ineffective. Biological controls are non-existent as well. To date, the most cost efficient and effective method of managing artichoke thistle infestations seems to be through



Alamy

repeated manual chopping and the targeted use of herbicides. These herbicides however, are becoming a contested option, particularly in those communities which have adopted integrated pest management (IPM) policies which are organic exclusive.

In April 2018, the Natural Communities Coalition (NCC) released the document "Best Practices for Implementation of Invasive Plant Control for Resource Management on the Nature Reserve of Orange County." This document, approved by the NCC Board of Directors, supported by the United States Fish and Wildlife Services and California Department of Fish and Wildlife, and endorsed by the California Invasive Plants Council, specifically addresses control methods for artichoke thistle. The non-synthetic methodologies recommend for locations near daily accessible trails and staging areas is two years of basal cutting at 4-8 times per year. For remote areas off trail, a single dose of herbicide at Pest Control Adviser (PCA) recommended application rate is prescribed. Click on following links for "[NCC Approved Best Practices](#)" document and "[IPM Procedures and Protocols.](#)"

Great American Outdoors Act

The Great American Outdoors Act (GAOA), which was signed into law on August 4, 2020, is acknowledged as the biggest land conservation legislation of our generation. The National Parks Conservation Association is hailing it as “a conservationist’s dream.”

In terms of impact, the GAOA establishes the National Park and Public Lands Legacy Restoration Fund which provides up to \$9 billion over the next five years to address deferred maintenance at national parks, forests, wildlife refuges and other federal properties. In addition, the GAOA guarantees \$9 million per year to the Land and Water Conservation Fund (LWCF), in perpetuity. The LWCF provides funding to National Parks, National Forests, Fish and Wildlife, and Bureau of Land Management. In addition, the LWCF provides grants to state and local governments to acquire land for conservation and recreation.

The GAOA was approved through an unusual show of bipartisanship due to the political and economic consequences of Covid-19. Linda Bilmes, co-author of “Valuing U.S. Parks and Programs: America’s Best Investment,” provided some timely thoughts on GAOA’s approval during an interview with the Harvard Gazette. Bilmes said, “The pandemic has also led America to rediscover the outdoors. The national parks not only provide economic benefits but also health and enjoyment. My research has found that the public values national park land, waters and programs at \$92 billion a year – at least 30 times the annual budget they receive from Congress. The public is now appreciating the outdoors as never before and calling on its elected representatives to provide adequate financial support.”

