



THE ISLAND INSIDER

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A PUBLICATION OF CHANNEL ISLANDS RESTORATION



 CALIFORNIA SUNFLOWER, KEN OWEN







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RESTORATION ON SAN NICOLAS ISLAND

We are currently growing and maintaining nearly 13,000 native and endemic island plants as part of our current restoration project. These plants were grown from seed and cuttings collected exclusively from the island under the watchful eyes of our Nursery Manager, Kelle Green and Nursery Assistant, Sarah Spellenberg. It has taken the dedication of thousands of staff and volunteer hours to successfully propagate, grow and maintain such a large number of plants at an isolated island nursery 60 miles off shore.

These plants will be used to revegetate an area of ground that was disturbed during the replacement of aging infrastructure. It is these projects that are spearheaded by the island's Natural Resource Manager that continue to further increase and expand previously degraded habitat island wide. Over the past 5 seasons, CIR has grown and installed over 22,000 native plants in no less than 20 sites across the island. Once this current project is completed and we finish the installation of the nearly 13,000 plants currently in the nursery that number will be a whopping 35,000!

These restoration projects have focused on a variety of goals ranging from increasing vital habitat and creating wildlife corridors for the endemic and recently delisted Island Night Lizard (*Xantusia riversiana*) to increasing the population diversity and re-establishment of rare island plant species back into locations where they have been extirpated due to damaging ranching practices well over one hundred years ago. This damage has also caused wide scale erosion issues on the island as well. This is why we have a common thread of erosion control throughout nearly all of our plantings.

A true mark of a successful restoration planting is not only the survival of the original plants installed, but also that they thrive to a point in which they can successfully reproduce and that those new plants survive on their own. Even in the relatively short time we have been working on San Nicolas Island we have documented many cases where we have natural recruitment from seed of our installed plantings and survival of these recruits over multiple years!

None of this work would be possible without the hard work, selflessness and generosity of our many donors, volunteers and supporters. We congratulate YOU for these many successes!

RESTORATION AT THE SAN MARCOS FOOTHILLS



The San Marcos Foothills experienced an exceptionally hot and dry summer along with the rest of the region and we were concerned about the survival of the native seedlings we had just planted. Luckily, with some watering throughout the season, they survived it. Now, after the January rain, invasive plants are surging up from billions of dormant seeds. Our native plants received a head start from irrigation during the summer, but winter can be a critical time for young plants, because they can become overwhelmed by fast-growing non-native annual grasses and other weeds that compete for soil moisture and sun.

We can anticipate a busy season removing the invasive plants from around native needle grass, milkweed, and other native shrubs that we planted last year. We use several techniques to control the weeds, such as spraying them with non-toxic citrus oil (made from orange peels). But this only works on young weeds and it is a bit expensive. When it really comes down to it, we rely on our community and we need volunteer groups in the spring to hand-pull weeds that were missed or that come up in subsequent rains.

We need your help to keep the weeds in check and help the native plants prosper and become vital native habitat for the hundreds of species that rely on the San Marcos Foothills Preserve. Watch your email for announcements of upcoming volunteer workdays at the Preserve. They usually occur on Saturdays from 9 to noon.

Channel Islands Restoration has been the proud steward of the San Marcos Foothills Preserve since 2008. In 2010, CIR staff and volunteers installed over 6,000 plants along Cieneguitas and Atascadero creeks on the Preserve. We then maintained the sites for five years, which included a lot of weeding to reduce competition with the young native plants. As a result the plants became very well established, and today, all sorts of native shrubs, herbs, and trees are thriving at the sites. These native plants have remained healthy and green throughout the drought and continue to provide vital native habitat for close to 100 bird species, dozens of butterfly species, large mammals like coyotes and bobcats, and so much more. If you haven't seen our restoration sites at the San Marcos Foothills, we highly recommend it. For more information about the Preserve, in addition to plant and animal species lists with photos, head to sanmarcosfoothills.com.



FRIENDS OF THE ISLAND FOX IS NOW A PROGRAM OF CHANNEL ISLANDS RESTORATION

We are glad to announce that Friends of the Island Fox (FIF) is joining the CIR family. FIF is a group which supports efforts to preserve and protect the island fox (*Urocyon littoralis*) on the California Channel Islands through conservation and education programs. FIF became a key component in the efforts to help restore the number of island foxes when they were threatened with extinction. Today, Island Foxes throughout the Channel Islands are no longer endangered, which is thanks in part to the help of FIF and their supporters. Now FIF will continue their conservation efforts as a program of CIR.

On January 1st of 2018, Friends of the Island Fox became a program of Channel Islands Restoration and are now under our 501(c)(3) umbrella. It's a great match between our two organizations. Channel Islands Restoration has been working for a long time to restore habitat for plants and animals on the Channel Islands (including the Island Foxes of course), in addition to working in classrooms and communities to promote environmental education. Meanwhile, Friends of the Island Fox have been working to support Island Fox conservation and research, in addition to putting on educational programs regarding island foxes and their re-

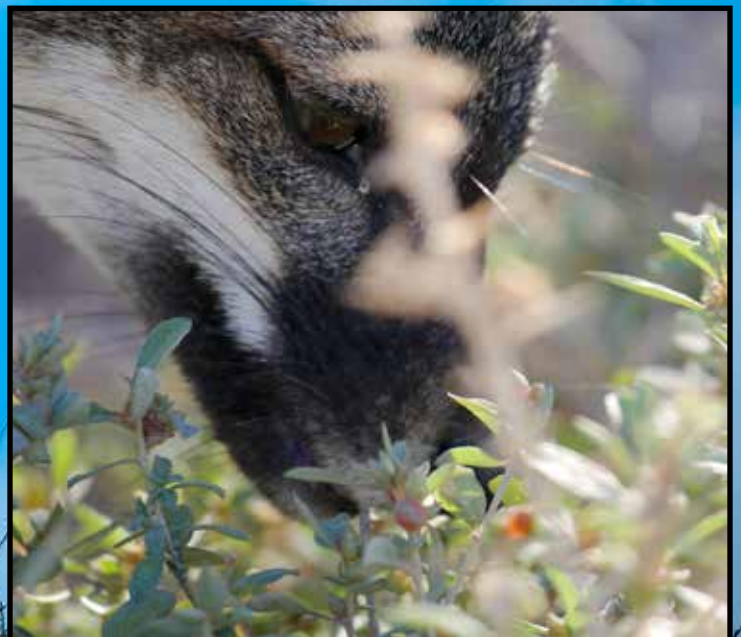
lationship to ecosystems of the Channel Islands. We're looking forward to working directly with them to help advance both of our missions.

Friends of the Island Fox is a joint effort of conservation professionals and concerned private citizens striving to create public awareness about the island fox and to raise funds to support education, research and conservation measures to ensure the island fox's continued survival. They help fund radio monitoring collars and identification microchips on San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina. They assist with annual health checks and vaccinations for island foxes to combat rabies and canine distemper. They have installed fox-proof boxes at island campgrounds and also maintain "Watch for Foxes" road signs on Santa Catalina to reduce casualties due to cars. FIF also provides presentations to community groups, educators, and students regarding the endangered island fox and its important relationship with the Channel Island ecosystem.

We're looking forward to working with Friends of the Island Fox to ensure that island foxes never return to the endangered species list and have healthy habitat to thrive for centuries to come.



ISLAND FOXES
CHANNEL ISLANDS RESTORATION, FRIENDS OF THE ISLAND FOX,
CATALINA ISLAND CONSERVANCY



RESTORATION AND EROSION CONTROL FOLLOWING WILDFIRE



Adapted from a story by Patt Wilson McDaniel at the California Native Plant Society

The Thomas fire burned 440 square miles - roughly the size of the City of Los Angeles - and broke the record as the largest California wildfire in recorded history. In its wake it left scorched and barren hillsides. Seemingly before anyone could react, disaster struck again and heavy rainfall sent floods and mudslides down the exposed slopes. The question on everyone's mind seemed to be: what can we do to help keep this from happening?

Botanists and ecologists have been seeking answers to this question over the past 50 years, and our understanding of fire ecology has come a long way. The short answer is to let nature take its course and allow for native plants to re-sprout while weeding out any arising invasive plants and - if necessary - control erosion through physical means such as netting and wattles.

This isn't always an adequate answer for people with a strong desire to actively help. Since the fire and mudslides many groups have sprouted up to encourage and empower people to spread seeds throughout the burn areas. This practice is unnecessary and potentially harmful to the ecosystem.

In the past, agencies would rush in after a fire to spread seeds along burnt hillsides to revegetate slopes in an attempt to prevent runoff and erosion. We learned the hard way that seeding with non-natives (most often ryegrass) caused more problems than it solved. Ryegrass seeds grow incredibly quickly after they have been spread, and it seemed like a great solution to the problem. The plants would put down roots to stabilize the soil and grow into thick mats of grass to slow floodwater. Yet the benefits of spreading ryegrass were temporary and largely superficial. Ryegrass - especially annual ryegrass - dries out quickly after the rainy season ends, the stabilizing roots wither and the dry grass becomes great fuel for wildfires.

We have since learned that our native ecosystem is adapt-

ed to occasional wildfires and many native plants lie in wait to sprout up after a fire. When fire clears dense, old-growth chaparral, space opens up and seed banks that have been waiting for many years to be stimulated by fire can sprout and flourish. Many seeds need to be charred by fire to break the outer coating or change its chemical composition and allow the seed to germinate. Other plants have large root systems that retain nutrients and energy and are able to 'stump sprout' after a fire. The regrowth of a variety of native annual and perennial plants results in a complex interweaving of different root types that can stabilize the soil better than any artificial seeding mix that could be devised. Tossing ryegrass seeds on top of the slopes would smother this recovery process and result in an ecosystem that supported fewer animals and was less resilient to future wildfires. Yet seeding even with natives is not often a good approach for restoring habitat or preventing erosion simply because it is redundant: most natural areas already have a substantial seed bank with a variety of local species that respond quickly to fire. Counterintuitively, it may even cause more harm than good.

Seeding with wildflowers is unnecessary and could be very damaging.

"There is unanimity among ecologists and botanists that re-seeding with wildflowers is unnecessary and could be very damaging. California owes its incredible diversity of native plants and wildflowers in part because natural barriers to plant migration isolated local populations of plants, facilitating the development of locally adapted species over millennia. Reseeding with non-local plants breaks the geographic barriers down and leads to homogenization of our flora. I enjoy poppies and arroyo lupines as much as the next person but not everywhere. Who wants that?" ~ Thomas W. Mulroy Ph.D. | Ecological Society of America.



JESUSITA FIRE - JANUARY AND MAY
KEN OWEN



Flooding and landslides remain a chief concern post-fire and the determining factor in their severity is the nature of rain we receive. If we get gentle and intermittent rains, the water will soak into the soil and the plants will grow and provide the protection we need from future rains. If the rains come hard and heavy, no amount of seeding could have prevented runoff. The only effective way to prevent landslides and flooding on bare hillsides is with physical barriers such as matting or erosion control waddles. For those that are concerned about flooding and landslides near their homes, there are a couple things you can do:

Our recommendation is to use biodegradable matting (like coconut fiber) with a wide weave so plants can sprout through it. Farm supply stores and hardware stores carry it, although a lot of people will be trying to buy it after a fire and it may need to be ordered. The matting should be placed on steep, bare slopes and held in place with fabric staples which are also sold with the matting. On very steep slopes the fabric can be rolled into ‘wattles’ and held in place with wooden stakes to make check dams.

Be very careful when choosing the material to use for erosion control matting. As mentioned above, using biodegradable materials such as coconut fiber is a good idea because it is temporary and biodegradable. Alternatively, there are a number of types of plastic mats that are meant to stay in place and not degrade. Depending on the slope profile and conditions, the benefits of leaving the plastic mesh in place may outweigh the costs.

Also, if you decide to use the premade wattles we strongly encourage you to do your research on the filling of the wattle as they are made from a vast variety of materials and they can introduce weeds into native habitat. When considering your

options for erosion control methods and materials, make sure you know your specific goals of the areas targeted for erosion control and pick the products that will work best for each area. Depending on the conditions, contours and overall goals of your specific restoration sites, erosion control materials may not be necessary. The spreading of locally sourced seed and possibly the installation of vegetative cuttings/container stock may be all that is needed. Of course, the plant palette should be as site-specific as possible and could transition between multiple zones such as riparian, chaparral, etc.

UPCOMING EVENTS



SPRING MEMBERSHIP PARTY - Sunday, May 6, 2018

All Channel Islands Restoration members are invited to join us at Rincon Beach Park for this popular event! We'll be serving up roast chicken and roast veggies from the barbecue, a large selection of sides; plus wine, beer, and soft drinks. We'll have a fun raffle set up, too! Past raffle prizes have included trips to the Channel Islands with Island Packers, flights over the Channel Islands (thanks to the awesome CIR member and pilot, Barbara Hale), Patagonia jackets, gift cards to local restaurants, and more!

DEATH VALLEY NATURAL HISTORY TOUR - March 7-11, 2018

Encompassing 3 million acres of desert, Death Valley is the largest national park in the United States, south of Alaska. It is also an island of amazing geologic features, abundant wildflowers, desert wildlife, historic sites, sublime scenery, and clear night skies.

Naturalists Dr. Tanya Atwater, Emeritus Professor of Geology from UCSB, and Steve Junak, Emeritus Herbarium Curator from the Santa Barbara Botanic Garden will share their vast knowledge gained from their lifetimes of research and study.



WHITE MOUNTAINS NATURAL HISTORY TOUR - July 4 - 7, 2019

Enjoy four days of geology, wildflowers, ancient trees and birds in the majestic alpine wilderness of the White Mountains, in Inyo National Forest, on the eastern edge of the Owens Valley.

Knowledgeable and enthusiastic scientist/naturalists will guide small groups through the variety of geological and ecological communities found in the Whites, as we study and enjoy the fascinating natural history of this scenic and unique California mountain range, emphasizing geology, botany and bird-life. The Whites are home to ancient bristlecone pines (*Pinus longaeva*) - the oldest trees in the world.



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