



Cosumnes River College's

GREEN SCENE

A bimonthly newsletter of the Sustainability Committee at Cosumnes River College

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Students Complete CRC Cafeteria Waste Audit Study

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Students in Professor Debra Sharkey's Geog 302 class (Environmental Studies & Sustainability) recently completed a 45-day class project to study how effectively

in-person assistance ('bin monitoring').

The project was divided into three phases. Phase 1 involved conducting waste audits out of view of



cafeteria patrons are sorting their refuse into new bins marked 'Compost,' 'Recycle,' and 'Landfill.' The study's three major goals were (1) for participating students to learn how to sort waste into the appropriate bins as they conducted audits; (2) to simultaneously collect data in order to assess how well cafeteria patrons are self-sorting their refuse; and (3) to improve cafeteria patrons' use of the appropriate bins by posting educational signage and providing

cafeteria patrons in order to establish baseline diversion rates. Phase 2 involved students making educational signage for the cafeteria bins as well as working one-hour shifts as bin monitors to help patrons sort their waste. Phase 3 involved conducting waste audits just outside the cafeteria, in view of patrons.

In the end, more than 50 students contributed over 80 hours of total time to the three phases of the project, sorting through

more than 1,200 pounds of cafeteria refuse. Many others helped make the project possible too. Prof. Sharkey oversaw the planning and completion of the project. CRC's custodial staff, headed by Tony Cartright, provided crucial advice, materials, and support throughout. Students from two of Prof. Colette Harris-Matthews' communications classes helped with several waste audits, worked several bin monitoring shifts, and staffed educational tables near the cafeteria. Donna Leiva, CRC Library Instructional Assistant, helped supervise two audits. Grace Corpuz in Facilities helped with communications. Atlas Waste Disposal delivered additional compost bins, at no charge to the campus, to accommodate the additional organic material diverted during the auditing process.



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Cafeteria Waste Audit (continued from page 1)

Prof. Sharkey comments on the project:

I'm extremely proud of how hard these students worked. There's no question we accomplished our first two goals. All those involved with the audits greatly increased their own knowledge regarding how to correctly sort refuse into the appropriate bins.

Students also collected helpful data regarding actual diversion of refuse by cafeteria patrons. The data set clearly indicates that we have more educational work to do. It's especially troubling that over 70% of material that patrons are putting in bins marked 'Landfill' or 'Trash' is actually compostable organic matter that shouldn't be sent to a landfill—where

it's destined to decompose anaerobically (without oxygen), creating methane, a greenhouse gas more potent than CO₂.

The results of the Phase 3 audit indicate



that we made only a minor contribution toward our third goal of educating cafeteria patrons. While we increased correct diversion into compost bins by 3.5 percentage points and correct diversion of landfill material by 1.6 percentage points, the

mystery is why correct diversion of recyclable material *decreased* by 8 percentage points.

Did we somehow misinform or confuse some patrons about how to sort their recyclables? Did we change our waste-sorting protocol between Phase 1 and 3 audits in a way that resulted in this discrepancy? I'm still scratching my head over this. But, overall, I'm very satisfied with the project.

Looking back, I think I underestimated how much time and effort needed to be devoted to Phase 2 - the educational component. Convincing people to change their behavior for the betterment of the environment, even in small ways such as this, is a real challenge.

“All those involved with the audits greatly increased their own knowledge regarding how to correctly sort refuse into the appropriate bins.”

Diary of an Urban Farmer: The Chicken Installments

Editors' note: Sandra Carter keeps us up-to-date on her latest urban farming project: raising chickens in her backyard.

After seeing an advertisement in the poultry 'cluck' zines, I ordered my chicken chalet from a guy in Brooklyn, New York, who has converted the back room in his brownstone walkup into a woodshed where he

builds custom chicken coops. Who would have guessed?

My requirements were simple – I wanted my coop to be portable, with space enough for three hens in the upper part, so that the girls can roost and gossip, and a lower, screened-in area for grazing. The dream coop arrived in November, in a box of about 30

pieces of wood, screens, bolts, and hinges as well as assembly instructions. Once constructed, it was a pretty swanky hangout for a trio of squawking fowl: A-frame design, drop-down ramp from the upper part, screened-in grazing area, and a little pull-down entrance door!

The next step, getting

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Chicken Installments (continued from page 2)

full-grown, egg-laying hens (adolescents – one to two years old – are best), has not been as easy as I had anticipated. I mistakenly thought that if you want to own a few hens, all you have to do is go to the pet store or feed store, just like you would if you wanted some hamsters, mice, or gold fish.

Wrong! After many trips, calls, and drives around town, I found out that chickens are not pets (even though my chicken-loving friends refer to and care for their chickens as if they were – you know, all that cooing, kissing, and personification talk). Another obstacle has been that these birds are usually sold as *chicks* rather than as *hens* – and I'm interested in

gathering eggs, not raising chicks. Hmm . . . What to do?

Fortunately, I learned that an animal rescue center up in Nevada County had just discovered an out-of-compliance egg farm, from which have been rescued “hundreds of abused hens” that are “ready for adoption” – or so read the flyer stapled to a telephone pole near my home. I imagined one of those 24-hour lighted warehouses packed with thousands of suffering souls, crowing to escape.

Bingo! What good luck for all. Those are truly my kind of hens: I may not be able to save the world or reduce human suffering on earth, but I *can* help save

a few unfortunate beings with beaks and feathers.

To receive my three hens, I've had to complete adoption forms for AnimalPlace.org, give a written explanation for my motivation, and provide descriptions of the housing I have prepared. Now I await my 'adoption appointment' in December.

I'm getting pretty excited for the arrival of my adopted gal pals. And just imagine how happy they'll be to have a coop to call their own.

I guess I should buy pink.



“I may not be able to save the world or reduce human suffering on earth, but I *can* help save a few unfortunate beings with beaks and feathers.”

CRC's Construction Technology Program and the CRC Solar Club

Prof. Ryan Connally, Construction Technology, offers an update

The CRC Construction program has continued to make great strides toward sustainability and energy efficiency in our community this semester. Construction Technology students, in partnership with the Sacramento Habitat for Humanity, Sacramento Air

Resources Board, and Rebuilding Together Sacramento, helped to 'weatherize' ten homes for qualifying families in the North Sacramento area. This work can make a big difference in a family's bills, saving 15-20% of annual energy use. It is also a pivotal piece in the state's strategy to reduce carbon emissions.

The Construction program has also helped in the building of another

home with LEED Platinum rating, the U.S. Green Building Council's highest bench mark for a sustainably-built home. Students helped prepare and pour the slab foundation as well as frame the walls and roof. Advance framing and lumber-reduction techniques reduce thermal transmission and save lumber. The concrete slab uses 'fly ash,' reducing the amount of cement needed for the mix as well as the vast amount of energy

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Solar Club (continued from page 3)

and pollution associated with cement production. (Visit usgbc.org for more details about green building criteria.)

A new Fall 2012 CRC Solar Club, hosted by the Construction program, includes students from Construction, Building Inspection, Architecture, Engineering, and Environmental Studies. We received our second \$10,000 grant from

SMUD to research and build a Solar Thermal Trainer – an interactive learning and demonstration unit that highlights the benefits that can be reaped from water heated by the sun. Our initial plan is to demonstrate the different technologies associated with solar collectors and evacuated tubes. We'll also build a functioning display that utilizes water heaters as well as

hydronic air handlers to heat a house – and maybe even uses photovoltaic panels to run a super-efficient air conditioner to cool a home with the sun's energy.

It's not too late to join the Solar Club, nor to hook up with the club in the spring to help build. Call or email Ryan Connally for details if you're interested: 691-7353 or connalr@crc.losrios.edu.

Winn Center Shines Light on Good Design

Prof. John Ellis, Architecture, reflects on some of the lessons offered by the Winn Center

As we teach the next generation how to think critically, we use as examples the successes and failures of the real world (I constantly point out to my architecture students the irony of our Campus Center being located on the perimeter!). We envisioned the Winn Center as a 'living laboratory' for generations of CRC students to contemplate what good design – and especially green design – should be.

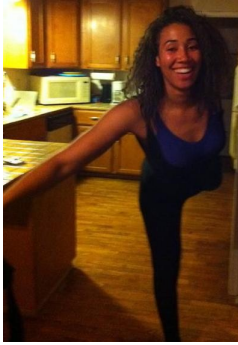
For example, take a look at the Winn Center and see what it can teach us about solar

orientation and its impact on passive heat gain and heat loss:

- Elongate the building on an east-west axis to maximize glass with southern exposure – the easiest side to shade in the summer (to help keep the building cool) while allowing solar radiation from the low winter sun to help heat the building. Notice that the staff offices, with low occupancy and low internal heat production (we hardly move!), are located to take advantage of the radiation from the low winter sun.
- Minimize west-facing windows – the most difficult glass to shade from the low west sun at the hottest time of the day.
- The east-facing glass is also hard to protect from the low sun, but mornings are cooler and the east side is also the public face of the building. As such, it wants to be open, glassy, and inviting to the public arriving from the east entrance – but with less glass than the north and south facades.
- Utilize north-facing glass for classrooms (they don't need solar gain because of the internal heat gain caused by high occupancies and stimulating lectures!). The sun rarely enters from the north, and the daylight is more consistent.

These are lessons for future designers – or for any of us wanting to improve the places in which we live.

Meet CRC's Student Sustainability Club Members



Chloe practices yoga in her kitchen, wearing a home-made unitard ("I really, really love unitards," she says).

Editor's note: In this continuing series, we feature a student from CRC's Students for a Sustainable Future club.

Chloe Rice is a frugivore, fashion designer, and future fruit farmer, whose passions for the environment and sustainability sprouted from a complex relationship with food that eventually brought her to CRC.

As a child, she struggled with undiagnosed health problems, but during her teenage years she realized that how she felt depended on what she ate. It took many years of trial and error between doctor's visits to narrow down her many food allergies, including lactose intolerance and Celiac disease. While difficult to manage at first, since everything had to be cooked from scratch, what felt like a disadvantage soon developed into a talent for culinary art that meshed well with her love of color and design.

Following the completion of an A.S. in Apparel Design and Production in 2008, the economy collapsed and with it, plans for transfer to a university in Paris. After

six months of unemployment, she landed a job in the Nursery at the new Home Depot in Auburn, a far cry from her previous work in clothing retail. Contrary to her expectations, she fell in love with the job: the outdoors, the plants, the extreme variation of weather and climate, and the diversity and wealth of knowledge within the community of gardeners who surrounded her daily as both co-workers and patrons.

A conversation with a customer led Chloe to realize that she could expand upon her new found love of plants and the environment by studying plant science in college. In Spring 2010, she enrolled as a biology major at American River College but soon realized that CRC's Environmental Studies & Sustainability major aligned better with her interests and values.

In Fall 2011, in a 'Creating a Sustainable CRC,' project for Prof. Sharkey's Geog 302 class, Chloe's group focused on greening the CRC cafeteria, researching best practices with a view to moving the campus food system to a more sustainable and community-based one.

In Spring 2012, Chloe won a 14-month fellowship with The Real Food Challenge, a national student campaign, working as a Regional Field Organizer for the Northern and Central Valley regions of California. She currently trains students at other colleges and universities in the leadership and food-system skills they need to campaign for more sustainable food on their campuses, and supports current student campaigns working toward 20% sustainable food procurement by 2020.

Chloe will be graduating with an A.S. in Environmental Studies & Sustainability at CRC, along with an A.S. in Geographic Information Systems at ARC, in Spring 2013. During the final stretch at CRC, she continues to work on sustainability efforts through her fellowship as well as with the other members of the Students for a Sustainable Future Club. She will be taking a year off following graduation to learn sustainable farming methods in Southeast Asia before transferring to UC Santa Cruz to earn a Ph.D. in Agroecology and Sustainable Food Systems.

Reader review: *Go Green Rating Scale for Early Childhood Settings* by Phil Boise
Redleaf Press, (www.redleaf.org) 2010

Professor Linn Violet, *Early Childhood Education*, offers this review as a helpful guide for anyone, but parents in particular, seeking a better understanding of ways to reduce, reuse, and recycle resources for a healthier environment. She notes that some of the practices recommended in the book, such as composting food waste, have already been adopted in CRC's Child Development Center – and reminds us of the value of the adage (origin unknown) that we do not inherit the earth from our ancestors; we borrow it from our children.

Early Childhood professionals work hard to create a safe and nurturing environment for young children. It can be challenging, however, to fully understand how to prevent exposure to harmful chemicals and conditions commonly found in early childhood settings. This book is a comprehensive, research-based, and accessible rating scale that helps child care providers to understand what is safe, environmentally friendly, and healthy when it comes to products and practices used in child-care programs.

The Go Green Rating Scale is a way to make decisions, be efficient, and balance short-term and long-term costs and

benefits – in both dollars and health. Cancer rates are increasing, especially childhood cancers such as leukemia. Exposure to lawn and garden pesticides, common hygiene products and chemicals that may be released from plastics, air fresheners, and cleaning products have been linked to serious health problems of this kind. Research shows three significant results: (1) children are the most susceptible to these contaminants; (2) these contaminants are likely to be present in the child-care environment; and (3) most importantly, many of the conditions in which such contaminants exist are preventable.

The *Go Green Rating Scale for Early Childhood Settings* provides child-care programs with a self-assessment that evaluates a program's environmental health, identifying clear and graduated measures so that educators can improve environmental quality while contributing to healthier lives of the children enrolled in their program.

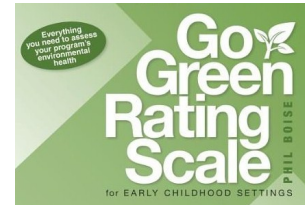
Readers use 64 guidelines to evaluate practices or conditions that may be present in a child care facility, with categories including the following:

- Air-quality management
- Cleaning products and practices

- Pests and Pesticide management
- Chemicals found in plastics
- Chemicals found in soaps, lotions, and sunscreen
- Lead and other contaminants, such as formaldehyde, mercury and fire retardants
- Green living and stewardship, including recycling, organic food, and evaluating one's carbon footprint.

Corresponding directly to the rating scale, Boise's companion handbook, entitled *Go Green Rating Scale for Early Childhood Setting Handbook*, explains the science and research behind each item evaluated, provides concrete measures and practical guidelines for making improvements, and contains sample letters that inform families about the benefits of going green.

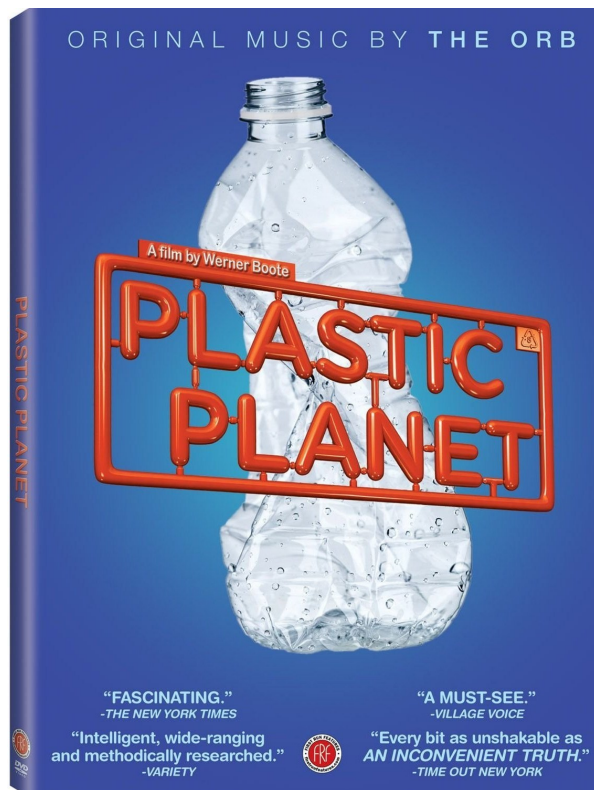
About the author: Phil Boise, a graduate of University of California, Santa Cruz, holds degrees in biology and environmental studies and has worked with child-care programs for more than 25 years. An integrated pest management consultant, he is also a trainer and educator as well as the director of Greencare for Children, a program that focuses on reducing environmental hazards in the child-care industry.



Film Review: *Plastic Planet*

Professor Steven Coughran, Music, gives his take on this eye-opening German documentary

As part of our participation in National Sustainability Day, October 24, CRC's Sustainability Committee offered a screening of Werner Boote's documentary *Plastic Planet* (2011).



Boote treats the viewer to stunning cinematography in several gorgeous locations around the world. Rather than assaulting us with endless shots of ugly

landfills or trying to guilt his audience into concern for the environment and our bodies, Boote maintains a childlike inquisitiveness and lightheartedness.

Through magnificent settings, he reminds us subliminally of the limitless reach of plastics beyond the heaps of recyclables we often see or imagine. Footage of families taking joy in rounding up as much plastic as they can from their homes, eventually filling their respective front yards, is juxtaposed with conversations with biologists, pharmacologists, geneticists, and corporate CEO's.

Boote sheds fresh light not only on the lasting environmental effects of one hundred years of this stuff, but also on the latest alarming research that suggests we've all got secret proprietary substances coursing through our veins. After having gone to great lengths to educate myself as to the content of my food, learning that we can not know what our food is packaged in was eye-opening.

As Boote welcomed us aboard a research vessel in the Pacific Ocean, I thought to myself, "Okay, here comes that floating island of plastic." Actually though, the research crew was dragging behind the boat a chute somewhat like an insect net so they could analyze what was captured from the surface of the water. Miles and miles beyond land, where one would expect the ocean to be pristine, they found tiny bits of plastic floating on the surface and fish with non-organic debris in their bellies.

Although the facts presented here may suggest a hopeless situation, Boote's extraordinary film still moves us to think through what we purchase, what we consume, and the need to question what we are or are not told by large multi-national corporations. Boote's activism is at once inspired and inspiring!

**Cosumnes River
College**

**Sustainability
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Linn Violett

Newsletter:

Cindy Erickson

Cath Hooper

Kudos

... to the Hawk's Nest bookstore for retrieving and reusing plastic bags from its Recycling Center bin (see below) and for conserving bags by offering them only to customers who clearly need or ask for one.

... to Donna Leiva for raising \$300 for the Students for a Sustainable Future club through her CRV4CRC efforts.

Bookstore Promotes Recycling

Have you seen the CRC bookstore's beautiful Recycling Center? Consider dropping off your plastic bags, toner cartridges, or used batteries there—or in a similar bin built by CRC students and located in the Operations area.



Pesticide-free versus Organic

(first published as a 'Tree Tip' in the Cathedral Cross Newsletter)

Ann Rothschild reports

We buy produce from the Sunday market under the freeway at W St. and 13th. By doing so, we support local farmers and get mostly organic, and always fresh, produce at great prices—no middle-men or transport costs. But we noticed some vendors advertise their wares as 'pesticide-free' while others have 'organic' markers. What is the difference?

Well, since the public is becoming more aware of the dangers from long-term use of pesticides, consumers are increasingly asking for organic fruits, veggies, and eggs. In response, farmers are converting from conventional growing practices that use pesticides to more healthy and environmentally sound growing.

Since it takes four years for pesticides to clear out of the ground, however, farmers cannot claim to be *organic* growers until the ground has been pesticide-free for four years. Thus, when farmers give up pesticides, they advertise their wares as pesticide-free for the four years until they can become organic.

I am all for encouraging them: notice how public awareness and demand drives an industry towards healthier practices.

