



THE ISLAND INSIDER

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EAST ANACAPA ISLAND

JANUARY 13, 2017

Anacapa Island is more a chain of islets rather than one large island and because of this, it has a high ratio of coastline to interior. This expanse of ocean bluff and coastline provides critical and/or important habitat for seabirds, marine mammals, and a number of rare plants. The island boasts sixteen plant species that are found only on the Channel Islands, two of which are unique to Anacapa, and the largest breeding population of the formerly federally endangered Brown Pelicans (*Pelecanus occidentalis*) in California. Anacapa Island is an important breeding location for the Scripps's murrelet (*Synthliboramphus scrippsi*), one of the world's rarest seabirds, and the ashy storm-petrel (*Oceanodroma homochroa*), a California Species of Special Concern.

One of the largest threats to the island has been the dominance of non-native ice plant. Since the era when the Coast Guard ran the lighthouse, most of the island had been covered by ice plant, pushing available seabird nesting habitat to the fringes of the island. In 2012, the park superintendent set a goal to eradicate all of the red-flowered ice plant by the National Park Service's centennial in 2016. Channel Islands Restoration has been a key player in ice plant eradication since the goal was set in 2012, and with the help of hundreds of volunteers, we've made a huge impact. Today, the vast majority of the red-flowered iceplant has been removed, but there's still work to do and CIR and its many volunteers are stepping up. We have worked to fill the bare open space with native plants such as gum plant, marsh Frankenia, giant Coreopsis and many others. We are also currently working with the NPS and the California Institute of Environmental Studies to replant native habitat on the bare slope northwest of the lighthouse. Unsurprisingly, seabirds have already shown a strong preference for native habitat and the island seems to be alive with life.

Our work on Anacapa Island has been a major conduit to advance our mission to educate grade schoolers about our natural world and the importance of native habitat. One such recent chapter in this ongoing story was our work with Pacific High School in Ventura.

After multiple delays due to weather and stormy seas, Pacific High School was finally able to make it out to East Anacapa Island with Channel Islands Restoration staff and the NPS Interpretive Staff. The trip was one of the most extraordinary trips to Anacapa that we've ever been on, and we expect that it will leave a lasting impression on everyone involved.

Upon cresting the 154 (± 3 depending on who you ask) steps to get onto Anacapa Island, our arrival was greeted by hundreds if not thousands of western gulls in flight overhead, and a certain few of the group were



exceedingly happy to have worn a hat that day.

After a brief introduction over lunch, we let the high schoolers loose on the ice plant, and with all of the enthusiasm that any high schooler can muster, they leapt at it. Now that's not to say that they weren't effective. Quite the contrary, really. It's hard to estimate just how much ice plant was pulled. However, for reference, at the end of the day, it took two people about 15 minutes of shoveling iceplant out of the back of a truck bed to discard it all in the solarization mound. It was a lot.

At the end of the work day, most of the students wanted to go for a hike out to inspiration point, and the others were forced to do the hike anyway (which they later appreciated of course). We hiked past restoration sites from years' past to find new Coreopsis growing up beneath the blanket dead iceplant spurred on by the recent rain. With the recent rain having cleared out the air, the views of the mainland were spectacular and storm clouds on the southern horizon gave an awe-inspiring sense of depth and scale.

The day was capped off with some whale watching - a pod of 10 grey whales heading west into the sunset, their tail flukes seeming to wave us off with their thanks.



HOW RAIN AFFECTS RESTORATION

The Central Coast has received a record-breaking deluge of rainfall – with over 4 inches of rain on February 17th alone. Any weather event will bring change to an ecosystem, whether it is drought, frost, fire, or rain. By now we've been well acquainted with how our regional ecosystems have responded to drought and fire. The invasive annuals have died back quickly, leaving dormant natives to stand alone through the sun and heat to provide shelter to the wildlife. Wildfires like the Zaca Fire cleared away any sign of life along that stretch of the 101, but now the ecosystem has been reset, and quick growing pioneer species are taking their chance to grow while the slow growing and hardier shrubs patiently reestablish their dominance. But how does rain impact our ecosystems and our attempts to restore it? After so long, the memory of rain seems hard to fully recall, like a mirage that shimmers and dissipates as we further investigate it. Luckily this year has given us a crash course to remind us.

With the rain arises a new array of benefits and obstacles. Much like the harsh drought helped eliminate poorly-adapted invasive species, yet made the establishment of new natives difficult; rain offers a gradient of impacts.

Rain, of course, helps plants grow - this is hopefully not new information - yet after a rain, it's often a race for seeds and dormant plants to grow and take up more sun and nutrients than the plants around them. Unfortunately, many non-native invasive species are highly adapted to responding quickly and growing much faster than their native competitors. At Hammond's Meadow in Montecito, CIR staff have been battling wave after wave of invasives that spring up after each rain. We're working to maintain what's known as a "Grow-Kill" cycle, to deplete the invasive seed bank as we apply for permits to restore the property. After each rain, we must respond quickly and cull the new growth before they can flower and go to seed, and we've been using a number of organic known weed killers like oils from orange peels, cloves, and cinnamon, in addition to directly cutting the weeds with a scythe. However, once natives are able to establish themselves, they are able to maintain their dominance over the invasive weeds because most of our native plants live year-round and simply go dormant in droughts, but spring up in response to rain without having to build new root structures. A number of our project sites have responded exceedingly well to the recent rains.

On East Anacapa Island, volunteers and CIR staff have been working hard to eradicate ice plant and replace it with natives. As discussed above, if we can plant natives in place of removed invasives, it will help prevent the invasives' reestablishment. On the western end of East Anacapa Island near Inspiration Point, CIR put a lot of work into eradicating ice plant and planting coreopsis among the dead ice plant. Unfortunately, our timing was not ideal as we planted four years ago, ahead of a four year drought. It was thought that the coreopsis would die off and the project would be deemed a failure, but on a recent trip out to the island in January, we found tiny coreopsis plants pushing their way up through the net of dead iceplant. Needless to say, we're incredibly happy about this.



Giant Coreopsis (Leptosyne gigantea) peaks up from beneath the dead ice plant after a little help from the early January rains.

Additionally, the rains have vastly helped in the establishment and maintenance of newly planted restoration sites in areas like Burton Mesa, San Nicolas Island, and the San Marcos Foothills. Rather than devoting time and resources to getting out and ensuring the plants have the water they need to establish themselves enough to survive a drought, we can put our focus on establishing new restoration sites.

However, the recent torrential rains have had much more of an impact than just allowing plants to grow. For quite some time now, we've been working to survey for, and eradicate tamarisk along the Sisquoc River. Yet as we plan a date to head out with the mule team from Los Padres Outfitters, each time our plans have been canceled due to rain and we've had to reschedule. Rescheduling is one thing, but on a much more devastating scale, these rains have led to floods.



Sisquoc River in February of 2017.

Anyone that regularly receives and reads our emails will know

that we've been fortunate enough to do a lot of work on San Nicolas Island. We've accomplished a lot out there, with over 30,000 plants grown on the island for various purposes - one of which has been to reconstruct habitat for the threatened island night lizard, habitat that they have already begun to use. It's with these accomplishments in mind that we can accept without too much frustration that the torrential downpour washed one of our newly planted wetland restoration sites to the sea.

As the recent weather events have demonstrated, ecosystems are dynamic and constantly changing, and there are seldom perfect conditions for habitat restoration. Critics of restoration often cite that if native habitats are well adapted to the regional climate and ecosystem, then we should not interfere and allow nature to take its course in returning the ecosystem to its native state. While this sounds good in theory, it is not that way in practice. Ecosystems can exist in multiple stable states that resist change. Originally, our native ecosystems would have been able to resist encroachment from invasive species, but with European induced disturbances like land clearing, grazing, logging, or road-building, the balance of our native ecosystems was tipped and novel invasive species were quick to fill the spaces due to the lack of natural bio-controls for such species. Conversely, to restore habitat to their native stable states requires effort to overcome that threshold. This means clearing invasives, and watering natives so that they can take root, and controlling erosion, and putting up barriers to grazing around new plants. These things are not done because our native plants are not adapted to drought, rain, fires, or herbivory, but because proactive work is needed to push the ecosystem out of the invasive state and into the stable native state.

Just as we've done habitat restoration through the drought, we'll also continue through any amount of rain. Part of restoring habitat is learning to work within the wide range of ecosystem dynamics. It's learning to manage the unmanageable. It's acknowledging that rain or shine, it's always a good day for habitat restoration.



SEEDING THE CLOUDS

BY GUEST AUTHOR BRYAN SNYDER

By mid-afternoon on Santa Rosa Island, the winds reached gale force. 50mph gusts tore through our work site in the cloud forest, throwing grit in our eyes faster than our tear ducts could remove it. Still, we labored to the best of our ability, working to retrofit a series of erosion control barriers beneath the island oaks before the sun set behind San Miguel Island to the west.

I'd been expecting this. The winds that fly above the Pacific waves and course through California's Channel Islands can be intense, especially at upper elevations. As our project was situated fifty feet below the highest point on Santa Rosa, a little turbulence was unsurprising. Still, I was relieved as anyone when the call was made to retreat to the vehicles and return to staff housing. It took several minutes inside the truck before the wind-induced tension began to drain from my body. We were all a little dazed. With luck, calmer weather would reach the shores of the island by morning.

Our efforts were worthy, and badly needed. [Santa Rosa Island native plant communities were negatively impacted by non-native ungulates introduced during the ranching era from about 1850s though 1990s.] The sheep chewed native plants down to the roots, and subsequent rains washed the exposed soil into the ocean. Although the worst damage had been done, cattle, elk and deer continued to degrade the landscape into the 21st century. Forests of oak and chaparral dwindled to isolated groves atop otherwise barren ridge lines. The island was purchased by the National Park Service in 1986, [and the last of the non-native ungulates were removed in 2011].

But there were contradictions in the recovery process. Scant rain falls upon the island, and the trees and shrubs that used to grow atop the ridge lines gleaned most of their moisture from fog, which condensed on the leaves and dripped down into the soil. Before ranching [changed] the ecosystem, this condensation produced enough groundwater to cause streams to flow at the base of the mountains. Today, there wasn't enough vegetation to collect fog and dampen the soil. And if the soil wasn't damp, vegetation couldn't grow on the barren hillsides. To break the contradiction, humans had to step in and jump-start the natural processes of healing. That's where we volunteers from Channel Island Restoration came in.

[With housing and transportation provided by NPS funding] a small group of us helped for four days to build dams across gullies to trap sediment and reduce erosion. We worked beneath the shade of the few island oak trees to survive the livestock hordes of the 19th and 20th centuries. Vast quantities of soil had eroded away from underneath these ancient specimens, leaving them standing on stilt-like roots above crumbling bedrock.

Our dams would hopefully fill with soil during rainstorms and be watered



Coyote bush (*Baccharus pilularis*) is planted between fog drip netting and erosion control waddles. Coyote bush is a hardy and resilient plant making it an excellent candidate for early restoration succession.



continuously by droplets of condensed fog from the oak branches overhead. Then new plants could finally grow within the cloud forest. Until the dams filled completely with sediment, the mesh fabric lining the barriers would also serve as artificial fog collectors, pulling moisture from the clouds and helping nurture seedlings during their first years of existence.

[Channel Islands Restoration received generous funding from the National Park Service to cover the cost of equipment, supplies, housing, lodging, and staff time. Because restoration is expensive the need for volunteer assistance is critical and greatly appreciated]. By using unpaid volunteer labor along with leftover staples from past projects, t-posts from old fencing and discarded eucalyptus logs, the managers were able to get these dams built and give the cloud forest a chance to recover before the majestic trees were lost forever. I was happy to do my part. In effect, I was helping make amends for my ancestors' mistakes, just as my descendants will undoubtedly work to repair damage from my unwitting errors.

For our efforts, we were given time to explore the east side of the island, including the grove of Torrey Pines – a subspecies found nowhere else in the world. The hillsides within the forest were carpeted with a smooth blanket of needles, which allowed the spherical pine cones to roll down the hill unchecked and collect by the thousands in depressions and gullies. Thankfully, the native mice seemed to be successful in helping the species expand its territory by planting seeds in the grasslands above the grove. Five-foot saplings dotted these adjacent slopes, which helped me feel more optimistic about the resilience of the island.

Part of me wished that twenty years could flash by in a heartbeat so I might witness the results of our efforts in the cloud forest. I am often disheartened by the impact our species has had on the planet, from habitat destruction to the altering of our very climate. To maintain hope, it helps to see evidence of recovery, for it nurtures my belief that poor decisions made for short-term gain can sometimes be healed and forgiven.

Such evidence swam by our boat as we crossed the Santa Barbara Channel on our way back to the mainland – a blue whale. Whaling had reduced the population of these leviathans by over 99% during the 20th century, but now their numbers were unquestionably rising again. If the largest animal in Earth's history could mount a comeback, then something as big as the hydrology of an entire island stood a chance of recovering as well. I chose to dwell on that thought as the beast exhaled a great burst of air and mist, then slid out of sight once again into an ocean lit by the last rays of a November sun.

To find out more about Channel Islands Restoration and how to become a volunteer or supporter, visit cirweb.org.

For more of Bryan Snyder's stories and photographs, visit www.offthemapbooks.com or www.facebook.com/offthemapbooks.

This article was revised by CIR staff in collaboration with National Park staff to ensure accurate facts and proper representation.



Mosses, lichen, and other water loving organisms thrive beneath the canopy of the Island Oaks.

DONATE TO CIR DURING MATCHING MAY!

How much is healthy habitat worth to you? How much would you pay to create native habitat locally? Right now, you have a chance to double your impact during our May Matches. Through the month of May, your donations to CIR will be matched dollar-for-dollar, up to \$6,000. Every dollar donated to CIR is an investment in our local habitat restoration efforts, and with our proven record of success, you can be confident in your return on investment.

With federal funding and grants becoming increasingly difficult to attain, a handful of donors have responded to this and have come together to create a pool of \$5000 to match every incoming dollar donated. To express the importance of your donation right now, CIR's own Executive Director, Ken Owen, has pledged \$1000 from his own salary to contribute to this pool. Your \$35 donation becomes \$70, your \$100 donation becomes \$200, and your \$1000 contribution becomes \$2000.

You can be confident in your investment, as CIR has a proven record of success. Since your beginning, we've worked in more than 90 project sites throughout the Channel Islands and our local mainland with the help of nearly 10,000 individual volunteers (2300 of which are students from schools that would not otherwise have access to field trips or environmental education). With so much support from volunteers in our community, we're able to stretch your dollar to the farthest possible extent. Until now, CIR has been able to stay afloat with the support of less than less than 200 individual donors since our start, but with our outside funding becoming increasingly scarcer, we need your help.

There's never been a better or more important time to donate than right now, during Matching May. In addition to the match, your donation will give you access to the tiers of donor benefits, which includes things like invitations to private parties, t-shirts, discounts on natural history tours, our sincere gratitude, and of course our membership picnic on Sunday, May 21st!

DONATE NOW AT CIRWEB.ORG/DONATE

CHANNEL ISLANDS RESTORATION

928 CARPINTERIA ST #3
SANTA BARBARA, CA 93103

CIRWEB.ORG

CONTACT@CIRWEB.ORG

(805) 448-5726