



**Ecological Concerns Inc.**  
*Restoring the habitats that sustain us*

Along with  
Central  
Coast  
Wilds  
Nursery



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

## DESIGN

### Achieving Net Zero Water Use

Net-zero water use is a tangible strategy for creating integrated systems that minimize the impact of our landscape designs on precious water resources. There are typically three sources of water available on a property: potable (municipal) water, rainwater, and graywater. Potable water is energy intensive to collect, treat, and deliver, and the environmental repercussions of its extraction can be devastating. Rainwater is delivered directly to the site free of charge and can often be employed for potable uses.



Net-zero water use in this context refers to the efficient use of rainwater and graywater onsite, such that the demand for potable water is reduced or eliminated altogether. According to Bobby Markowitz, the heart of net-zero is a simple equation: make demand equal supply. "That's how you get to net-zero."



In order to do this, the designer must quantify all sources of water and all water losses occurring on the property and then design an integrated water management system that captures water and uses (and reuses) it in the household and landscape.

"The first thing I look at is calculating roof runoff," said Markowitz, "then I consider storage capabilities." The amount of rainwater that can be harvested from a building can easily be calculated by multiplying the area of the roof by the average amount of rain for the region (adjusting for units of course). The same is true for any impermeable surface that water can be collected from. Following that, above and below ground storage opportunities such as tanks and cisterns can be investigated.



While it may not always be possible to achieve net-zero water use at a site, it is certainly a worthy goal to make the most of our precious water resources. Furthermore, looking closely at the numbers and thinking of the landscape as a component of an overall water equation provides a pragmatic and powerful tool for quantifying the landscape's role in sustainability. It is also an opportunity to expand the role of the designer, as net-zero residential water use requires the integration of landscape architecture, architecture, and the various trades. Increasing water scarcity, like global climate change, needs to become a rallying point for the various disciplines to come together and look at projects as holistic systems that are connected to the broader ecological systems we all rely on.

Article by: Dakotah Bertsch, Landscape Architect

## GROW

### Seasonal Native Plant: Hollyleaf Cherry

#### ***Prunus ilicifolia* (Hollyleaf cherry, Islay)**

#### **Rosacea**

As the winter frost hits heavy this year causing many tender, fleshy plants to wither and brown, let's take a moment to appreciate our tough native plants and their ability to survive California's cold, wet winters and hot, dry summers. If you go for a hike through chaparral keep your eyes peeled for a very special example of a well-adapted California native, *Prunus ilicifolia* (Hollyleaf cherry).





*Prunus ilicifolia* (Hollyleaf cherry, Islay) with Fall fruit.  
Photo by: Derell Licht

Aptly named *Prunus*, which means "plum," and *ilicifolia*, meaning "holly-like leaves," this large shrub has tough, serrated leaves to resist desiccating in summer. The dark green foliage has a glossy shine and it persists through the winter to give us a lovely evergreen display for the holidays. Come April, it will be covered with bees busy gathering nectar from hundreds of little creamy white flowers arranged elegantly in racemes at the branch tips. By September, the bee's pollination pays off with a magnificent display of large red fruits. As they age, the fruit matures to black and birds and deer feast through October.

*Prunus ilicifolia* was called Islay by indigenous people. Native Americans supposedly used the bark and roots to treat colds. The fruit is edible and sweet if you avoid the sour skin and inedible pit. *P. ilicifolia* grows along the coast from Central California down to Baja California. It prefers well drained soil on the dry slopes of chaparral and oak woodland communities. In your garden, this large shrub (5-30ft tall and wide) can take full or part sun and requires very little water after establishment. *P. ilicifolia* is also frost tolerant to 0°F after the first year. It makes an excellent hedge and can tolerate shearing; however, it is slow growing. Plant it with faster growing



*Prunus ilicifolia* (Hollyleaf cherry, Islay) in Spring bloom.  
Photo by: Joe Decruyenaere



# BUILD

## Steven's Creek Restoration and Trail Improvements

Stevens Creek in Cupertino is in its second phase of restoration. The project was awarded to Robert A. Bothman Construction and ECI is working as a sub for the habitat restoration portion. ECI is no stranger to the Steven's Creek having completed the first phase of restoration with the Ferma Corporation. The first phase was completed in 2009 and this second phase is close to completion with perfect timing before the winter rains. Check San Jose Mercury News Story for the full scope of phase 2.

The Blackberry Golf Course to the right and Historical Stockmeir citrus orchard to the left. New cobbled rocks line the creek with fresh riparian plants along the banks.



The newly formed creek with the historic orchard in the distance.





## Winter Ecological Events

Wednesday, January 15 at 7 pm

UCSC Arboretum

Ray Collett Extraordinary Plants Lecture Series

Island Conservation - Reflections from the field; Tommy Hall will present a program on preventing extinctions by removing invasive species from islands.

December through January

Volunteer with California with California Native Plant Society.

"We are a volunteer group working to restore native habitat in the parks and protected lands in Santa Cruz County. Our program provides an opportunity for people to learn about the natural systems that surround them while helping to restore special and wild places." - CNPS, SC

January 13 - 14

California State University in Chico

The 6th botanical symposium hosted by Northern California Botanists. It will be held in the Bell Memorial Union on the campus of California State University in Chico. Optional botanical workshops will be held on Wednesday January 15. A 2-day schedule of presentations by working botanists will focus on climate change and will include sessions on Alpine Ecology, Rare Plants, Pollinators, Wetlands, Fungi, Horticultural Restoration, and New Discoveries.

Saturday, February 1 at 3 pm

Pacific Grove Natural History Museum

Talk: Serpentine, Ecology and Evolution on a Strange Soil

Find out about recent research on serpentine ecosystems from our speaker, Susan Harrison (Professor at U.C. Davis). She uses serpentine habitats as model systems for understanding whole-ecosystem responses to two different global changes: loss of biodiversity and elevated atmospheric carbon dioxide.

March 7 - 9

Santa Cruz Live Oak Grange Hall

3 Day Rainwater Catchment Workshop

This course provides attendees with knowledge for rainwater harvesting, both active and passive, design and installation for both outdoor and in-home rainwater use both potable and non-potable; and larger commercial systems, touching on stormwater remediation sanitation for potable uses; rules and regulations, guidelines and restrictions; business management; project planning; site and installation safety; and system construction and maintenance.

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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,  
CONSULT - DESIGN - GROW - BUILD - MAINTAIN,  
ecological landscape company.

Please email for any questions or inquiries.

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