EcoLandscape Quarterly
bringing landscapes into HARMONY with nature

EcoLandscape California's Newsletter
Vol. I, Issue 1, August 2009

Natural Landscapes

Mother Nature's Creative Genius

by David Roberts

Sweat bees are darting from flower to flower on the desert mallow while the Douglas iris are about to burst into bloom. Soon the redbuds are glowing red. YES…the first iris of the year! The sun reaches higher and penstemon burst into an array of soft lavender. Hummingbirds are rediscovering their territory and zip around with glee. Without hesitation, mimulus and lupine mix orange and blue. The sun keeps moving higher day by day and soon the sulfur buckwheat burst into their yellow glory. An increasing succession of insects fill the air above this array and nary a flower bud is missed. Tiger lilies burst from the shadows and orangy-red columbine spill over the wild ginger. Damsel flies are now dancing among the ferns. All this time the majestic oak is cautiously sending out leaves. The grasses are greening and the Dutchman's pipe vine moves from sending out incredible blooms to twirling stems and leaves.

What a glorious time out with nature. Can all this be so fleeting? Only the occasional weekend hike or a chance passing near a creek? NOT SO! This is the daily walk from the street to the front door. Retired neighbors on their daily trek, the mail lady each afternoon and anyone else passing by can enjoy this urban sanctuary for California native and Mediterranean plants. While admiring the blooms some comment, "Pretty, but not for me." Others ask how they can start changing their gardens. It only takes one garden in each neighborhood to start the revolution that will become the California landscape of the past and now the future. Landscapes that compliment nature, not tame it. Landscapes that will help us build a sustainable future that respects our bioregional sense of place.

The tipping point is near to making this the norm, not the exception. Faced with dwindling water supplies, the need to stop polluting our waters and soils and a desire to live in a healthier place, these changes will take many forms. First the technology of making what we have more efficient will be employed. Soon enough time will render old landscapes less appealing or in many cases, more expensive. And as the need for sustainable solutions become necessary, new landscapes will be more than the window dressing for a built structure. They will compliment nature and help the living system of the building and even become part of a food system. The possibilities are endless.

Summer heats up the landscape. Many of the plants have hunkered down for the hot, dry time to follow. But not all have given in to the heat. California fuchsias are showing off their blazing orange and red flowers, monarda has burst into purple bloom and sunflowers are in their glory.

Will we take Nature's lessons of survival and use them to make our lives better or will we fight to the bitter end to maintain a lifestyle that is unsustainable? Our gardens can be the beginning of a paradigm shift that allows us to make many other kinds of changes that will lead to a green lifestyle.

At last fall arrives. The cool that ensues invigorates the creatures of the garden. Winter will soon bring cold and wet. While some plants and creatures will take a rest, winter will be the new breathe of life the California landscape is waiting for. As we pass through the garden, we too can be inspired by this time of renewal … Or is this only a dream from a day spent with nature? ●

Dave Roberts is owner of Roberts Landscape and one of the founding members of EcoLandscape California.
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In this Issue

EcoLandscape CALIFORNIA

PRESIDENT'S LETTER

At one time, you would probably get booed out of the room if you were to suggest that the amount of turf in a landscape was excessive. Or that certain plants were invasive. Or that we should be emphasizing water conserving plantings. This is exactly how I felt at a meeting of stakeholders held in 2002 by the City of Sacramento to discuss street plantings. Today that same group of stakeholders are looking much more closely at water conservation, stormwater quality and even invasive plants. I may not have known it then, but EcoLandscape California was born that night. A few months later, four of us that were in that room were among a group that formed to create the first EcoLandscape Conference in 2004.

I began to realize that there was a great divide between those looking to balance nature and business and those looking to conquer nature through technology. Nevertheless, many of those who sought to preserve the status quo have begun to realize that we must find ways to balance our human needs with those of the natural world around us. Droughts, pollution, climate change and more have suddenly made our world more precarious. YES WE CAN look to nature to fix it. Ecological solutions begin with understanding and mimicking natural systems. Today the Board of Directors of Ecolandscape California is about to embark on a new initiative to make our organization a vehicle for change in the landscape industry. We hope to create tools and opportunities for landscape professionals that can help them stand above the crowd as leaders in the GREEN revolution. Every effort, large or small, will contribute to our success. We hope you will join us in this endeavor.

David Roberts
President, EcoLandscape California

David Roberts is the owner of Roberts Landscape in Sacramento. He was among a dedicated group of professionals that founded EcoLandscape California in 2003.

UPCOMING EVENTS/CALENDAR

Gardening Under Mediterranean Skies VII:

Lessons in Sustainable Gardening
A Pacific Horticulture Symposium
Oct. 3-4, 2009, Santa Barbara, CA

Edible Landscaping, the New American Garden

Seminar with Rosalind Creasy
Presented by APLD - Edible Marketplace
Oct. 25, 2009, Sierra II, Sacramento, CA

The River-Friendly Principle "Nurture the Soil"

Pesticide Applicators Professional Assoc. (PAPA) seminar
http://www.papaseminars.com/09_16_09_stockton.htm
Sept. 16, 2009, Stockton, CA

more events info – http://www.ecolandscape.org/eventsCalendar.html

EcoLandscape California Meetings

August 4, 2009 EcoLandscape California monthly meeting
6pm-8pm - Arden-Dimick Library Community Room
891 Watt Avenue, Sacramento - googlemap - join us!
September 1, 2009 EcoLandscape California monthly meeting and board meeting
6pm-8pm Arden-Dimick Library Community Room
October 6, 2009 EcoLandscape California monthly meeting
6pm-8pm Arden-Dimick Library Community Room

River-Friendly Landscaping Principles

A Healthy Soil Food Web – key to a healthy landscape

by Steve M. Zien

'Nurture the Soil' is one of the 7 Principles of River-Friendly Landscaping

Since the 1940s, traditional farm and landscape practices have emphasized feeding plants with synthetic fertilizers and pesticides. Now many landscape professionals understand that the addition of organic matter creates a healthy *soil food web* full of life. This *soil food web* includes organic matter, roots, live microorganisms, nematodes, arthropods, earthworms, higher level predators and vertebrates. A healthy *soil food web* supports healthy plant growth and promotes pest and disease resistance. While synthetic fertilizers stimulate robust top growth, the salts in synthetic fertilizers harm beneficial soil organisms.

The real gardeners who are responsible for creating a favorable environment for plant growth are the members of the *soil food web*. They create soil structure, which improves water, root and nutrient movement. Nutrients converted into forms plants can utilize are placed right next to the roots at rates required for healthy plant growth. Chemical imbalances, toxicities and deficiencies are buffered and pests are discouraged.

A teaspoon of healthy soil contains up to 1 billion bacteria that act as nitrogen factories fixing nitrogen from the air and liberating it in their decomposition of organic matter. Secretions known as microbial gums glue sand, silt and clay particles together, creating soil structure. Plant growth hormones are produced and diseases are suppressed. Fungal hyphae (root-like structures), the vast majority of which are beneficial, tie sand, silt and clay particles together to form structure. In decomposing organic matter, they make nutrients available and contribute to disease and pest suppression.

Miles of threads of mycorrhizal fungi found in a thimble of soil form a symbiotic relationship with most higher level plants. This relationship dramatically improves nutrient and water absorption. Even plants growing in deficient soils where mycorrhizae are present, are better able to absorb nutrients and moisture, allowing them to thrive and out-compete weeds that do not form this beneficial association.

Our role in the *soil food web* is to encourage a healthy, diverse soil community by allowing the organisms to feed the plants and provide pest protection. They're just better at it. We can help by eliminating the use of synthetic fertilizers and pesticides. Manage the physical components of the soil by always keeping it covered with an organic mulch or living plants. Irrigate deeply and infrequently, applying moisture over the mulch to create an environment suitable for soil organisms. Take a soil test and fertilize using natural, organic sources to bring our nutrients into balance. And most importantly, add organic matter in the form of quality compost or earthworm castings, which provides a food source for the *soil food web* while contributing to the diversity of life.

Continued on page 4

Featured Plant

Saving Our Native Oaks

by Vicky Bartish

"The symbolism – and the substantive significance – of planting a tree has universal power in every culture and every society on Earth, and it is a way for individual men, women, and children to participate in creating solutions for the environmental crisis."

~ Al Gore, Earth in the Balance

It is difficult to write new things about oaks, for they have fascinated humanity since the beginning. They were sacred to Zeus and Jupiter; the Druids revered and worshipped them—I think with good reason. Their size can be humbling and their longevity is legend. They stand for dignity and loyalty and strength.

So why then are the native oaks disappearing? Severe droughts and global warming are having adverse effects on the oaks, but unfortunately man has been their worst enemy. Many oaks have been removed in the process of developing land. In many cases the only remaining oaks are what must be left by law and seedlings are replanted to replace the magnificent, often ancient trees. These seedlings or small nursery trees often die. Some are planted badly or irrigated in ways that cannot begin to address their needs or are essentially abandoned.

There are landscaping designs that are damaging to the health of the oaks. Walls are built around them. Grades are changed and sometimes part of the root system has been destroyed. Root crowns are often buried under many feet of fill soil and debris, or even thousands of pounds of boulders, which crushes, bakes, or smothers the roots, causing fatal results somewhere in the future.

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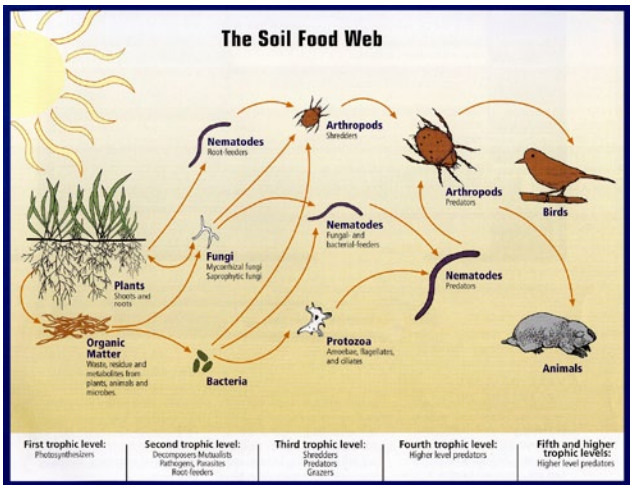
Soil Food Web *continued from page 3*

Another important thing is to minimize cultivation, which destroys soil life and encourages weeds. Apply organic matter and organic fertilizer to the soil surface and allow rain, irrigation and the soil biology to move the nutrients into the soil. When larger amounts of organic matter are desired, apply numerous light applications over the soil surface.

Nurturing the soil creates a healthy *soil food web* and vibrant, pest-resistant plants, while contributing to most of the River-Friendly landscape principles. A more diverse *soil food web* means more wildlife in the soil. A healthy *soil food web* enables water and nutrients to move into the soil, reducing runoff and leaching and improving water quality. Mulch and added organic matter reduce the need for irrigation, and conserves water. Fewer trips to the landfill and reduced pumping of irrigation water help conserve energy. Finally, recycling green waste as mulch reduces inputs to the landfill. Managing a healthy living *soil food web* is the key to growing healthy, pest-resistant plants. ●



Steven Zien's Living Resources Company has been providing organic horticultural and soil testing services in CA's Central Valley for over 30 years. Contact: bugs@organiclandscape.com www.organiclandscape.com

What's New in Research?

Buffalograss: Promising Cultivars for Sustainable Landscapes

by Chuck Ingels, UC Cooperative Extension, Sacramento County

Conventional turfgrass generally requires substantially more water and fertilizer than drought-tolerant landscape plantings. Also, frequent mowing and hauling away clippings use large amounts of fuel and produce greenhouse gases. However, alternative turfgrass species are now available that require less water and nitrogen, produce less biomass, and may require far less mowing. In research at UC Riverside[1], 24 species and varieties were tested using deficit irrigation (50% ET) and reduced fertilization (1 lb. N/1,000 sq. ft./year). The grasses that performed better included varieties of buffalograss, Zoysia tenuifolia, saltgrass, Sporobolis, blue grama, and Bermudagrass.

One of the most promising species is buffalograss, a US native, which has a far lower water requirement than fescue lawns. Two varieties show particular promise in California: Legacy and UC Verde. Legacy® exhibits improved color and soft, narrow blades making it suitable for lawn activities. UC Verde® was released by the University of California and is especially well suited for hot interior valleys. Both of these varieties are planted by plugs, and they produce little or no pollen. They are low growing (Legacy 3-5" tall, UC Verde 4-6" tall), with a minimum mowing interval of 2-3 weeks, or as infrequently as once a year.

The main drawback of buffalograss is that it has a dormant period, which starts about late November. UC Verde does not go fully dormant, and comes out of dormancy about 4 weeks earlier than bermudagrass. It can be over-seeded with ryegrass in November, or "painted" green with turf colorant (organic products are available).

Research conducted at sites in Nebraska, Kansas, and Utah determined nitrogen rate and mowing height effects on buffalograss[2]. For all cultivars tested, a minimum annual rate of 2 lbs. N/1,000 sq. ft. sustained quality, color, and density. Doubling that rate improved quality but also resulted in the highest clipping yields, but grasscycling would reduce the amount of fertilizer needed. Data from this study supported a mowing height recommendation for turf-type buffalograss of 2-3".

The standard irrigation recommendation for cool-season turf is 80% of ETo and that for warm-season turf is 60%, so cool-season turf requires about 33% more water. Research in New Mexico showed that the total seasonal irrigation required to produce acceptable

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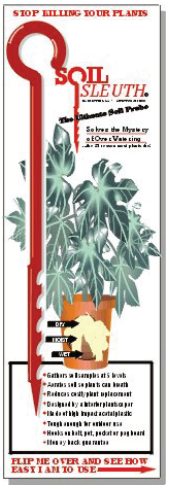
Eco Tip!

The Soil Sleuth

by Cheryl Buckwalter



Because I believe in "interactive landscaping" (the opposite of designing, installing and walking away), I encourage my clients to do the same, especially when it comes to plant material and understanding the cultural requirements of the plants in their landscape. I often provide clients with a Soil Sleuth and show them how to use it.

I learned about this tool during a stint as the Director of Horticultural Services for an interiorscape company and while they're not as sturdy or expensive as a professional grade soil probe ($60 to $100 +) that we use in the field, this high impact plastic version works quite well in the recently amended or disturbed soil surrounding new plantings. This tool enables you to easily probe below the soil surface and extract soil samples so you can see, feel, and smell the soil. A great way to easily determine if supplemental irrigation is needed -- or not.

At Primescape, www.primescapeproducts.com, a 12.5" Soil Sleuth (Item P-SS) is $7.55, but there's a $50 minimum order. At Soil Sleuth, www.soilsleuth.com, the cost is $8.25. ●

Cheryl Buckwalter is a designer of functional, water-efficient, and ecologically responsible landscapes. She also provides workshops about River-friendly, sustainable landscape design. Contact Cheryl at 530-887-9887, landscapeliaisons@sbcglobal.net.

Buffalograss *continued from page 4*

appearance and quality averaged 25" of water for warm season grasses, including buffalograss, and 37" for cool-season grasses, or nearly 50% more[3].

References

[1]Gibeault, V., et al., 2008. An Evaluation of Grasses Under Low-Input, Reduced Maintenance Conditions, for Potential Turfgrass Use in California. UC Riverside Turfgrass & Landscape Field Day Program, September 2008.

[2]Frank, K., et al. 2004. Nitrogen rate and mowing height effects on turf-type buffalograss. Crop Science, 44: 1615-1621.

[3]Smeal, D. and M. O'Neill. 2004. How to grow lush green turfgrass lawns whilst using less water. International Water & Irrigation, 24: 1, 12-14, 16. ●

Chuck Ingels has been the Farm and Horticulture Advisor for Sacramento County's UC Cooperative Extension since 1996. Contact: caingels@ucdavis.edu

Advocacy Corner

California's New Model Water Efficient Landscape Ordinance

by Julie Ann Saare-Edmonds

In 2006, the legislature passed AB 1881 and directed the California Department of Water Resources to update the Model Water Efficient Landscape Ordinance (also known as AB 325) and retain the water budget component. Overspray and runoff are to be eliminated as much as possible. Plants are to be grouped in hydrozones, and no plants may be prohibited. Likewise, common interest developments may not prohibit any water wise plants as a group. The legislation includes requirements to foster long term sustainability through maintenance practices, soil assessment and management, stormwater retention and mulching.

The Model Ordinance applies to new and rehabilitated commercial, multifamily and developer installed single family landscapes with a landscape area of 2500 sq. ft. or more. It is applicable to new homeowner provided single family landscapes with 5000 sq. ft. of landscape area.

City and county agencies must adopt local ordinances by 1-2010 or the Model Ordinance goes into effect by default. When a proposed development project goes before the local agency for permitting, plan check or design review, the local agency will evaluate the landscape component of the project for compliance with the landscape ordinance. An irrigation audit must be performed at completion of the landscape to ensure proper operation of the irrigation system.

How does this affect landscape professionals? Those that design, install and maintain water efficient landscapes have a tremendous opportunity to showcase their abilities. California's water future is uncertain due to climate change, population growth and an aging water infrastructure that is expensive to maintain and improve. Landscape professionals that meet the challenge of creating landscapes that require the least amount of resources and produce the maximum environmental, functional and aesthetic benefits are in a position to grow their businesses and improve the quality of life in California. ●

Julie is the Landscape Specialist at the CA Department of Water Resources (DWR) and a UCCE Master Gardener. Contact: julieann@water.ca.gov (916) 651-9676 http://www.owue.water.ca.gov/landscape/index.cfm

Saving our Native Oaks *continued from page 3*

Under planting with water loving shrubs and perennials placed much too close to the trunk causes fungal problems and eventual root rot and death. Even drought tolerant natives should be installed at the dripline or beyond for best chance of the oaks' survival.

As lawns are removed to make way for drought tolerant and low water use landscapes, there are risks to the oaks. When turf once close by and irrigated, is suddenly removed and water shut off, the oaks can suffer from the abrupt change. The water needs of these trees need to be addressed or they could suffer drought stress, decline, and die.

The economy is dealing an unexpected consequence to the native oaks as well. Existing oaks in commercial and residential landscapes are being negatively impacted by discontinuation of irrigation as properties go vacant. Native oaks are able to go into summer dormancy, effectively shutting down to conserve water. The blue oaks do this particularly well, but they look dead, and unattractive. And there is always the chance that they may not recover.

Education can help eliminate the mistakes that have impacted our native oaks. We need to make sure that our clients and our crews understand the special needs of native oaks; starting in the planning stages of the landscaping or construction process.

Be attentive to the installation of your jobs' irrigation and planting procedures to ensure the proper water requirements of existing or neighboring oaks. Leave the root protection zone undisturbed. The older the trees get, the less able they are to deal with radical changes to their immediate environment.

It is very helpful to become familiar with the California Oaks Foundations' website. If you ever have a question you will likely find the answer there.

It is easier to prevent the death of an oak than to deal with the unnecessary consequences of its dying. www.californiaoaks.org/ ●

Vicky Bartish is a Certified arborist and horticulturist serving Sacramento, Placer and Nevada Counties on such topics as planting, pruning and growing healthy sustainable trees and landscapes. She specializes in organic plant and tree care.
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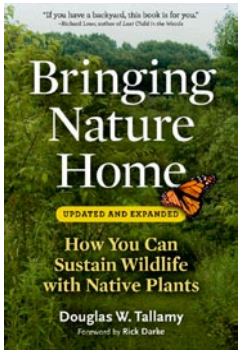
In the Media

Bringing Nature Home

How You Can Sustain Wildlife with Native Plants **by Douglas W. Tallamy**



Tallamy's newly updated and expanded 'Bringing Nature Home' opens our eyes to an environmental problem facing our wildlife. As our suburban development encroaches on natural wild lands, beneficial insects are being deprived of essential food resources, especially when gardeners are exclusively utilizing nonnative plant material.

Tallamy states that such an imbalance can lead to a weakened food chain that will no longer be able to support birds and other animal life. Tallamy presents compelling arguments for gardening with aesthetically pleasing and ecologically healthy native plants.

"We invariably take plants and the benefits they provide for granted," says Tallamy. "Who takes time to think that the oxygen in each breath we take has been produced exclusively by plants?"

Plants play the primary role in the food chain. "Most native insects cannot, or will not, eat alien plants," says Tallamy. "When native plants disappear, so, too, do native insects."

"A land without insects sounds like a gardener's dream; doesn't it?" notes Tallamy. "But a land without insects is a land without most higher forms of life."

With nothing less than the future of North American biodiversity at stake, Tallamy imparts an encouraging message: it's not too late to save the ecosystem-sustaining matrix of insects and animals. The solution is as easy as replacing alien plants with natives. ●

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