



Ecological Concerns Inc.

Restoring the habitats that sustain us

and
Central
Coast
Wilds
Nursery



Popular Articles

Summer Sales

Summer Maintenance Tips

Mapping Rare plants

Hawai's Invasive Problem

Coyote Watershed

Summer Solstice is upon us and we are in full swing at the nursery and in the field. We are trying out a new format for our quarterly news-letter, one that highlights the different aspects of our work:

design, grow and build. Let us know how you like it, and more changes are in store for the Fall edition.

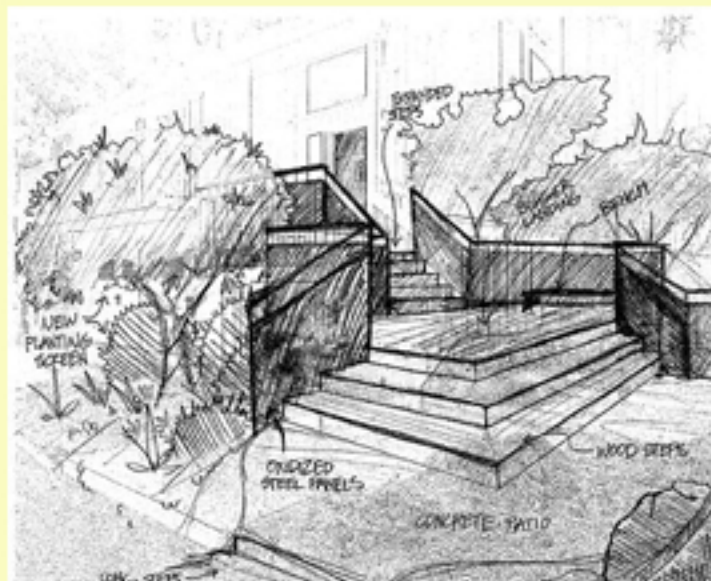
-- Josh Fodor

"Our mission is to nurture ecological relationships, cultivate community partnerships and build sustainable business practices in order to protect and restore biological diversity."

DESIGN

In the Works: Ecological Landscape Design

An ecological landscape in Aptos is under design. ECI designer Dakotah Bertsch is working with a local resident to redefine a more welcoming front entrance. There are several layers to the design which include large boulders and three different habitats. The three habitats are oak woodland, coastal prairie and coastal sage scrub. The property owners goals are to improve native habitat while creating a beautiful seasonal garden with several varieties of flowering perennials. There are a few large Eucalyptus that will be removed to give light to a small grove of shaded Coast Live Oaks. Once removed, the Oaks will thrive along with their symbiotic under story plants.



GROW

Oak Woodland Perennial Native Grasses

Oak Woodland Perennial Native Grasses: a supplement for your understory groundcover. Blue Wildrye (*Elymus glaucus*) and California Brome (*Bromus carinatus*)

These delicate bunchgrasses grow well in and on the edges of the oak woodland understory. Their tall, slender flowering heads catch the gentle breezes between the morning fog and afternoon sun, glinting in the dappled sunlight. In the garden landscape, these small tufts of perennial grasses provide gentle visual stimulation between more prominent oak understory species, such as *Epilobium canum*, *Ribes sanguineum*, and *Salvia spathacea*.



Elymus glaucus



Bromus carinatus

Plant these TreeBands (2.25" square x 5" deep) 6-12 in. apart to create a substantial groundcover.

On SALE at 50 cents each!



Employee's Favorite Trails

Fall Creek Trail is a few minutes up Felton Empire road.

Great place to learn about native plants, not to mention mosses and liverworts!

There's a steady walk past the gnarled roots of big river-rooted redwoods up to a wide clearing where the Fall Creek slows its steep descent from Bonny Doon.

This time of year, you are greeted with the a gentle breeze through the tops of the Big Leaf Maple trees, the soft buzz of a great variety of insects pollinating the riverside species, and whispers of history emitting from the old limekiln up there.

Summer Native Maintenance

- Deep Watering Techniques

Take the time to water the roots systems deeper and let them dry out between watering. This lets the roots grow deeper and stronger.

- Fire Safety Gardening

Living and gardening near wilderness can have its threats of wildfires. Remove unnecessary deadwood and yard litter. Plant a large portion of the surrounding landscape with lower growing plants.

Great link to Fremontia issue on Native Plants and Fire Safety

- Lawn Solarization

The best time of the year to remove your lawn by solarization is during the heat of the summer. After about a month of being under the clear plastic, your water loving lawn will be dead and easy to remove. You can then plant a great garden of perennials, annuals and veggies.

- Pinch Back and Prune

Keeping your flowers blooming and evergreens greening. It is always good to lightly prune your garden during the summer months. They are hopefully still growing strong from the spring rains.

Navy Supports Rare Plant Survey

Military bases often provide refugia for rare plants, when the surrounding lands have been converted into housing, industry, recreational or agricultural fields. An example of this occurs here on the central coast, in Monterey, where U.S. Navy property supports several rare species, including Yadon's Rein Orchid and Monterey Spineflower. Ecological Concerns Incorporated was recently hired to take on the project of mapping these rare taxa.

Yadon's Rein Orchid (*Piperia yadonii*) is a federally endangered species described by James Ackerman and Santa Cruz' esteemed botanist, Randall Morgan, and was named for Monterey's prodigious plant finder, Vernal Yadon. It is only found on the Monterey peninsula and in Manzanita Park, in Prunedale. It grows only in association with maritime chaparral, Monterey pine forest, or Monterey cypress forest. Needless to say, these coastal habitats are also favored by humans and their bulldozers.

Monitoring a population of Yadon's *Piperia* presents a fun puzzle. Confounding attempts to count the individuals in an occurrence are several facts:

- It grows from small tubers, some of which lie dormant, in any given year
- Most plants do not bloom in any given year, even if they do produce leaves
- Its leaves have withered away by the time the flower spikes appear
- Flowers are needed for positive identification



Yadon's Rein Orchid in Flower



Can you count the 7 rare orchids in the photo?

Thus a cyclical treasure hunt begins, starting by mapping and counting the leaves in the spring, (in this case), and then returning in the summer to look for flower spikes. Numerous other native orchids have nearly identical leaves, so the flowers must be found, and their associations with the earlier leaves worked out. The resulting GIS maps, and the counts of individual Yadon's *Piperia* plants, will help land managers track the populations over time, and to make decisions to protect the areas where this rare orchid grows.

Monterey Spineflower (*Chorizanthe pungens* var. *pungens*) is a local endemic plant species that is federally threatened. With the exception of an outlier population in Soledad, in the Salinas valley, it grows only near the coast of Monterey Bay, on sand dunes, and in maritime chaparral. You can visit the pink prickly mats blooming in May at Marina Dunes State Park, at Point Lobos, or in Moss Landing.

These annual plants hug the ground, and can grow so densely intertwined that it is hard to tell one plant from another. The tiny flowers are borne in a trumpet-shaped involucre with spiny hooks around the edge, which you will notice if you sit on one! This will help disperse the seeds, if you sit on another sand dune with appropriate growing conditions.



Monterey Spine Flower in sand grains

Monitoring Monterey Spineflower typically takes place in May, when the plants are in full bloom. It resembles several other spineflower species, so flowers are necessary for positive identification. When surveying in the shrubs of maritime chaparral however, one should not focus one's attention too closely on the flowers, because rattlesnakes share the same habitat. Monterey Spineflower is often found growing around the edges of manzanitas, in the areas "tended" by rabbits, which eat the plants that would otherwise compete with the small spineflowers. Likewise, the harsh conditions of blowing sand and low nutrition found on a coastal dune eliminate competing vegetation, allowing space for the spineflowers to flourish.

Mapping Monterey Spineflower is fairly straightforward task, utilizing either a GPS unit, or aerial photographs. The resulting maps of the area recently surveyed for the U.S. Navy will provide a baseline of data, showing locations and densities of *Chorizanthe pungens* var. *pungens*. This information can be compared with future survey results, and help provide guidance in the management of an ephemeral annual rare plant species.

Central Coast Wilds Volunteer on Invasive Species in Hawaii

Dana Crompton is a volunteer at Central Coast Wilds. She joined the nursery crew after moving to Santa Cruz from Hawaii where she was involved with research that mirrored aspects of the habitat restoration work Ecological Concerns Inc is involved with."

Please enjoy her article below:

Invasive species are one of the greatest threats to biodiversity worldwide, and in Hawaii the impact has been catastrophic.

Because island species evolve in the absence of many predators and competitors, they can lose their protective adaptation, e.g., some bird species lost the ability to fly and some plant species lost mechanisms such as thorns that prevented damage due to herbivores. As a result, many Hawaiian species are especially vulnerable to alien species introductions and can be easily

out-competed. While in Hawaii, I developed an understanding of the importance of native species conservation for ecosystem health and biodiversity. I returned to Santa Cruz with these values and want to help conserve and restore native plant communities in this area. By volunteering with Central Coast Wilds, I am able to learn about California species and how to care for them, as well as make a contribution to the local environment by helping to propagate native plants!



BUILD

Federal Stimulus Money Reinvested into Coyote Watershed

Ecological Concerns' crews have recently started work on the Lower Silver Creek Reach 5 project. Silver Creek is located in the Coyote Watershed, a 322 square mile area into which sixteen major creeks drain. This vast watershed extends from Morgan Hill, through San Jose, and into Milpitas.



The creek before construction

The project is the fifth installation of six the goals of which are flood protection improvements, water quality improvements, and enhancement to stream habitat and fisheries. Plans were begun in 2002 and in 2009 the project was deemed "shovel ready." The Santa Clara Valley Water District teamed with the California Natural Resources Conservation Service to secure federal stimulus funding through the American Recovery and Reinvestment Act. ECI is installing irrigation systems and revegetation for the riparian and wetland portions of Reach 5. A few of the over 25 species of California natives being planted are *Rosa californica* (California wild rose), *Aesculus californica* (California Buckeye), and *Leymus triticoides* (Creeping Wild Rye). When complete, there will be over 1,300 new plants improving water quality for the area.

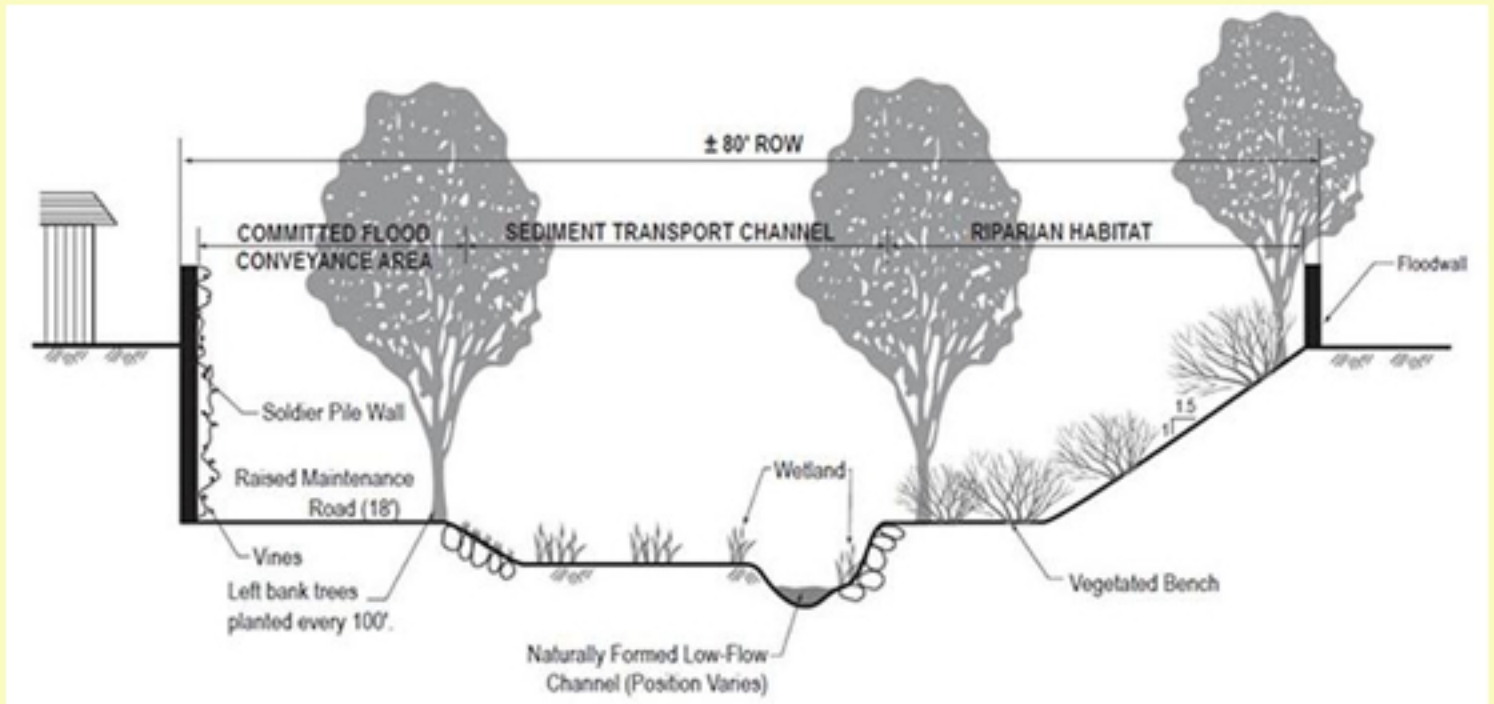


Choked creek



Coyote Watershed from Morgan Hill To Milpitas

Lower Silver Creek runs through a heavily urbanized area of San Jose. The creek had been squeezed into a narrow area because of the cities rapid growth. The result was frequent flooding causing severe damage to nearby homes, businesses and industrial complexes. Thirty six hundred homes and businesses will benefit directly from these structural and environmental improvements. When complete, 3.4 acres of urban wetland habitat and low flow channel for fish passage and 6.3 acres of riparian plants will have added shade, habitats and creekside aesthetics.



Architectural drawings of the creek after construction

Summer Events

Saturday, June 22nd

The Garden Faire is a free-admission, educational event focusing on benefits of organic gardening and sustainable, healthy living. It will include garden goods and materials, plants and services, plus speakers, presentations, food and beverage, live music and activities.

9am to 5pm, in Scotts Valley's Sky Park

Summer Saturday at the Santa Cruz Natural History Museum

June 22nd through August 10th

The family summer series offers arts, crafts, story telling, games and live animals.

Kids and Museum Members: FREE

Thursday, June 27th or Friday, June 28th

Botanical Skills Workshop hosted by The Arboretum at UC Santa Cruz

Learn a basic working knowledge of plant taxonomy, tree morphology, and how to use the best resources to accurately identify trees and maintain lists.

Tuesday, July 16th

Ocean Friendly Garden Program Discussion

Sarah Mansergh, the Co-Chair of the Surfrider Foundation, will be speaking to industry insiders about their program that has been implemented this throughout the US, mostly in San Diego.

Between 4 and 5 PM at Ecological Concerns, Inc., 609 Pacific Ave. Suite 101, Parking in Rear.

Thanks for reading! Don't forget Ecological Concerns and Central Coast Wilds for any of your garden, consulting or landscape needs. We are full service, DESIGN - GROW - BUILD, ecological landscape company.

Please email me for any questions or inquiries.

Sincerely,
--ECI

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