



THE ISLAND INSIDER

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A PUBLICATION OF CHANNEL ISLANDS RESTORATION



NATIVE PLANT NURSERY ON SAN NICOLAS ISLAND





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TABLE OF CONTENTS

- 03 | EXECUTIVE REPORT
- 04 | 2017 IN REVIEW: HABITAT RESTORATION PROJECTS
- 05 | CIR WORK FEATURED IN NAVY MAGAZINE!
- 06 | RESTORING ENDANGERED PLANTS AT THE CONEJO OPEN SPACE
- 07 | HELP CIR GROW
- 08 | WHY DONORS GIVE
- 09 | PROPAGATION & RESTORATION ON SAN NICOLAS ISLAND
- 11 | ENDANGERED PLANT SURVEYS AT THE CARPINTERIA SALT MARSH
- 12 | SCOURING THE SISQUOC FOR TAMARISK
- 13 | THANK YOU DONORS!
- 14 | MEMBERSHIP LEVELS & BENEFITS

EXECUTIVE REPORT

Channel Islands Restoration has experienced unprecedented growth in 2017. Due to the energy of our volunteers and staff and the generosity of our donors we have worked on 25 projects in 2017 so far. We have removed an uncountable number of invasive weeds, propagated tens of thousands of plants and we restored habitat from the Channel Islands to the San Rafael Wilderness and everywhere in between. More than 800 volunteers and around 200 financial donors have made this possible.

Here are some highlights of our accomplishments in 2017:

We have grown over 16,000 native plants on San Nicolas Island that will be installed starting in February with teams of volunteers, mitigating a construction project and providing habitat for threatened animals.

CIR removed over 300 mature invasive tamarisk trees and at least 10,000 seedlings on a 40 mile stretch of the Sisquoc River deep in the San Rafael Wilderness of the Los Padres National Forest. Since this is a wilderness area, no cars or helicopters could be used to survey or to do our work on the project. The teams of volunteers and staff needed to walk the length of the river and could not use mechanized equipment to remove the plants. This is truly a wondrously beautiful and relatively untouched wildland, and CIR is working extra hard to keep it that way.

We worked with volunteers, staff and university interns to survey the entire Carpinteria Salt Marsh for salt-marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) a plant that is on the federal endangered species list. Through careful planning and systematic survey work, we were able to find the plant growing in parts of the marsh where it had not previously been mapped. We are hoping to take on the daunting project of removing some highly invasive plants next year that have spread in the marsh and are threatening the birds-beak population.

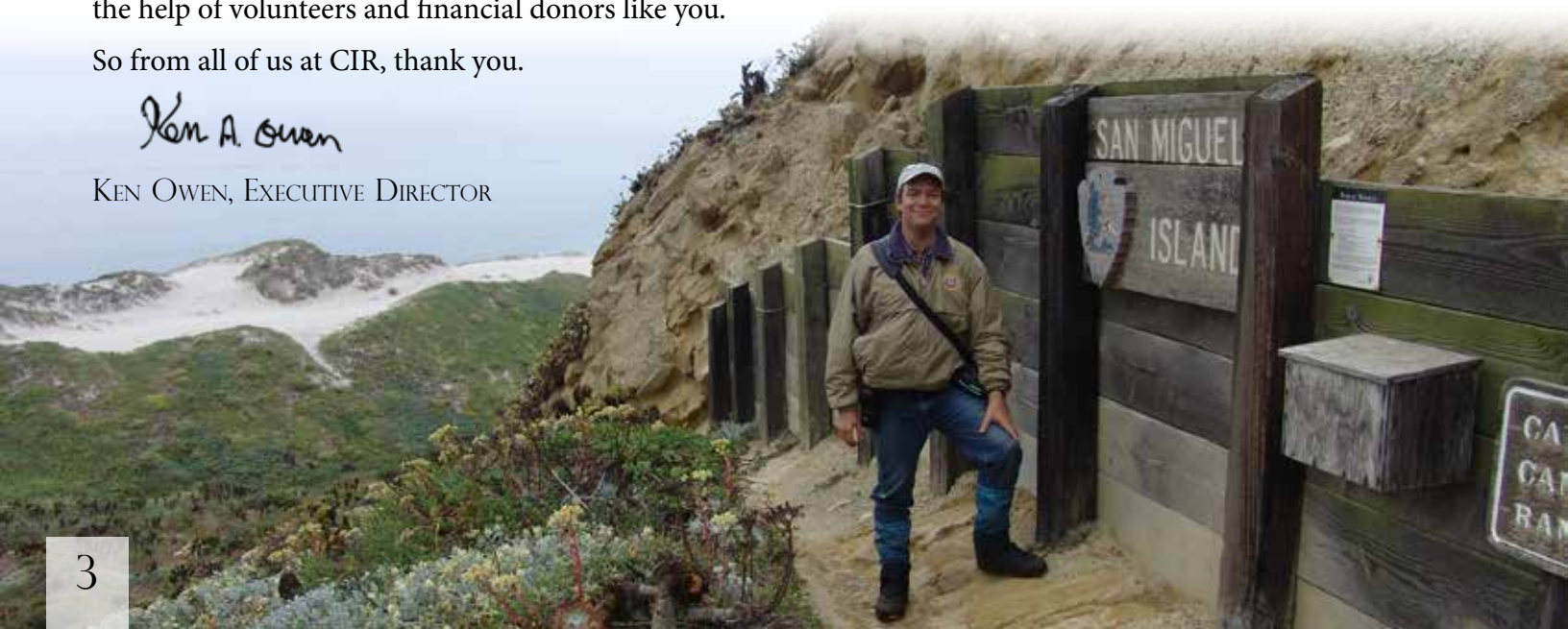
CIR is committed to educating young people and adults about the value of native habitat and our precious natural areas. We worked with high school kids on Anacapa Island and on two projects in Santa Barbara. Over 160 people attended our educational events this year, including a trip to Death Valley, an evening with Tanya Atwater, the Central Coast train trip, and the jeep tour of Refugio Road and West Camino Cielo.

CIR follows a unique model to accomplish our restoration and educational missions. We use a combination of highly professional staff, plus motivated and talented volunteers to protect and restore habitat, and generate excitement in adults and young people about preserving our natural areas. In the coming year we plan to expand our work to new areas and to reach out to more schools from under-served communities. We hope that you will join us in this grand adventure to protect our planet and raise awareness. This work simply would not happen without the help of volunteers and financial donors like you.

So from all of us at CIR, thank you.

Ken A. Owen

KEN OWEN, EXECUTIVE DIRECTOR



1. Lompoc: Japanese Dodder removal
2. Burton Mesa: endangered butterfly habitat restoration
3. Sisquoc River: 40 miles of tamarisk eradication
4. Gaviota Creek Estuary: Restoration Plan
5. Coal Oil Point Reserve: weed control
6. Santa Ynez Chumash Reservation: weed control
7. Santa Ynez Chumash Reservation: Restoration Plan
8. San Marcos Foothills Preserve: planting natives and controlling weeds.
9. Elings Park: weed control and planting natives
10. Elings Park (Veterans' Walkway): Restoration Plan
11. Hammond's Meadow: weed control and Restoration Plan
12. Carpinteria Salt Marsh: endangered plant survey and mapping
13. McGrath Dunes: weed control
14. North Shore: weed control
15. Camarillo Nursery: native plant propagation
16. Lake Piru: tamarisk treatment
17. Conejo Open Space: weed control
18. Conejo Open Space: endangered species habitat restoration
19. Conejo Open Space: weed control
20. Santa Rosa Island: Cloud Forest Restoration
21. Santa Cruz Island: poison oak control
22. East Anacapa Island: Environmental education and native plant installation
23. San Nicolas Island: native plant installation
24. San Nicolas Island: native plant installation
25. San Nicolas Island: native plant propagation

2017 IN REVIEW

CIR WORK FEATURED IN NAVY MAGAZINE!

POINT MUGU RESTORES CRITICAL WETLANDS

Base personnel from the environmental department onboard Naval Base Ventura County (NBVC) Point Mugu, California with some help from the Channel Islands Restoration (CIR) staff and volunteers are enhancing critical wetlands without competing with the base's military mission.

Coastal saltmarsh wetlands are a rare habitat in California and the Mugu Lagoon estuary complex located on NBVC Point Mugu is the largest in Southern California. There are over 2,100 acres of wetlands which supports hundreds of species, including 230 bird and 204 native plant species. Seven of these species are rare, threatened or endangered, and protected by environmental laws. NBVC Point Mugu has a comprehensive wetland restoration program that effectively protects this valuable resource while maintaining efficiency in implementing the base's military mission.

Some projects or operations on NBVC Point Mugu occasionally require mitigation for impacts to wetlands. These impacts rarely occur even though the wetland complex on base is 48 percent of the total land area for the installation. Wetland restoration projects, implemented on the base since the 1990's, are executed by personnel from the NBVC Point Mugu Environmental Division which oversees the associated construction, restoration, and permitting activities. The proactive wetland restoration projects provide opportunities for instant mitigation acreage if damage to wetlands occurs.

Currently, there is an effort to restore salt marsh in an abandoned land fill. The salt marsh vegetation used in restoration projects at Point Mugu require variable water inputs, particular elevation levels, and have different salt tolerance; these conditions can make it difficult to predict the success of restoration projects. "The features that make natural coastal wetlands unique are the same features that create restoration challenges: Their physiochemical environment is complex; they are biologically diverse, and they are vulnerable to changing sea levels. The complex physiography of coastal wetlands is difficult to create or restore, especially where prior landforms have been obliterated through filling." (Source: Handbook for Restoring Tidal Wetlands, Zeller, 2001.)

This is the case at the 12th Street restoration site since it was historically used as a land fill disposal site. The contents were removed and clean sediment was added



before native plants (Western marsh rosemary) were re-established.

Five thousand native plants were installed by Channel Islands Restoration (CIR) staff and volunteers. The native plants were started from seeds and cuttings collected at NBVC Point Mugu and grown in CIR's nursery. Biochar was added in some areas of planting as an experiment to see if it increases the growth of the plantings. Biochar is made from organic matter heated until it decomposes; the result is a high carbon product with high surface area good for retaining water and nutrients in soil. It has been used at NBVC Point Mugu before with positive results of native vegetation colonizing the mounds and trenches where it had been placed. This has positive implications especially for newly restored areas that may not have developed the rich, biogenic soils required for salt marsh plant recruitment.

Originally printed in *Currents*, Winter 2016 - 2017.

Read the full article at:
http://greenfleet.dodlive.mil/files/2017/03/Win16-17_Point_Mugu_Wetlands.pdf.

RESTORING ENDANGERED PLANTS TO THE CONEJO OPEN SPACE

Braunton's Milkvetch (*Astragalus brauntonii*) is an endangered species that is a perennial herb, endemic to Ventura, Los Angeles and Orange Counties and is rare throughout its range. A small population was discovered on private land after a fire prompted the long-dormant seeds to sprout. Since the population was not discovered until after the environmental review process was completed and development had already been approved, the land owner worked with regulatory agencies to find a solution to save the plants. Once an agreement was worked out, CIR was hired by the land owner to carefully dig up all of the plants within that population, salvage the seed bank, transplant the mature plants into pots, take care of them over the summer, and then to transplant them into a wild protected location in Thousand Oaks and to maintain them there in the wild.

In February 2017, the CIR team salvaged individuals of Braunton's Milkvetch and brought them to the CIR native plant nursery in Camarillo, where our Nursery Manager Kelle Green and Nursery Technician Sarah Spellenberg, with the help of volunteers, gently cared for the plants, giving them shade, water, soil and pruning (also fondly known as "haircuts"). After we salvaged all of the plants, our Project Manager, Daniel Hart, salvaged the seed bank in the top soil and distributed it on to a nearby protected site in Thousand Oaks that is owned by the Conejo Open Space Conservation Agency (COSCA).

Now, in late November 2017, we are working with COSCA to establish these plants as a new population on the same permanently protected property owned by COSCA. As we write this, our crew is busy setting up a drip irrigation system and planting the plants. We will be taking care of them over the next five years, and look forward to telling you how they are doing in future newsletters.



DOUBLE YOUR IMPACT WITH A MATCHED DONATION THIS DECEMBER

Right now during the month of December, your donation to Channel Islands Restoration is doubled. An anonymous group of donors have pooled their money and pledged to match every dollar we fundraise with a dollar of their own - up to \$6,500. If we don't raise a matching \$6,500, then we'll only receive a respective percentage of the match.

Your contribution to Channel Islands Restoration is vitally important. Habitat loss is one of the leading causes of the Sixth Great Extinction, and we're working as hard as we can to ensure that our Central Coast - a biodiversity hotspot - remains resilient to this crisis through direct habitat restoration for today, and environmental education for tomorrow. Channel Islands Restoration is the only non-profit on the Central Coast that engages in every aspect of habitat restoration: drafting a restoration proposal, eradicating invasive plants, propagating local native plants, and ultimately installing the native plants to recreate resilient native habitat that our local species rely on. All the while, we engage the community via volunteer opportunities and educational events. Your donation to CIR

ensures that

we have the resources to see the entire process through. It's a lot of work, but with work at more than 90 project sites over the past 17 years, you can be confident that CIR has the experience to put your donation to good work.

This past year has been our busiest yet, with projects from San Nicolas Island to the San Rafael Wilderness and everywhere in between, and we couldn't have done it without your support. So much of this growth came because of people like you. Just over a year ago, only about 100 people had donated to CIR and last November we challenged you to double that. As this year begins to wind down, we've received donations from over 200 individuals and look at what we've accomplished together: growing over 16,000 plants grown on San Nicolas Island alone this year, surveying and eradicating tamarisk from 40 miles of backcountry wilderness, surveying for endangered plants, getting school kids on the islands, hosting natural history train trips up the coast, leading jeep trips through the mountains, and so much more. Yet there is still so much work to do and we're not shying away.

However, without your help we can't continue to grow. The well of federal funding and private grant money is drying up in today's political climate. Without those funds, we can't continue our work without your help.

If you give this December, you can double your impact and ensure that we're able to continue our work together through 2018 and decades to come. Your donation ensures that we can continue to create and restore critical habitat along our Central Coast and that we can continue to provide environmental education opportunities to our community.

Go to CIRWEB.org/donate to learn more.

WHY DONORS GIVE

After examining the quality of work that Channel Islands Restoration does, with its impact on both our environment and community and the benefits that result from being a member of this organization, donating to them in a generous fashion is an easy choice for me to make.

-Louis Andaloro, Santa Barbara

I look out at the Channel Islands every morning from my kitchen window. The islands are an integral part of our coastal history and a unique treasure. I feel it is a privilege to be able help preserve them.

-Lynne Israel, Santa Barbara

I support CIR both as a volunteer and financially because I strongly believe in their mission to restore habitat and educate groups about the value of native habitat and how to protect it.

-Greg Sweel, Santa Monica

I support CIR's work in preserving and increasing public appreciation of the biodiversity in the Southern California coastal region. In these precarious times it is especially important to ensure CIR has the resources to continue to lead this effort.

-Doreen Jones, Newbury Park

"Having been an avid scuba diver at the Channel Islands for 45 years I have seen how the Marine protected areas have allowed the endemic underwater species to return.

I feel Channel Islands Restoration is doing the same with the topside plant and animal species. I believe that helping CIR will help restore these islands to what they once were."

-Terry Schuller, Camarillo

"My involvement with CIR has been delightful. Both trips were well organized, an important factor in the success of the planting and the trips. It was well thought out, from the tools needed, the time the planting would take to accomplish, the travel time to the locations, the difficulty of some areas to plant, the work needed by each volunteer, and the transporting of the plants. It was solid days of work, nothing beyond a comfort level, but it felt great.

The staff of CIR are well educated in the botany and biology of the islands, a treat for me to learn all the info they had to offer. An opportunity to see remote areas of the islands, and be a part of the restoration of native plants made these both the better experiences in my life. The staff were friendly, they made the days fun and it was rewarding to complete the planting that they had planned to accomplish."

-Beverly Borneman, Santa Barbara

2017

BY THE NUMBERS

25

RESTORATION
PROJECTS

843

VOLUNTEERS

252

DAYS OF WORK

13,084

VOLUNTEER
HOURS

11

EDUCATIONAL
EVENTS

1

NON
PROFIT

PROPAGATION & RESTORATION ON SAN NICOLAS ISLAND

Channel Islands Restoration is currently leading the largest-ever restoration on San Nicolas Island. With the help of volunteers that have put in well over ten thousand hours over the years, we've grown and planted more than 30,000 plants to restore critical habitat throughout the island.

At present we have over 16,000 plants growing in our nursery with more on the way. In order to maintain the genetic integrity of San Nicolas Island, we grow every plant from seeds, and/or cuttings collected from the island on the island. Furthermore, we never share, transfer, or use plants or plant material from other islands or the mainland.

We often collect seeds from the wild parts of the island, but we have established two seed farms to supplement the seed supply. The seed farms consist of plants we commonly use but are rare on the island. These seed farms receive regular care and watering throughout the year. As a result of these seed farms, we have a ready supply of seeds for some of the island's rare plants and are able to propagate a substantial amount of them for our restoration sites.

Collecting solely from San Nicolas Island limits us to growing only what we're able to find on the island, and this year has been a boon for rarely seen annuals. In

spring, we found *Trifolium*'s 'clovers' which we were able to collect for the first time. Additionally, we are growing a newly discovered grass for San Nicolas Island – annual muhly (*Muhlenbergia microsperma*) – in our seed farm to expand the diversity of species used in res-



toration projects on the island.

Other plants in production are the tried and true standards of island restoration. Prickly pear cactus (*Opuntia* species), the island night lizard's favorite: California boxthorn (*Lycium californicum*), common yarrow (*Achillea millefolium*), island sagebrush (*Artemisia nesoiotica*), nodding needle grass (*Stipa cernua*), the California official state grass: purple needle grass (*Stipa pulchra*), endemic San Nicolas Island buckwheat (*Eriogonum grande* var. *timorum*), and many more.

To support the increased demand for space to grow plants CIR staff and volunteers worked to renovate our nursery. We built a new and bigger shade house, improved the nursery flood tables, and converted tennis courts to a large propagation area to accommodate growing thousands of native plants. These plants will be planted along a new pipeline that is being installed on the island. These will help alleviate erosion and create a buffer between the road and the native habitat beyond. Plants closest to the road are selected to withstand traffic and mowing.

We will begin planting in February, relying on volunteers to help us accomplish this mammoth task.





SCOURING THE SISQUOC FOR TAMARISK

Tamarisk trees are not native to California and invade riparian habitats. CIR wrote grant applications to the National Fish and Wildlife Foundation that funded our work. We worked long and hard on planning the logistics of these challenging trips, together with NFWF and the Los Padres National Forest.

CIR, with two crews of intrepid volunteers, took two trips down the Sisquoc River deep in the wilderness of the Los Padres National Forest in October and November of 2017. The first trip started at the headwaters of the Sisquoc River at Alamar Saddle and ended at Sycamore Camp, before climbing 5 steep miles up to Montgomery Potrero on the Sierra Madre Ridge. The second trip started at Montgomery Potrero, hiked down to the river, and ended at Manzana Schoolhouse. Altogether, the CIR crew and volunteers walked about 70 miles, surveyed almost all of the 40+ mile Sisquoc River, treated more than 300 adult Tamarisk trees, and pulled out more than 10,000 Tamarisk seedlings. There was a 7-mile stretch of river that we surveyed but didn't have time to treat, so we'll come back next year and do it again. Look out Tamarisk – we're coming to getcha! For all of you intrepid volunteers out there, we plan on two trips next October/November. Join us!



CIR SURVEYS FOR ENDANGERED PLANTS

In August 2017 Channel Islands Restoration surveyed the entire 230 acres of the Carpinteria Salt Marsh in order to record all of the occurrences of salt marsh bird's-beak (*Chloropyron maritimum* subsp. *maritimum*) in the marsh. Salt marsh bird's-beak is a facultative hemiparasite (meaning it has its own green photosynthetic tissue and it can parasitize other plants to absorb nutrients and water); and it is capable of growing with or without haustoria (structures that absorb water and dissolved nutrients from other plant species).

Salt marsh bird's-beak in Carpinteria Salt Marsh population is threatened by the presence of European sea lavender (*Limonium duriusculum*), a non-native invasive species. The two species often grow near each other; and it is possible that the native endangered species parasitizes the non-native invasive species. The purpose of our survey was to determine the current population status of salt marsh bird's-beak and to prepare for development of a plan to eradicate European sea lavender. We were delighted to find 95 distinct groups of salt marsh bird's-beak, including 60 new groups that had never been recorded. We are looking forward to working on eradication of the non-native sea lavender in the coming years.



THANK YOU DONORS!

ISLAND FOX

Anonymous x2
Dave Anderson
Tanya Atwater
John Gould
Hank and Mari Mitchel
Dan Emmett
Page Hiller-Adams
Diane Quinn
Bill Burke
Ken Owen
Karen Telleen-Lawton
Darlene Chirman

ISLAND IRONWOOD

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Maria & Stephen Black
David Chang
Troy Finger
Barbara Hale
Lillian Lovelace
John Shaheen
David Telleen-Lawton
Phil White

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Terry Remick
Burt Romotsky
Travis Root
Scott Schreiner
Doug Singletary
Sabina Thomas
Kathy Van Slyke
Noel Van Slyke
Linda Windsor
Julie Wood

MEMBERSHIP LEVELS & BENEFITS



ISLAND SCRUB JAY - \$40

Individual invitation to Spring Membership Picnic
Invitation to CIR hike with natural history experts
15% discount on CIR merchandise
CIR E-Newsletter and CIR sticker



SILVER LOTUS - \$75

All Island Scrub Jay Benefits
Channel Islands Flora & Fauna Field Guide
\$15 discount on one Natural History Tour of choice



COAST GOLDENBUSH - \$100

All Silver Lotus benefits
An invitation for two to the annual CIR Social
Personalized CIR Name Badge
A choice of a CIR embroidered cap or cotton t-shirt



ISLAND IRONWOOD - \$500

All Coast Goldenbush benefits
Two spaces on an invitation-only CIR Natural History Day-Trip



ISLAND FOX - \$1000

All Island Ironwood benefits
An invitation for two to our exclusive VIP Banquet
A complimentary space on a CIR Natural History Trip of your choice

Channel Islands Restoration

928 Carpinteria St #3

Santa Barbara, CA 93103

cirweb.org | contact@cirweb.org | (805) 448-5726

