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Landscaping for Wildlife

by Ron Dellapenna

With suburban sprawl fragmenting and reducing wildlife habitat, what we do in our yards is very important for the survival of wildlife. Suburban yards are usually stripped of most of their topsoil and little concern is given to wildlife when planning a new landscape. The typical yard has a large lawn area with a few ornamental plants providing little ecological value. By landscaping with nature we can provide some of the necessities for wildlife survival, as well as, creating an aesthetically pleasing environment for people.

When designing an ecological landscape, the vertical levels should be emphasized since they are very important for wildlife survival. The following levels should be considered: soil, groundcover/herbaceous (e.g.: perennials, grasses), understory (small trees and shrubs) and canopy (large trees). Creating plant diversity in the various levels will benefit more animal species since various species have different requirements for their survival. Greater biodiversity helps to keep the ecosystem in balance by keeping various pests under control. Also, if more heavily planted, weeds will be less able to take hold and grow. It should be noted that soil provides the base for plant life and organic care of the soil through mulching, amendments, and organic fertilization is important for the proper function of an ecosystem.

continued next column
Welcome to Green Living

Welcome to the first issue of the Green Living Journal serving the Portland-Vancouver area, which also happens to be our first ever venture into the publishing world. We hope you enjoy it's message as much as the folks in Vermont and southern Oregon have enjoyed their editions published by individuals with years of experience.

So just why would a retired forester fast approaching his 70th year start a new career (we hope we succeed in putting out many more issues) in a whole new field of endeavor? Perhaps a short tale will shed some light on that, so gather 'round and listen up while we travel to another place and time.

Once upon a time long, long ago a young forestry student from the U of Maine arrived in the Pacific Northwest to work for the summer on a U. S. Forest Service road survey crew. The year was 1957, and it was a time of unbridled optimism before global warming, peak oil, ozone holes, Viet Nam, AIDS and meth. It was also a time without cell phones or even cordless phones, computers, iPods, Toyotas, space shuttles, Ebay, blogs and the internet. Ike was in the White House, Jack Paar was hosting The Tonight Show, Dave Garroway was on Today and Elvis was on his way to being "King".

The boom was on and science and technology were the answer to all the problems facing the peoples of the world. Nuclear power offered unlimited energy and emerging sciences were giving us the knowledge to do anything from controlling the weather to traveling to the stars.

Our forester to be was completely awestruck by the pristine beauty of the upper Kalama River, Goat Marsh country of the Gifford Pinchot National Forest, but it was the water that made the most powerful and unforgettable impression on him. Cold, clear, pure, water flowed everywhere as it had done for thousands of years, and so even though his crew worked hard throughout the hot summer, the idea of packing a canteen full of water never crossed their minds. To be able to drink water as it flowed naturally through the forest was quite simply a life changing experience for one who had grown up in the suburbs of New York City.

The years went by, change came, and today we pack water or pills or filters whenever we venture into the forest as a precaution against that nasty intestinal parasite giardia that has changed our water forever. When, why and how did this horrible, insidious little spoiler arrive? Could it have been prevented? Can we ever get rid of it so that some day in the future young people can once again simply bend down, drink the clear cold water of our forests and perhaps change their lives forever?

There is no doubt about it, those optimistic carefree days of the “Fabulous Fifties” were a long, long time ago and the changes that have taken place since then would be the stuff of both fairy tales and horror stories to that budding forester of 51 years ago. As we all know now, change has two faces and can carry a terrible price tag. In this case, in my mind, “We was robbed”.

Yes, we can remove giardia from our municipal drinking water and perhaps its no big deal to pack water or treatment devices while in our forests, but this change will forever haunt me. It is definitely a reminder of larger problems approaching as a result of the multitude of changes we have made over the last 50 years. Our hope is that the publishing of this magazine will provide both useful information and genuine inspiration that our readers can use to make intelligent choices regarding their daily actions and to see the impacts those actions will have on the world around us. ~ GM

Green Living has been publishing news you can use, mostly related to environmental issues, since 1990. Our regular topics include organic gardening, green building, health, eco-careers and right livelihood, outdoors/sports, socially responsible investing, econotes, questions and answers, book reviews, and features on topical environmental issues.

Stephen Morris is our Editor-In-Chief, lives in Vermont and for more than 30 years, has helped companies and non-profit organizations define their missions and develop effective marketing strategies. His career has spanned a variety of industries ranging from woodstoves (Vermont Castings) to solar panels to books (Chelsea Green in White River Junction). He is co-founder of The Public Press, a book-publishing business that provides options for writers whose works are too specialized for traditional publishers. He is also editor and publisher of the quarterly magazine Green Living and the author of six books, most recently the novel, Striplah Love. His latest work is The New Village Green (New Society Publishers), which he edited.

At present there are 2 separate local editions being published in Vermont and 3 editions in Oregon. The plan is to have a local edition in every green market across the country.

The Pioneer Valley edition, published and edited by Stephen Morris, serves southern Vermont, New Hampshire and northern Massachusetts. Contact information: PVads@GreenLivingJournal.com or call 603.924.0056 and ask for Amelia.

The Champlain edition, published and edited by Ellen Shapiro, serves northern Vermont and part of New York. Contact information: Ellen@GreenLivingJournal.com or call 802.373.4006 and ask for Ellen.

The Jefferson edition, published and edited by Linda Pinkham, serves southern Oregon and northern California. Contact information: Lindap@GreenLivingJournal.com or call 541.326.1358 and ask for Linda Pinkham.

The Willamette edition, also published and edited by Linda Pinkham, serves Eugene, Bend and Salem, Oregon. Contact information: Lindap@GreenLivingJournal.com or call 541.326.1358 and ask for Linda Pinkham.

Our own Columbia River edition serves the Portland-Vancouver metro area.

Contact information: Gary@greenlivingjournal.com or call 541.374.5454 and ask for Gary.
The State of Co-ops: A primer on the co-operative business model

by: Stephen Morris

There are several basic business models. Among them: a sole proprietorship, or a business that has no separate existence from its owner; a partnership, in which the owners share in the profits or losses of the business; a corporation, a legal entity which has a separate legal personality from its members; and, of course, the cooperative.

The International Co-operative Alliance defines a co-operative as an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.

The cooperative movement got its start in Great Britain thanks to a Welsh cotton merchant named Robert Owen (1771-1858), who had the novel idea that his workers deserved decent working conditions with access to education for themselves and their children. An idealist and some would say a socialist, he envisioned “villages of cooperation,” where workers would grow their own food, make their own clothing, and self-govern. He started several such villages, but they failed.

His work was furthered by a Dr. William King (1786-1865), who started a monthly publication called “The Cooperator” that gave practical advice for running a shop using cooperative principles. The publication, which made its debut in 1828 offered a mixture of philosophy and practical advice applying cooperative principles. King advised people not to cut themselves off from society, but rather to form a society within a society, beginning with a store where they could shop for their everyday needs.

King’s guidelines gave cooperatives some uniform boundaries. These evolved into what was published in 1895 as the “Rochdale Cooperative Principles,” issued by the International Cooperative Alliance. The principles have been revised only three times over the past 100 years and still provide the foundation for cooperatives of all size and types.

The principles are widely printed in the literature (and now Web sites) of cooperatives worldwide.

Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity, and solidarity. In the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility, and caring for others.

The Rochdale guidelines also specify that members contribute equitably to their cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

Finally, the guidelines urge that education and training be offered to members, that members work to promote the cooperative movement and that they work for the economic and social improvement of their community.

Organic Valley - One example is Organic Valley, an agricultural cooperative that has been fueled by the rise of small family farms that embrace organic farming methods. Started only in 1988, it now boasts more than 1,100 farm members nationally who provide the raw product that the organization brings to the market under the Organic Valley brand. In its mission statement the organization states explicitly that profits will be split with 45 percent going to the farmers, 45 percent to the employees, and 10 percent to the community. Its members say that with the time and investment required for farms to convert to organic there was just no way that the burgeoning demand for organic dairy products could have been or could be met without a grassroots organization like the cooperative.

The engine behind the growth of Organic Valley are the retail outlets that emerged to fill the void left by supermarket chains. A prime example is the Ashland Food Cooperative, nestled in the beautiful Rogue Valley in southern Oregon. Their organization started as a buying club in 1971, and has evolved into a well-respected, full-service grocery with more than 4,700 member/owners.

Cabot Creamery - One of Vermont’s best known co-operatives, and oldest, is the Cabot Creamery Cooperative, which has been in operation since 1919. As with many cooperatives, Cabot came into existence to meet market challenges. In this case, it was the challenges faced by small-scale, decentralized, independent farmers who lacked the capital resources to collect, process, distribute, and market their dairy products to the urban markets “down country.” Each member put up $5 and a cord of wood to establish the equity of their organization, adopting as a slogan “There’s efficiency and strength when we work together.”

Cabot is now a leading national brand of cheese, a fact that Roberta MacDonald, senior vice president of marketing, says is a major factor in keeping local farmers in business. “Milk is a commodity, and our brands ...
are the farmer’s hedge against the volatility of the milk market. Our farmers get paid for their milk, but they also get that 25th check at the end of the year which is their share of the cooperative’s profits.”

Cabot’s line of dairy products has expanded dramatically since 1919 and now includes such bedrock Vermont standards as Habanero Cheddar and Reduced Fat Jalapeno. What hasn’t changed, however, is their proud declaration of “Dairy Farmer Owned Since 1919.” Putting the farmers front and center is not just a feel-good gesture to members, it has proven to be a smart marketing method.

Success… wise? Is the cooperative movement thriving, as the success of Cabot might suggest, or languishing by institutional indifference as many, including Lushin, now fear? Even more puzzling, if cooperatives are such a good option, why aren’t there more and why aren’t they the dominant business paradigm across America? Are they the wave of the future or a vestige of the past?

Paul Freundlich has founded several cooperatives, most notably Co-op America, which he describes as a “tri-partite cooperative, with business members producing goods; consumer members purchasing, and worker members staffing the operation.” This national organization boasts over 60,000 individual members. Freundlich says: “Cooperatives are a legitimate third option falling midway between capitalism and communism. With the establishment of ESOPs (Employee Stock Option Plans), housing and food co-ops, and the National Co-op Bank in the late 1970s, it looked like cooperatives in the USA were finally ready to take off.”

But what happened. Freundlich shakes his head. “Enter Ronald Reagan and a decade of dedicated greed,” he says. “Reaganomics (an economic model featuring reduced growth of government spending, reduced marginal tax rates on income from labor and capital, and reduced regulation) was great for Wall Street, but it took the wind out of the sails of the cooperative movement.” It is difficult to focus on issues of democratic governance, Freundlich says, when the headlines are about such things as ‘green mail,’ the acquisition strategy that so characterized the ‘80s, in which one company acquires another and then immediately sells it in component parts.

Others take exception to Freundlich’s assessment, pointing out that the National Consumer Cooperative Bank, privatized by the Reagan administration in late 1981, has seen its endowment grow from $60 million to $1.829 billion in 2006. Freundlich’s assessment, however, seems to be echoed by Art Jaeger of the Communications and Public Affairs office of Watson/Mulhern, a Washington, DC-based law firm that delves into cooperative issues. Assessing the state of the cooperative in the United States is not simple, says Jaeger.

“You have to look at individual sectors,” he says. “The number of credit unions has been declining for years due to mergers, but the number of members of credit unions has been growing dramatically. Electric co-ops are holding steady but, again, membership is increasing. Food co-ops are slowly expanding despite intense competition from companies such as Whole Foods and Trader Joe’s.

“Co-ops boomed in the first half of the 20th century and then leveled off. For much of the last 30 years co-op principles and values were ‘out of fashion’ in America, yet they did manage to survive. Now, the pendulum is swinging back the other way, and co-ops are poised for a new era of expansion as people get more frustrated with impersonal big business and again value the concepts that are at the core of the co-op model.”

The state that has the most enlightened statutes governing cooperatives, says Lushin, is Washington State. Cooperatives also appear to be flourishing in the small state of Vermont. According to the fledgling Co-op Alliance, there are approximately 75 cooperatives operating in VT today, a number that includes three agricultural co-ops, 35 credit unions, seven daycares, three energy co-ops, 11 food co-ops, eight housing co-ops, two insurance co-ops.

The explanations are partly anecdotal (“Vermonters get it,” says Mad River’s Friedman), but compelling. Yvonne Garand, business development director for the Vermont State Employees Credit Union, says simply: “Vermonters like protecting their homeland, and we like doing business with neighbors. We just do business differently. Think of it as a matter of form versus function. We’re not serving our customer base for the benefit of our outside shareholders, but for the common benefit of our members. They are the recipients of any benefits we create.” Jim Schley, he of seven
co-op memberships, agrees. “I love the social aspect of cooperatives. I can't think of a negative experience I've had customer and member of a co-op.”

Democratic, social, fun… So why not still more cooperatives? Michael Potts, a cooperative member and consultant to new paradigm businesses offers this blunt assessment: “The spirit of individualism runs deep in the American soul. Plural ownership, may be like the idea of plural marriage, while cool in the abstract, can be a nightmare in practice. Our government, which runs on tax dollars, has a harder time finding those dollars in an organization of multiple ownership, and therefore, does nothing to encourage the creation of more cooperatives. They'd rather provide tax loopholes to traditional corporations.”

Roberta MacDonald of Cabot Creamery tacitly acknowledges an anti-establishment aspect to cooperatives. “When there is a semester course on cooperatives at Harvard Business School, we'll know we're reconnecting with people who mistrust big business for all the reasons common sense would suggest.”

Stephen Morris is the founder of The Public Press and Editor-in-Chief of Green Living Journal.

Coops On The Local Front

Here in Oregon:
Tillamook Cheese is made by a 99-year old farmer-owned cooperative. The Portland area has 3 food coops in operation and 1 more being formed.

Operating Coops:
Alberta Cooperative Grocery, 1500 NE Alberta Street  http://www.albertagrocery.coop
Food Front Cooperative Grocery 2375 NW Thurman Street  http://www.foodfront.coop
People's Food Co-op 3029 SE 21st Avenue  http://www.peoples.coop

Forming:
Vancouver Food Cooperative 1701 Broadway #B, Vancouver (mailing)  http://www.vancouverfood.coop

For Woodland Owners:
Oregon Woodland Cooperative, P.O. Box 144 Banks, OR 97106  http://www.orwoodlandco-op.com

Familiar Names that are Cooperatives:
Diamond Fruit Growers P.O. Box 185, Odell, OR  http://www.diamondfruit.com
Morrow County Grain Growers 350 Main Street, Lexington, OR 97839  http://www.mcgg.net
Norpac 930 West Washington Street, Stayton, OR 97383  http://www.norpac.com

For more information on co-ops visit the Northwest Cooperative Development Center website:  http://www.nwcdc.coop ~GM

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New Model of Conservation  
In the Great Dismal Swamp

Alice Kenny

Ecosystem Investment Partners is re-writing the book on land conservation. The Ecosystem Marketplace finds out what the men behind the new business have to say about the synergies they see between conservation and investment returns in the United States.

On drained and ditched land flat as a pool table in Virginia’s Great Dismal Swamp, a visionary, an investor and a conservationist are prepared to lay down their cash. Their bet: that a multi-million-dollar investment can foster the next step in the emerging ecosystem services market by generating multiple private and public revenue sources and fulfilling a variety of environmental goals. Clearly, this is a new take on land conservation.

In fact, America’s revered founding father, George Washington, had proclaimed the enormous swamp worthless in its natural state, hiring excavators to dig a canal back in 1763 so that it could be farmed and harvested for trees.

But during the past two decades the intrinsic value of swamps—now going by the more dignified name of “wetlands” for their propensity for flood control, water quality and fostering biodiversity—has soared among investors and emerging ecosystem markets.

Sure enough, the three men’s stake is paying off. Their newly formed firm, Ecosystem Investment Partners, just announced an agreement to co-invest with the private equity timberland investor Lyme Forest Fund on up to $27.5 million in conservation projects. Their investment strategy is particularly noteworthy because of its synergy; its success making money for its investors depends on its ability to generate multiple environmental successes, from improving water quality and biodiversity to restoring wetlands and vice versa.

“Their synergy is the key,” says Adam Davis, one of the three founding partners. “One of the things that makes our strategy unique is that we are restoring and protecting multiple types of ecosystem services. So our deals have multiple types of revenue producing activity making them inherently more flexible and hedging risk.”

The Partners - Just eight years ago, Davis joined 60 environmentalists, regulators, forest-product company representatives, bankers and journalists in the mountains outside Katoomba, Australia to discuss the future of ecosystem services conservation and environmental markets. Back then, the premise that scarce ecosystems such as marshes — commonly viewed as drains on a land’s value — could instead augment its value, appeared more theory than reality. But today, assigning a price tag to a forest’s ability to absorb carbon or a wetlands’ ability to filter water and limit flooding has become increasingly commonplace.

“Land now is being protected not just as an expression of ethical values but because we recognize what it’s doing,” says Davis, an investment pragmatist and environmental visionary whose charismatic turns of phrase leave a listener stumbling between saying “Amen” and “err... good point.”

“Back in 1999, that was all theory,” Davis continues. “It’s amazing to see how far we’ve come.”

Not one to wait and see, Davis pushes the environmental envelope. He formed a consulting firm fostering corporate environmental investment by finding the financial value of natural systems. Then, two years ago, Davis teamed up with Nick Dilks and Fred Danforth to form an environmental investment firm.

For Dilks, a career conservationist, the new venture appears a logical progression. Dilks spent the prior decade coordinating real estate deals for the Conservation Fund, relying on an $80 million revolving fund and donations to acquire virgin properties threatened by development. But the fund was constantly over-tapped, Dilks says, limiting its philanthropic reach. With Ecosystem Investment Partners, he says he can, “grow the pie of capital for great projects.”

To grow that capital pie, Dilks and Davis turned to Fred Danforth, co-founder of the private equity investment firm Capital Resource Partners. For Danforth, a career capitalist, the venture offered a sort of salvation. “I found myself on a treadmill that went faster and faster,” he says from his office in Massachusetts. “It was hard to know when to stop.”

Danforth first stepped off the treadmill in 2002, retiring from the firm he founded so he could spend time fly-fishing in the West. He ended up as conservation buyer of a ranch from the Nature Conservancy, and created the first two wetland-mitigation banks in the lush-green landscape of Montana.

With Ecosystem Investment Partners, he has an opportunity to create a “double bottom line,” applying his investment savvy to generate market rates of return while maximizing investments with conservation outcomes, fostering win-win solutions instead of the win-lose scenarios more typical of the investment world where he spent most of his professional career.

The Business Model - Performing a due diligence investigation far different from any he participated in while in the Wall St. financial world, Danforth tromped through mud and leapt over ditches in the Great Dismal Swamp earlier this month with two representatives from Lyme Forest Fund.

“Although there are only three different letters in the phrase ‘conservation finance’ versus ‘conventional finance’, there is a world of difference in what they do,” Danforth says in marked understatement as he outlines Ecosystem Investment Partners’ preliminary plans to make money with Lyme Forest Fund by restoring the environment.

A $191-million private-equity timberland fund and
a pioneer in economically profitable forest conservation, Lyme Forest Fund maintains working, timbered forests and not new housing developments on environmentally sensitive lands, augmenting their financial bottom line by selling easements on the land to conservation organizations.

Lyme partner Peter Stein, appearing at least as practical as philosophical, says that partnering with Ecosystem Investment Partners offers a natural progression in Lyme's business model. “We're attracted,” he says, “because we believe these wetland and species-specific markets may eclipse public funding for conservation, offering us better economic returns.”

Under their initial arrangement, Lyme is prepared to invest up to $25 million on a deal by deal basis. For any given deal, Lyme is prepared to stake up to 90 percent of the capital while Ecosystem Investment Partners contributes the remaining 10 percent along with the intellectual resources to navigate markets new to Lyme. They are under contract to close their first two deals; 1,037 acres in Virginia’s Great Dismal Swamp and 1,206 acres in Delaware forests within the next four months. The deals offer a prototype of Ecosystem Investment Partners’ business model for profitably investing funds while solving otherwise-intransigent environmental goals.

The Deals - The Great Dismal Swamp’s name sums up much of its history. Since America’s founding father first noted the Great Dismal Swamp’s financial potential, lumber companies harvested its native cypress trees and white cedars so thoroughly that by the 1950s there was no virgin timber left on its 200,000 acres, historic records reveal. So in 1973, in the single largest corporate conservation transaction in the U.S. until that time, the landowner, the Union Camp timber company, donated their ownership in the swamp to the Nature Conservancy. This conservation organization then turned the land over to the U.S. Fish and Wildlife Service to create a wildlife refuge.

Under the Agency’s protection, the land, exploited for two centuries, flourished once again, slowly returning to its natural state. The reforested land now provides home to over 200 species of birds, a variety of plants including the rare log fern and the usual assortment of bats, bobcats and bears that call a forest a home.

But 1,037 acres, a key piece of the refuge, remained privately held, farmed, drained, ditched and inhospitable to wildlife. The state tried for years to acquire the land but was unable to come up with the cash. This is where Ecosystem Investment Partners comes in. They devised a private strategy to raise the capital needed to obtain and restore the land. An important part of this strategy is that conservation entities such as U.S. Fish and Wildlife, the Nature Conservancy or the State of Virginia will ultimately be able to afford to take over the land. Meanwhile, the partners’ investors, Lyme Forest Fund, will have the opportunity to double their money over approximately ten years time.

This scenario sets up a whole new paradigm for continued on next page
preservation. “Environmentalism at its heart,” says Davis “is against something. DDT, whaling, litter, the simple answer is ‘no.’ Meanwhile, sustainability, how to produce products and services in a way that is aligned with natural systems, is for something. In this new world, where every unit of improvement is worth money, there is suddenly an incentive to conserve. That’s why the markets are an important part of the answer.”

According to Dilks, Ecosystem Investment Partners will use money from Lyme Timber and other investors to acquire the land and restore it. They plan to then sell restored wetlands as mitigation credits to developers required to compensate for harming wetlands in other locations. Dilks says he expects this will generate significant returns within the ten-year life of the mitigation banks. After that the partners will sell the restored property with restricted development rights to a conservation fund or to the state of Virginia at a lower market price than the land would fetch if it were not under easement. The approach allows conservation entities the time they need to raise funds to purchase the property, and it provides EIP with a ready exit strategy once restoration is complete. Ecosystem Investment Partners plans to close on the deal within the next 45 days, says Danforth.

In their second deal with Lyme Timber, the partners expect to acquire 1,206 acres of environmentally sensitive land that the Conservation Fund and State of Delaware have long wanted to acquire and restore but could not afford. The land is part of an industrial forest that is seeded like cornfields with pine trees that its owner, a pulp and paper company, clear-cuts every twenty years. To make the deal work, Ecosystem Investment Partners will purchase the property, and then restore a portion of the land as wetlands for sale as wetland mitigation credits. They plan to sell endangered species credits on a separate portion that will be restored and made hospitable for indigenous animals. Finally, a portion of the land will be converted to “sustainable forestry,” letting trees grow for 40–50 years, then cutting them selectively and selling them as high end forest products. “It’s better for investors and better for the wildlife,” Dilks says. “It just takes a more patient owner.”

Recently, Lyme Timber’s Stein and Ecosystem Investment Partners’ Danforth sat on a panel for the Yale Leadership Council at the groundbreaking of a new building for its forestry school in leafy, suburban Connecticut. The subject they were asked to discuss was whether money could be made by doing conservation. “My talk was short,” Stein says. “I just said ‘yes.’”

Alice Kenny is a prize-winning science writer and a regular contributor to the Ecosystem Marketplace. She may be reached at alkenny@aim.com.

Visit the Ecosystem Investment Partners’ website at http://www.ecosystempartners.com for more information on this and other projects in Louisiana, Delaware, and Montana – GM
animals, fungi and bacteria to form a complex ecosystem where all parts are interdependent. Since native plants are adapted to a particular region, they should require less maintenance from the homeowner once they are established.

When planning your ecological landscape for wildlife, four needs should be considered: food, water, cover and nesting.

Plants are the base of the food chain therefore what we plant is very important. Plants provide nectar, fruit, seeds, and leaves as sources of food. Care should be taken when selecting plants so that different sources of food become available during different times of the year. Flowers produce nectar and pollen, which provide food for hummingbirds, butterflies and bees. Bees, important pollinators, have been under environmental stress in recent years - planting to help them is very beneficial. Native plants are an important source of food for butterfly larva and other insects that birds depend on for food. Insects indirectly make plants an available food source to a variety of wild birds and other animals. Seeds and nuts are very important for birds and mammals to survive during cold weather. Reducing deadheading of perennials will help provide more seeds as a food source.

Water is a necessity for all life and should be included in the landscape, especially during extreme weather. Water features also provide an interesting focal point in the landscape. Larger water features such as ponds or streams can a complete habitat for many aquatic organisms. A simple birdbath or dish will provide a good water source for many small animals. Butterflies can get much of their water from the nectar in flowers or from mud puddles. Water also provides a place for birds to bath for both cleaning and cooling. Running water, such as waterfalls or fountains, produce a relaxing sound as well as attracts wildlife.

Cover is the next critical element required for wildlife. The various levels in the landscape, as aforementioned, will provide cover for more types of wildlife. It is good to provide a combination of evergreen and deciduous plants. In the winter, evergreen trees and shrubs provide cover when the leaves of deciduous ones

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Why We Should all Worship the Ground We Walk On

by Tamsyn Jones

Tamsyn Jones is a recent graduate of the University of Missouri at Columbia, currently pursuing further study in Tasmania. A more comprehensive version of this story appears in The New Village Green (New Society Publishers, 2007)

It’s one of nature’s most perfect contradictions: a substance that is ubiquitous but unseen; humble but essential; surprisingly strong but profoundly fragile. It nurtures life and death; undergirds cities, forests and oceans; and feeds all terrestrial life on Earth. It is a substance few people understand and most take for granted. Yet, it is arguably one of Earth’s most critical natural resources – and humans, quite literally, owe to it their very existence.

From the food we eat to the clothes we wear to the air we breathe, humanity depends upon the dirt beneath our feet. Gardeners understand this intuitively; to them, the saying “cherish the soil” is gospel. But for the better part of society, dirt barely gets a sideways glance. To most, it’s just part of the background, something so obvious it’s ignored.

Even among the environmentally minded, soil sags well below the radar of important causes. But the relationship between soil quality and other aspects of environmental health is intricately entwined. What’s more, it’s a relationship that encompasses a vast swath of territory, from agricultural practices to global climate change, and from the well-being of oceans to that of people.

Despite humankind’s long relationship with soil, the stuff remains a mystery. Even our language manages to maligns it. Somehow, “dirt” has acquired a bad reputation. And it’s been codified in some of our most common idioms, with people described as “dirty rotten scoundrels,” “poor as dirt” or “dirtbags.” The modern word “dirt” itself descends from the less than complimentary Old English word “drit,” meaning “excrement.” Instead of marveling at the mystery of soil, we have mocked it, by dredging and paving; desiccating and polluting; and working it to exhaustion.

Now our poor husbandry of this essential resource is catching up with us, in the form of disconcertingly rapid erosion and loss of farmland, widespread agricultural pollution, damage to fisheries, and alarming levels of pesticides and other chemicals building up in our bodies. The subject of soil is rarely billed as glamorous or sexy, but it should be. From its remarkable properties to its critical ecological importance, the dirt under our feet is a goldmine of scientific wonderment, and it’s about time people got excited about soil.

Soil is Special Stuff - Soil types vary considerably on our planet, from the hottest deserts to the coldest poles. Soil directly and indirectly affects agricultural productivity, water quality and climate. Thanks to the Earth’s soils, most of the rainfall hitting our planet is trapped and absorbed, watering plants and replenishing aquifers, rivers, lakes and streams. If soil didn’t catch and apportion this water, it would run off the land into the oceans, and the continents would be barren wastelands.

If it weren’t for the stabilizing effect of soil, ancestral plants could never have survived the fierce, raw weather of primordial Earth. Over millions of years, these plants and their offspring created the life-sustaining atmosphere required for land animals to evolve. Essentially an organ of Mother Earth, soil is a vital living system – the very skin of our planet – that nourishes the plants we eat, the animals we use for food and fiber, and the thriving underground kingdom of bacteria, fungi, protozoa, earthworms and other microbes that are critical to the planet’s food webs. To put it another way, without soil humans would be creatures of the sea. Only about 20 percent of the Earth’s surface is covered by land. However, much of this land is too inhospitable to support our species.
Only about eight percent of the planet's soil surface is actually arable. This means, explains Wes Jackson of the Land Institute, that all six billion people living today have but a tiny fraction of soil to thank for their survival and diverse ways of life.

**Anatomy of Healthy Soil** - So what is healthy soil? Deceptively simple to the naked eye, healthy soils are dynamic ecosystems made up of a mixture of minerals, air, water, organic materials and a healthy population of microorganisms. The range and concentration of minerals present depends on the parent bedrock. Healthy soil is also extremely porous: Air accounts for about half its volume, providing channels for water to flow, pathways for roots and space for organisms to move around. Compaction, primarily the result of heavy farm machinery and livestock, squeezes air out of soil, depleting available oxygen.

When soil is healthy, however, it is a hotbed of thriving biological activity. We can't see most of that ongoing work, save perhaps on particularly rainy days when earthworms flock to the surface or a large insect scuttles across the ground. But a single gram of fertile soil can contain several million microbes. One heaping tablespoon of healthy soil may contain up to nine billion microorganisms, which is more than the human population on Earth, points out Harvey Blatt, author of the 2004 book America's Environmental Report Card. An acre of healthy topsoil can contain 900 pounds of earthworms, 2,400 pounds of fungi, 1,500 pounds of bacteria, 133 pounds of protozoa, 890 pounds of arthropods and algae, and in some cases, even small mammals. When this diverse soil community is disrupted or damaged, the consequences may be dire.

Plants are the first to suffer from damage to the soil community. Interestingly, soil microbes play a critical role in plant health. Long ago in Earth's evolutionary history, early soil microbes forged one of the first symbiotic relationships with early land plants when some algae and bacteria developed the ability to “fix” nitrogen, a nutrient essential for plant growth. Nitrogen is plentiful in the atmosphere, but plants can't use it in that pure form. They can only use nitrogen that's been incorporated into compounds like ammonia or nitrate. Once nitrogen-fixing organisms evolved billions of years ago, pioneer plants were able to creep onto the land. As these early plants gained a foothold on the rocky ledges poking out of the primordial seas, they helped build the terrestrial soils.

Today, the symbiosis between soil organisms and plants is deeply intertwined. Many soil microbes feed on by-products from growing roots and, in turn, help plants by extracting minerals and vitamins from the soil. Like microscopic farmers plowing and tilling their subterranean plots, these organisms enhance soil structure and help control plant-preying pests, cultivating an underground ecosystem. Construction and urbanization pose significant challenges to soil health. A single rainstorm can wash away centuries-worth of dirt.

These “chthonic” (pronounced “thonic” and meaning “of the Earth”) creatures also provide another overlooked but critical function: They are perhaps the world's most prolific recyclers. Without the help of soil microbes to break down decaying plant and animal matter, fertile soils would not exist. Dead animals would never decompose, and the litter of leaves dropped from trees every autumn would soon bury buildings and roads.

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Local Notes

Seen at the Better Living Show

There was something about the BugE electric vehicle that caught my eye at the Better Living Show. Go to http://www.bugev.net/BugE_Concept.html and see for yourself what Mark Murphy at Blue Sky Design down in Creswell has created. Sleek styling, a catchy name and a down to earth price tag should make this EV a hit with the adventurous, young at heart members of the green crowd looking to remain highly mobile without spewing exhaust gases. They will be in production soon so watch for updates on this in upcoming issues.

Speaking of Electric Vehicles

Did you know that there are several electric vehicle dealers in the Portland area?

- **Ecomotion** at 1625 NE Sandy Blvd, Portland and at 18203 SE McLoughlin Blvd., Gladstone
  http://eco-motion.com
- **Green Scene** at 14221 SE McLoughlin Blvd, Milwaukie http://thegreensceneev.com
- **MC Electric Vehicles** 11325 SW Canyon Road, Beaverton
  http://www.mcev.biz/locations/portland1.html

Did you know that there is a very active group of electric vehicle enthusiasts in our area? Check them out at http://www.oeva.org and note that they are holding an EV Awareness Day on July 5th at Pioneer Courthouse Square.

Tired of high gas prices? Never fill up again!

**Buy a New 100% Electric car that you can plug right into your outlet at home!**

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Food: Do we even know what’s for dinner?

Portland non-profit helps individuals to answer this question through its newest group discussion guide. *Menu for the Future*, due to be released in April, explores food and its impact on the health and well-being of people and Earth.

Contact: Mike Mercer, Executive Director, (503) 227-2807

Portland, OR—James Beard once said, “Food is our common ground, a universal experience.” For centuries food has been used to mark the change of the seasons, to bring together a family at the end of day and as an integral part of many celebrations. In recent years, food has grown to represent a multi-billion dollar global industry and a point of confusion for many struggling to understand the risks and benefits associated with choices such as organic vs. conventional, meat vs. vegetarian or local vs. global. Food impacts our lives and environment in so many ways, on a multitude of levels. Yet, few people take the time to weigh questions such as: “Where is my food coming from?” and “What are the implications of my food choices?”

In response to a growing need to consider the larger implications of our food choices and understand food’s relationship to sustainability, the Northwest Earth Institute (NWEI) is proud to announce the release of *Menu for the Future*, a six-session group study guide. *Menu for the Future* offers people a unique opportunity to gather in small groups to examine the effects of modern industrial agriculture on both human and ecological health, explore emerging food system alternatives, and discuss how we as individuals can contribute to a more sustainable food supply.

“The Northwest Earth Institute was founded to transform an unsustainable consumer culture into a sustainable culture through the intentional practices of informed citizens,” said NWEI Executive Director Mike Mercer. “We believe *Menu for the Future* will inspire the provocative conversations and personal actions warranted by the human and environmental necessity of sustainable food systems.”

About NWEI - NWEI is a recognized national leader in the development of innovative programs that empower individuals and organizations to protect the Earth. “The thing that I like the most about NWEI’s discussion guides is that they look at issues from all angles, compiling the best information on a subject into one guide,” said one NWEI course participant.

NWEI offers seven study guides for small groups that can be implemented in workplaces, homes, libraries, faith centers, neighborhoods, and community centers. NWEI discussion guides are a valuable educational and community building resource for those working to promote and create a sustainable future. Please contact NWEI at contact@nwei.org or visit us on the web at www.nwei.org for more information about *Menu for the Future* and other study guides.
Clean Air Lawn Care expands to decrease air pollution in Portland.

Portland, OR – A new local business plans to make a difference in our air quality this summer. Clean Air Lawn Care is a lawn maintenance company that uses clean electric equipment. After a great deal of research into the underutilized technology, the business selected electric mowers, edgers and blowers. The vehicles that haul this electric equipment stand out in a crowd due to the mounted solar panels which are used to charge the equipment during the workday. Not only is this equipment clean, it is also quiet.

Outside of the electricity generated by the solar panels, all additional electricity used by Clean Air is purchased from a renewable energy broker. The windpower they purchase is used to power the lawn equipment and offices, qualifying the entire organization as carbon neutral.

“There is a lot of talk about global warming and decreasing our dependency on oil in this country right now. This is a simple way to positively affect both issues. Our primary mowers use no oil, create no air pollution, and less noise pollution. The entire business is carbon neutral. It is an easy change for a consumer to make to do their part for the environment. There is no reason not to do it,” says Todd Hepp, Owner of Clean Air of Portland, LLC.

There are many reasons why people should consider the service …

**Small engines contribute 5-12% of the nation’s air pollution.**

**In one hour, one gas lawn mower can pollute as much as 40 late model cars.**

**Gas lawn mowers consume 580 million gallons of gasoline annually and 25-35% of this fuel escapes unburned.**

The business is hoping to capture a significant market share as well as encourage individuals who mow their own yards to consider electric equipment. In 2007, Clean Air Lawn Care will reduce emissions of well over 100,000 pounds of CO2 and 200 lbs of NOx into the atmosphere. The technology is here, we just need to make people aware of it. Clean Air Lawn Care hopes to start a revolution in the $7.6 billion dollar lawn care industry and change the way America mows the lawn.

For further information, please contact Todd Hepp, Owner and partner of Clean Air of Portland, LLC at (503) 679-7418 or email: thepp@cleanairlawn.com.

Noxious Weed Goes Green

Ralph Waldo Emerson described a weed as “a plant whose virtues have not been discovered.” Another source describes weeds as “plants without a press agent.” Until recently, western junipers (Juniperus occidentalis) have been characterized as “weeds” and “thieves in the springtime” because the trees use great amounts of water and they are noxious in their expansion of territory. For years, they have been systematically eradicated and placed into burn piles (not good for the environment) by landowners, the Bureau of Land Management, and the Forest Service.

On a recent trip to Chiloquin, Oregon, Green Living’s editors visited a growing enterprise utilizing, and thereby changing the image of, western juniper. West Coast Juniper Distributing is now the largest distributor of western juniper products in the world and manufactures a number of extremely useful, attractive, sustainable, and eco-friendly building materials and furniture products from this tree species. The aromatic and rot resistant lumber is similar to incense cedar and redwood, but much harder and more durable, making it extremely suitable for flooring, decking, closet liners, cabinets, furniture, fence posts, and much more.

The Chiloquin company, founded in 2007, is harvesting the logs from “trash piles,” and removing them from lands just before eradication and recycling them (good for the environment). Look for a full-length feature article about the fascinating Juniper story in a future issue of Green Living -- you might even say that the western juniper now has a “press agent.”

Meanwhile take a look at the potential for this new and sustainable forestry product in your next building project. In Portland, you can see West Coast Juniper building products at several locations.

For more information contact Marketing Director Andy Shotts at 503.635.6729 or andyshotts@mac.com for more information.
Dear Master Recycler,

Can I recycle my used compact fluorescent bulbs or do they go in the garbage?

We are all being encouraged to switch the light bulbs in our homes to the more energy efficient fluorescent bulbs. While fluorescent bulbs use far less electricity and last a whole lot longer than incandescent bulbs, they eventually wear out too and need to be replaced— but you should never put them in your garbage. Fluorescent bulbs have a small amount of mercury inside them, which is a very toxic substance for humans and the environment. Metro will take your fluorescent bulbs at no charge at two hazardous waste facilities:

- Metro South, 2001 Washington Street, Oregon City
  Monday-Saturday 9 am-4 pm
- Metro Central at 6161 NW 61st, Portland.
  Monday-Saturday 9 am-4 pm

Metro also offers Household Hazardous Waste Roundup events during the year scattered around the tri-county area. Call Metro Recycling Information at 503-234-3000 for a Roundup calendar.

Several private businesses also take fluorescent bulbs back. They include:

- IKEA in Portland,
- Bear eCycling in SE Portland (503-808-1265),
- Total Reclaim in NE Portland,
- E-Tech Recycling in Hillsboro (503-693-8939)
- Earth Protection Services in Tigard (503-620-2466)

Some charge a fee to take your fluorescent lights.

Again, Metro Recycling Information can offer you additional fluorescent-friendly drop off sites in the tri-county area.

If you live in Clark County drop off fluorescent light bulbs at these facilities that can handle hazardous waste:

- Central Transfer & Recycling Center, 11034 N.E. 117th Ave. (360) 256-8482
  Saturday/Sunday, 8 a.m.-4 p.m.
- West Van Materials Recovery, 6601 N.W. Old Lower River Road (360) 737-1727
  Friday/Saturday, 8 a.m. - 4 p.m.
- Center Philip Services. 625 S. 32nd, Washougal, (360) 835-8594
  1st Tuesday of the month, 10:30 a.m. - 3:30 p.m.

Like Metro, Clark County has mobile hazardous waste collection events. To find out where they’re going to be, call Clark County Environmental Services at: (360) 397-6118 ext. 4352

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Really Positive News
By John Hamilton and Steve Gabriel

We are all aware of the inescapable abundance of negative news in the world currently, and we don’t have to go far in our daily routines to find out about it. Turn on the television for the evening news or turn the corner, and the “story” is the same; violence, death, and scandal among others, stories that sadden but fail to directly inspire us with any sort of hope. The more painful elements of our humanity are not only well understood, but seemingly impossible to escape. And, at some point we must logically drift to the question, “Isn’t there something a bit more positive happening out there?” In fact there is, throughout the world, a number of individuals who’ve poised themselves to create a new message for everyone to hear; another world is possible, and it’s in fact happening right now.

Born in the United Kingdom in the early nineties, Positive News is a bottom-up organization formed with the simple yet revolutionary notion of, “reporting on the people, events and influences that are helping to create a more positive future in areas of sustainability, education, and social justice.” The paper now has a global circulation of over 75,000 with the demand only growing. In the winter of 2001, the newspaper came to the US, beginning with scattered distribution and culminating with the creation of a US-based edition that featured articles from both sides of the Atlantic.

The founder of the US edition, Ilonka Wloch, began her relationship to Positive News by simply bringing home copies of the paper from a trip to Ireland to show to friends. “I thought the whole concept was great,” says Ilonka, “and I found that people back here in the states saw the articles as uplifting and inspiring.” Joining her was a number of local writers, artists, and activists interested in bringing inspiring stories to the community. Among them is former New York State Assemblyman Marty Luster who helps in various ways as co-editor of Positive News. Luster was quickly “intrigued by the message and the professionalism [of the paper]” What has resulted from such a convergence is a diversity of ideas and talents leading toward a positive creation.

The publication, based in Ithaca, NY in the northeastern United States, has quickly become popular wherever it’s found. With headlines like “Building Around the Sun” and “We are Making a Difference,” readers quickly find that while the paper is rather traditional in appearance it is far from typical in content. Even more surprising may be some of the establishments such an item can be found in. Besides the co-op, natural foods restaurant, and library, copies of the newspaper have been known to turn up in schools, doctor’s offices, bus stations, car dealerships, and shopping centers. “I was dropping off issues at a car dealership one time and the man who worked there ran out and asked me for a few extras, he said he wanted to show them to his buddies.” laughs Ilonka. “The paper seems to be enjoyed no matter where it ends up.”

It’s also free. It is the goal of the paper and its creators to allow Positive News to fluctuate throughout communities where ideas can be exchanged freely and without the usual media censorship. This goal was part of the reason Positive News was brought to the US, as shipping costs and fuel miles decreased with the creation of new outposts.

Ilonka, who knew little about publishing or printing, responded to a need by creating Positive News in United States. The creation not only served to broaden the base of exposure to the paper, but also opened the space for a number of volunteers to gain experience with the process of producing a newspaper. Currently there are over 40 volunteers committed to helping with everything from article writing to the layout of the paper itself. Paul Glover, a well-known activist and community visionary notes that the success of Positive News is largely due to the interaction the general public can have with a newspaper. “That's the level where average people can have above-average influence. That’s the level where solutions begin. We need to make community-building more fascinating than global destruction.”

It’s important to note is that Positive News is not attempting to ignore or cloud over the difficult reality of suffering and difficulty throughout the world but rather hopes to create a more balanced and solution-orientated publication to inspire others to act. As Ilonka notes, “I enjoy seeing how it [Positive News] motivates peoples to act on behalf of creating a better and healthier world all around for humans and the earth.” We are in the midst of challenging times, and mediums that exist to uplift and inspire us can only be for the good.

For information and to subscribe contact: positivenewsus.org ore email: welcome@positivenewsus.org phone: 607-351-7944
Building

Making Houses Out of Trash
by Carole Douglas

The average diameter of timber felled in the Pacific Northwest declined from 14 inches in the mid-1970s to 7 inches a decade later.

As forests around the world are torched or cut, environmentalists track the numbers of hectares deforested and of species lost. But there’s another, less commonly known indicator of forest decline: the shrinking size of the trees that remain. The average diameter of timber felled in the Pacific Northwest of the United States, for instance, declined from 14 inches in the mid-1970s to 7 inches a decade later and is continuing to fall, says Steve Loken of the Center for Resourceful Building Technology in Missoula, Montana.

One consequence: Solid wood buildings once considered cheap—such as the log cabins, barns, or rough-sawn frame houses erected by earlier generations of Americans—have lately become luxuries. Where large, fresh-cut logs were once abundant, lumber mills and their customers are now learning to make do with other materials. “The largest old-growth trees are gone,” says Loken, “so now we’re trying to find ways of taking smaller pieces of wood and engineering systems to extend the resource base — kind of like using Hamburger Helper.”

Ways to “stretch” wood include using thin wood veneers on visible surfaces, reusing lumber from dismantled buildings, and replacing the solid wood beams normally hidden in walls and ceilings with laminates made from thin strips of scrap wood glued together. Sometimes builders replace wood with plastic, fiberglass, aluminum, or more low-tech materials such as adobe. In a modern update of an old prairie building technology, a Tucson, Arizona, builder, Marts Myhrman, makes highly insulated outer walls by covering straw bales with stucco.

Construction and design entrepreneurs also use trash as a resource, turning newspaper into attic insulation, windshields into iridescent floor tiles, plastic bottles into shingles and carpets, and aluminum soft-drink cans into roofing. Fly-ash, a by-product of coal combustion, can substitute for cement (which has a high energy cost to manufacture) in concrete foundations. And a New York company, Ring Industries, is experimenting with making construction blocks out of paper sludge — the gunky residue (inks, varnishes, and excessively short wood fibers) that remains when used paper is recycled.

From the scores of “resource-efficient” construction methods being tried, a few may eventually make their way into the industrial mainstream. Among the most promising candidates is a form of modern-day alchemy that turns used paper, cardboard, and other fibers into virtual lumber. Researchers at the Forest Products Laboratory (FPL) of the U.S. Forest Service in Madison, Wisconsin, pioneered this technology in the early 1980s.

The technique involves pouring a slurry of fibers from waste paper into a rubber mold that looks like a waffle iron, vacuuming most of the water out through tiny holes in the mold, then heating and press-drying the fiber mat. The result is a tough, lightweight fibrous panel with a honeycomb on one side and a flat surface or “skin” on the other. Gluing two of these panels together creates a structural panel of waffle sandwiched between two smooth faces. The material — named “spaceboard” by the FPL because of the spaces in the honeycomb — can be made paper-thin for packaging and as thick as 75 millimeters (3 inches) for walls, roofing and floors. The panels can be flat or curved. The lattice can be left empty or filled with insulation, or even concrete, for foundations. Spaceboard can be sawed, nailed, sealed, painted, laminated, coated with fire-retardant, and covered with cloth or wood veneer.

It’s nontoxic as long as nontoxic adhesives are used to apply the covering. Most important, in some uses it’s stronger, pound for pound, than lumber, plywood, particleboard, and other common construction materials.

The FPL patented spaceboard in 1987, then recruited private partners to help develop the product commercially. The venture furthest along is that of Carlsbad, California-based Gridcore.
Systems International, which markets spaceboard under the trade name Gridcore. The company has begun by developing lightweight panels for the trade-show-display and filmmaking industries. The spaceboard made by Gridcore is less fussy than recycled paper about its raw materials, so it can make use of a far wider array of trash — 40 to 70 percent of what fills landfills now, according to some estimates. Gridcore can be made from newspapers, glossy magazines, mixed waste paper (without de-inking), lumberyard and backyard waste, old phone books, textiles, sawdust, fiberglass, crop residue, and even plastics.

In his latest show for Home Box Office television, film director David Lynch used Gridcore for the set, and the Alliance of Motion Picture and Producers is testing it. The chief reason: Gridcore substitutes competitively for luan plywood, the traditional set-building material. Luan—light, strong, flexible, and consumed by Hollywood by the thousands of tons annually—comes from rain forests under pressure in Indonesia, Malaysia, and Southeast Asia. Environmentalists have pushed to halt its use for the screen.

The Franklin Noble Corporation, which is affiliated with Gridcore Inc. and is also based in Carlsbad, has won the right to market Gridcore for transport vehicles — planes, cars, trucks, and boats. According to FPL's supervisor of research engineering, Theodore Laufenberg, possible uses range from airplane tray tables to wings — in which Gridcore would substitute for aluminum.

Perhaps the most important long-term use for spaceboard, however, may be in the manufacture of low-cost housing. California officials have asked Gridcore Industries to build a working prototype of farmworker housing— for which technical standards are currently less exacting than those for commercial housing — while the company continues work toward getting Gridcore code-certified for regular construction.

From a structural standpoint, says Noble, the advantage of this method of making houses out of trash instead of trees is that "the engineered honeycomb is so strong that Gridcore alone becomes a whole wall assembly." A panel of Gridcore provides the combined services of interior particleboard or Sheetrock, structural studs, and exterior sheathing all in one, making on-site construction faster and cheaper than is possible with conventional "stick"-building methods. Noble aims to make inexpensive Gridcore houses strong enough to have withstood Hurricane Andrew, the megastorm that demolished 47,000 houses in southern Florida in 1992.

Gridcore Systems International is scheduled to launch its new factory in Long Beach, California, in December. The company plans a basic product line of 4-by-10-foot panels. A 3/4-inch-thick panel cut to 4 by 8 feet (a standard U.S. size) will weigh about 20 pounds — about half the weight of a comparable sheet of plywood. Within a year Noble expects to be churning out panels at the rate of about 250,000 annually. That rate would save about 5,000 tons of virgin lumber a year — or some 95,000 trees of 6-inch diameter. Initial prices will be competitive with the current materials of the trade-show and stage-set industries, says Noble.

Gridcore is designing a closed-loop system for the factory: Water will be cycled through the plant, to avoid discharging fibers and heat into the environment. And the company plans to buy back as much Gridcore as possible — particularly panels used in Hollywood sets — for reuse in furniture, signs, props, and art supplies.

Though its debut is literally taking place on the glitzy stage of Hollywood, spaceboard may ultimately prove to be of greatest value in poor countries — especially those where forest resources have been badly depleted. “Making this stuff can be as low-tech as you need,” says Noble. “It’s as easy as can be to operate the equipment, and raw materials are available everywhere.” A prospective producer who doesn’t have access to much paper or cardboard can use rice, straw, wheat chaff, sugarcane waste, sawdust, bamboo, jute, kenaf, or just about any crop residue. In fact, nearly anything with cellulose fiber will do. Moreover, high-quality panels can be made without energy inputs other than muscle: People in an unelectrified village could mechanically press the wet fibers and dry the product on a rack.

Spaceboard and other resource-efficient materials open up a new way of looking at construction. “We’re still overusing lumber—whittled trees—and underusing other fiber resources,” says Noble. But he expects that within a decade our whole method of utilizing fiber will be turned completely upside down. We’ll have highly efficient, economical manufacturing methods of using other sources of cellulose fiber.”

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How to Get Carbon-Free in 10 Years
by Brooke Jarvis & Doug Pibel

Meet the Joneses. They’re an average American family—Mom, Dad, one kid—who decide to be part of the climate solution. The Joneses are just made-up, but this scenario shows that an average family can get carbon-free in 10 years, without turning their lives upside-down. A decade from now, maybe the Joneses new way of life will be the new American average.

The Joneses are your average U.S. energy consumers. They haven't yet upgraded to energy-efficient appliances, their house needs better insulation, and they keep the place as cool in the summer and warm in the winter as most Americans do. The two adults commute 30 miles each per day, in separate cars with average fuel efficiency, and every year they each drive an additional 4,500 miles running errands and taking their child to soccer games and violin practice. The family takes one vacation trip per year, flying to visit grandparents 1,350 miles away. How much CO2 do their house and cars produce? We figure it at 60,000 pounds, or 10 tons for each family member.

Lately, though, the Joneses have been reading about climate change, and they’re getting worried. Ecological crisis has never felt so urgent before. Even little Joey Jones is talking greenhouse gases—he learned at school that scientists are predicting a worldwide climate catastrophe that will change the rest of his life, unless we stop the worst effects by making big changes in the next ten years. The Joneses decide: change is necessary, and they’re ready to do their part. But how much can they really do? A lot, it turns out.

In 10 years, without sacrificing their way of life, the Jones family eliminates the CO2 emissions that their home and transportation used to create—the bulk of their carbon footprint.

Year One: A Big Difference from Small Changes

The family starts off with easy changes: They wash clothes in cold water and air dry them in the summer, replace incandescent bulbs with compact fluorescents (CFLs), turn off their computer when not in use. That’s an instant, virtually free savings of 6,200 pounds of CO2. They make one simple transportation change: One of the adults commutes by bus three days a week—enough to see whether it can be done, but keeping the second car just in case. That’s worth another 2,200 pounds. They’re down to 51,600 pounds, or 10 tons for each family member.

Introduction - The Joneses are your average U.S. energy consumers. They haven't yet upgraded to energy-efficient appliances, their house needs better insulation, and they keep the place as cool in the summer and warm in the winter as most Americans do. The two adults commute 30 miles each per day, in separate cars with average fuel efficiency, and every year they each drive an additional 4,500 miles running errands and taking their child to soccer games and violin practice. The family takes one vacation trip per year, flying to visit grandparents 1,350 miles away. How much CO2 do their house and cars produce? We figure it at 60,000 pounds, or 10 tons for each family member.

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Year Two: Home Improvement - They stop donating so much heat to the outdoors: attic and basement insulation, sealing and insulating heat ducts,
and patching the large air leaks typical of standard construction saves them a whopping 7,100 pounds. These savings aren’t free up front, but the savings in heating and cooling bills will repay the cost over time. Besides, Mrs. Jones is handy with home repair, and does a lot of this work herself. Down to 44,500 per year.

Year Three: House and Car - The bus commute’s gone well, so Mr. Jones now buses to work all the time. They’ve worked on consolidating trips outside work, and find they can do without the second car altogether. That’s 5,900 pounds gone. They finish weatherproofing their house: beefing up wall insulation, weatherizing doors and windows, and upgrading to high performance windows. Another 1,800 pounds disappear. They’re at 36,800.

Year Four: Shed Carbon on Vacation - Instead of flying for their annual vacation, the Joneses take the train: a leisurely way to save 7,200 pounds every year. (If they took the bus, they’d save even more.) They’re at 29,600 pounds per year—halfway there a year early.

Year Five: Time to replace the car - Thanks to consumer demand, electric cars have become widely available, and they buy one. Even charging on dirty power, they save 9,000 pounds. Household total is now 20,600.

Year Six: Hot and Cold - They improve their water system, including insulating their hot water heater and their pipes, and also lower the temperature of their water heater: 1,000 pounds down. When the old refrigerator kicks the bucket, the Joneses buy a new energy-efficient one and finally unplug a second fridge in the garage, knocking off another 1,300. Total remaining: 18,300.

Year Seven: Close to Home - Grandma and Grandpa retire and move nearby. The Joneses now vacation within the range of their electric car, saving 3,300 pounds of CO2 each year. The city converts its bus fleet to clean electricity, which saves another 1,200 pounds. They’re down to 13,800.

Year Eight: A Few More Things Around the House - An efficient clothes washer saves carbon on its own, and saves dryer time. With all the money they’re saving, they decide it’s time to invest in a solar hot water system. Total: 2,000. Leaving 11,800.

Year Nine: Electric Bikes - While the Joneses have been on this journey, their town has responded to citizen pressure and gone bike friendly. The new bike paths make it easy for both to ride to work. To ease the hills, they buy electric bikes. There are four months of the year when they can’t bike, so they continue their usual commute patterns then. Savings: 3,500.

Year Ten: Green Power - The Joneses’ furnace has been groaning and working overtime. They replace it with an electric heat pump, which also cools the house in summer. They also buy certified green, renewable power from their electric company, and the switch from coal plants eliminates the remaining 8,300 pounds of CO2 produced by the electricity for their house and car.

Count Your Carbon - Want to keep up with the Joneses? Here are the numbers we used. Use them to find—then shrink—your own carbon footprint.

Gallon of gas.................................19.36
Gallon of fuel oil or diesel..................22.38
Kilowatt hour of electricity
(national average)............................1.43
Therm of natural gas........................11.71
Gallon of propane............................12.67

Per passenger:
Airplane mile ...............1.28
Train mile...............................0.42
Long-distance bus mile.........0.18
Local mass transit mile...........0.50
Electric bike mile.................0.02

The Rest of the Story
The Joneses only changed their housing and transport habits. How can you go further?

Eat meatless. For every day of the week you skip meat, you’ll save 215 lbs. per year.

Buy locally. Most food eaten in the U.S. has traveled 1,500 miles to your plate.

Be a low-impact consumer. Choose local products, reduce the stuff you buy, and save embedded energy by buying used.

Reduce waste. Stop junk mail, reduce packaging, and reduce the 2,020 lbs. each American’s waste produces annually.

Avoid the McMansion. A smaller house saves a lot of carbon: on average, 11.4 lbs. of CO2 per square foot per year.

My understanding of the ecological and social issues was a process that happened simultaneously. The more I learned about our globalized food system, the more lacking in common sense it seemed. Not only are most people missing out on the age-old pleasures of eating real, fresh foods grown and prepared in the context of community, but as a species we are burning fossil fuels at rapidly increasing rates, and releasing ever more carbon gases into the atmosphere. Factory farms exploit workers and the earth, abuse animals, and contribute to a society in which factory-processed foods have become staples - creating a population that is simultaneously overfed and undernourished. The more I learned, the more committed I became to the idea that strong local food systems are essential for environmental sustainability, food security, social equity, and the economic vitality of thriving communities.

While working as the Director of Education at the Ferry Plaza Farmers Market in San Francisco, I met Sage Van Wing. Sage was another of the many people who had gotten turned on to local foods, and our acquaintance was built on our shared passion for local and sustainable food systems. In April of 2005, having left the farmers market to focus on writing my book (Full Moon Feast: Food and the Hunger for Connection), I was on a writing residency in West Marin, and would occasionally walk into the nearby town of Point Reyes to pick up food, do a bit of research, or just take a break. Sage worked at the town’s beloved local bookstore, and I would sometimes browse their titles and chat with her.

It was during one of these chats that Sage told me she had an idea she wanted to run by me... She had just finished reading Gary Paul Nabhan’s book Coming Home to Eat, about his experiment with spending a year eating only foods grown or harvested within a 250-mile radius of where he lives near Phoenix, Arizona. Deeply inspired, Sage thought: wouldn’t it be cool to challenge people in the Bay Area to eat locally for even just a month? It would be an experiment to see what we could and couldn’t find within a certain radius of our homes. The idea struck me immediately as one whose time had come. It was too exciting to pass up and I told her I was in. She wrote a press release and solicited a couple of other friends to get involved. I already had an active website for my work around food, and asked my web designer to create a webpage for our challenge. Sage was calling it “Foodshed for Thought”.

One of the other women on board was local chef Dede Sampson, who had done some work connected to the San Francisco Chronicle food section. Our press release made its way to the desk of one of the food section’s lead writers, Olivia Wu. The Chronicle was doing a whole section article. Olivia decided to use me as her example of the challenge in action, and brought a photographer along to follow me shopping at the farmers market and then cooking a meal for the three of us in my home kitchen, based entirely on ingredients grown within a hundred-mile radius. Luckily, she liked the meal!

As she was working on the article, however, Olivia felt strongly that our group needed a moniker. Most projects like this come out of a group of people already associated with some entity, such as a business or a non-profit organization—but we were just a group of women who had gotten excited by an idea and were willing to put some time and energy into creating the challenge. As her deadline approached, Olivia gave me a call and insisted that we come up with a name for ourselves. She was apprehensive about using the phrase “Foodshed for Thought”; she wanted something a bit catchier, and something that referenced us and not just the challenge. “Okay,” I told her, “when do you need it by?”

“Five p.m. today,” was her answer!

That gave us only a few hours to come up with something. I called Sage, but couldn’t reach her, so I left her a message saying that I was working on it. I didn’t know where to start, so I wrote down, “Local Eaters”

Then, beneath it: “Some Women Who Eat Locally”

Clearly, this wasn’t going to be easy...

I have always loved words. The Greek, the Latin, the Germanic, and the Anglo-Saxon influences on modern-day English are both romantic and fascinating to me. So an obvious step was to browse etymology websites in search of roots and affixes drawn from either Latin or Greek that might convey the idea of “local eaters” with a bit of elegance or style. The Greek word for “to eat” is phagein—the root of the word “esophagus”—which I didn’t think would make a very pretty word! The Latin root of local is locus, and the Latin root most associated with eating is vorare, both of which seemed to fit aesthetically as well as semantically. It wasn’t long before I found myself debating the pros and cons of “locavore” and “localvore”—and intuitively preferred the former.

These were my reasons:

1. Flow: the word flows better without the “lv” in the middle. It’s easier to say.

2. Nuance: in my opinion, “localvore” says too much. There is little mystery to it, nothing to discover. It says that this is all about eating locally, end of story. But the word “local” is rooted in locus, meaning “place”, which has a deeper resonance... This movement is about eating not only from your place, but with a sense of place—something we don’t have an English word for. There is a French word, terroir, which implies the sense of place that you get from eating a particular food or drinking a particular wine. Unfortunately, it looks a lot like “terror”, something Americans are touchy about at the moment. I do know one wonderful local farm here in the Bay Area that has made an English play on the French word by using the term “tairwa”, but it hasn't really caught on.

3. Credibility: “locavore” could almost be a “real” word, combining roots derived from two Latin words: locus, “place”, with vorare, “to swallow”. I like the literal meaning of “locavore”, then: “one who swallows (or devours!) the place”!

4. Levity: because of the Spanish word “loca” embedded in “locavore”, there is a little tongue-in-cheek, playful quality to it. I enjoy both the potential for teasing embedded in “locavore” and the potential for serious
discussion—which is crazier, people who try to eat locally, or our current destructive globalized food system?

5. Operatic potential: read the word as if it were Italian, and it rhymes with “that’s amore”!

My father has since pointed out one other advantage locavore has over localvore: the latter could be misread as “lo-cal vore”! It would be really terrible to be misconstrued as promoting a weight-loss diet—especially for someone who loves rich food as much as I do. Plus, it cuts a bit too close to home… With the loss of small-scale integrated farms, it is indeed challenging in many parts of the country to find enough locally grown calories to feed the local population throughout the year.

That evening I was able to reach Sage by phone and run the word by her, and she approved. I left messages with the other women in our group and then sent the word on to Olivia Wu, with the qualification “the best that we can come up with…” She emailed me right back with just two words: “love it!”

Within a week her article was published, and within a few days of that you could google “locavore” and find over a dozen entries. The movement was already alive and kicking, and happy to have a word it could work with. Eat-local challenges began springing up around the country. Once Barbara Kingsolver used it in Animal, Vegetable, Miracle it was just a done deal.

So I’m still giddy. It doesn’t bother me at all that some locavores call themselves localvores—what higher honor for someone encouraging people to eat with a sense of their place than to have local and regional variations on your word?! And just to put icing on the cake, someone has turned my picture into a lolcat-style “lolcavore”. I have to admit I’d never even heard of lolcats before, but now I am just so proud… so very very proud.

And just for the record… I am hardly a purist or a perfectionist. (I was also proud when the New York Times called me a “pragmatic” voice in the movement.) Personally, I don’t use the word as a whip to make myself or anyone else feel guilty for drinking coffee, cooking with coconut milk, or indulging in a piece of chocolate. There are things it makes sense to import because we can’t grow them here, and they’re either good for us or really delicious or both. But it doesn’t make sense to watch local apple orchards go out of business while our stores are filled with imported mealy apples. And if you spend a few weeks each year without the pleasures of imported delicacies, you really do learn a whole lot about your foodshed, about your place, about what you’re swallowing on a daily basis.

Thanksgiving is upon us—what better opportunity to “swallow the place” instead of just swallowing a factory-farmed turkey? Why not gather with loved ones and give thanks for the gifts of your little location on our planet? Once upon a time, all human beings were locavores, and everything we ate was a gift of the Earth. To have something to devour is a blessing—let’s not forget it.

Jessica Prentice


Kati Neville is a Certified Master Recycler and author of Fix, Freeze, Feast. She posts “Greener Freezer” tips on her blog, The Forklift, at www.FixFreezeFeast.com.
substance banned, then another, hailed by marketers as the new miracle cure and more toxic than its predecessor, appears. It’s a story oft-told and fated to be repeated. Buy organic! ~ SM)

Let’s say you’ve chosen strawberry shortcake for dessert tonight, so you’ve purchased a supply of the bright red berries. Like many of us, you’ve bought them without giving serious thought to any health risks that might be associated with such a seemingly innocent purchase. But read Will Allen’s *The War on Bugs* (Chelsea Green, 2008) thoroughly documented examination of the use of pesticides in the California strawberry harvest and you may have some second thoughts. These juicy berries may not be as harmless as you think, although one might assume that they would not be available if the federal government believed they were a danger to our health.

“In 2004 California strawberry growers used 184 different pesticides,” Allen, now relocated from California to Vermont, reports, adding that six of them accounted for more than 80 percent – or nearly 9 million pounds – of them. One, methyl bromide, remains on the market even though it supposedly was banned under an international treaty (the Montreal Protocol) more than 10 years ago, he reports.

In *The War on Bugs* other agricultural products are profiled in the same easy-to-read approach he applies to strawberries. You can find everything you need to know, and more, about the use of pesticides in the growing of carrots, watermelon, spinach, onions and peaches, for example.

Not surprisingly, the author is a co-manager of the organic Cedar Circle Farm in East Thetford, Vermont and serves on the board of Rural Vermont (he earned a doctorate in anthropology and has a long history, including time in jail, of fighting for civil rights, against war and, now, against the widespread use of dangerous chemicals). He notes that “an average of 335.40 pounds of pesticides were used on each acre to grow strawberries for our shortcakes.”

But this is not just a book about popular desserts and their hidden dangers. It is a well-crafted, thoroughly researched literary polemic against the chemical companies and their customers (the farmers) who, by means of advertising, propaganda and other marketing
techniques, have lulled consumers into unwittingly purchasing all kinds of farm produce that has been treated with often-dangerous insecticides.

In fact, The War on Bugs is also a truly fascinating history of agriculture not only here in the United States but elsewhere, and it is generously illustrated with documents that portray not just the progress of agriculture but the often-hidden costs associated with that progress.

“The goal throughout this book has been to advise consumers to protect their health and safety by being fully informed about the foods they choose and the type of farming that produces their food,” Allen explains in the appendix. “An analysis of residues on foods is a valuable guide to know how many poisons are still lurking in your food when you eat it or cook it.”

This is not the kind of book you grab for an evening’s reading pleasure. For one thing, its format – 9 inches by 9 inches – makes it difficult to manage from an easy chair (although the format also allows for excellent depictions of documents that in themselves are extremely interesting, especially to readers who appreciate history).

No, this is a book that ought to be read with a certain seriousness of purpose, perhaps with a notebook and pencil nearby. It is a book of importance to all of us.

Speaking of history, consider this passage: “The earliest European pilgrims to North America (1607 to Jamestown) were forced to borrow certain techniques from ... native farmers just to survive. However, almost no European immigrants adopted the Indians’ complex tribal farming systems. This is because the survival of Dutch and English colonies depended on producing commodities for export and for local sale – in other words, on making a capital profit for their investors.”

That last phrase, “on making a capital profit for their investors,” resonates throughout Allen’s book, for the profit motive explains so much of the behavior of the chemical companies marketing the pesticides and the farmers buying their products. That, of course, is how capitalism works, but the consumer seldom stops to give market economics much thought.

“My interest in how farmers became comfortable with using dangerous chemicals began more than thirty years ago, as many of us converted our farms from chemical to organic production,” the author explains in the preface. “Along with several close friends, I had come to the realization that we did not need to use so many dangerous poisons on our farms since we were getting good yields and high quality without them. This realization was an epiphany for those of us brought up believing that chemicals were Necessary, Critical, Essential, Modern, Progressive, Profitable, Economical, Miraculous, even Heroic – all in capital letters.”

The question is: How many will take the time to read this treatise on a subject that should be, at the very minimum, Necessary, Critical, Essential, Modern and Progressive?

A.C. Hutchison is retired as editor of The Times Argus. This review appeared originally in the Vermont Sunday Magazine.

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Green Notes

**Building with Earth Workshops**

For those serious about working with dirt, we know of no masters greater than Kiko Denzer and Hannah Field, who will be staging a series of workshops across the country this summer.

If you can make mud pies, you can build with earth. Good material is often underfoot. Practical, beautiful, dirt cheap, and faster than you think, mud is also sculptural, colorful, and rich, whether you make ovens, benches, garden walls, or houses. And you can do it with your kids! “Mud ovens” were the original masonry ovens (brick is, after all, fired clay). The ovens they make bake beautiful bread (and anything else), and perform as well as the fancy $4,000 Italian ones. You can build a simple one in a day, learn about cob and natural building— and make the best pizza and breads.

Workshops with Instructors Kiko Denzer & Hannah Field cover everything you need to know to make an oven and bake anything in it, as well as Hannah’s simple approach to naturally leavened, “artisan” breads. Kiko & Hannah have taught at Bob’s Red Mill, Andrew Whiteley’s Village Bakery (UK), the King Arthur Flour Company, and at the Bread Baker’s Guild of America’s “Camp Bread” in San Francisco. Kiko is an artist/ builder and author of Build Your Own Earth Oven (bread chapter by Hannah), & Dig Your Hands in the Dirt: A Manual for Making Art out of Earth (Hand Print Press). Hannah baked professionally for organic bakeries in the UK, and is also an organic gardener and massage therapist.

They walk their talk: they don’t have a conventional oven— every other week, they bake 25 pounds of whole-grain sourdough in a mud oven. It’s a staple food. Their philosophy for workshops is that we all participate, we all learn, and we all teach. Groups are generally interesting, diverse, and fun. They also believe that the cooking (and growing) of food is essential to true culture. They hope that, by working, cooking, learning, and eating together, we can maintain the living fabric of a peaceful community and culture.

Get information about their workshops by calling 541-438-4300, or emailing handprint@cmug.com. Workshops will be held June 9-13, July 10-20, and 26-27, and August 23-24.

**STIRLING Engine R&D Gets Mass Financial Boost**

(Note: Green Living Distributor Jonathan Mark of Fly-By News Service has been instrumental in securing the funding for the Stirling Engine.)

Finally, after more than 13 years of independent research and development (R&D), a program for renewable energy, sponsored by the Massachusetts Technology Collaborative, has provided matching funds for a loan to develop thermal electricity generation based on a Stirling engine.

continued on next page
NativeEnergy List Top Ten For Travel Industry
The “10 Reasons to Go Green” for the Travel Industry are:

1. The Climate Crisis: Global warming is threatening destinations worldwide, which includes an increased risk of rising seas, flooding, severe storms, extreme heat, and drought.

2. A Marketing Edge: Over 50% of the market is more likely to select suppliers that demonstrate a commitment to environmental responsibility.

3. A Better Bottom Line: Green companies save money by being watchdogs of their energy and resource expenditures.

4. Smarter Lodging, Ships & Transportation: Plans for resource efficiency in hotels, cruise ships, aircraft, and vehicles will become essential to maintain margins with competitive pricing.

5. Green Design Builds Distinctive Branding: Green designs are cost competitive, innovative, and attractive to 78% of the market that considers itself environmentally conscious.

6. Green Data Management for Clients: Preparing reports that include green benchmarks, carbon footprints, and click-through carbon offsets will put firms in the position of being market leaders.

7. Greener Transportation Options: Nearly 40% of travelers are concerned about the carbon impact of air travel and will be demanding to know how to improve the green profile of their trips.

8. Showing Genuine Concern for Others Around the World: A green policy for travel is a sensitive policy that shows concern about the effects of climate change on destinations and their residents worldwide.

9. Reporting on Industry Green Policies: As legislative efforts heat up, the travel industry must be prepared to report on how it is responding to environmental issues.

10. Strategic Green Partners: Environmental partners will be vital to helping businesses respond to the climate crisis more effectively.

NativeEnergy’s travel division is committed to reducing the environmental impacts of the tourism industry, while helping entities work more efficiently as businesses.

For more information: Sara Widness 802-234-6704 sara@widnesspr.com.

Introducing the B-Corp
Employee-Owned Company and Premier Baking Resource is Certified

The King Arthur Flour Company, founded in 1790 and the nation’s oldest flour company, is the first Founding B Corporation to add the B-Corp logo to product packaging. Recently certified as a Founding B Corporation, King Arthur Flour has added the logo to 13 products and over 6 million packages available nationwide.

B (Beneficial) Corporations are a new type of purpose-driven corporation that create benefit for all stakeholders, not just shareholders, setting a new corporate standard for social and environmental performance. To become certified, B Corporations must meet comprehensive and transparent social and environmental performance standards, and amend their corporate governing documents to incorporate the interests of employees, community and the environment.

“We feel honored to be a founding B Corporation. Our participation is not only a validation that we’re on the right track with corporate social and environmental responsibility, but also a great tool and impetus in helping us continue to move in that direction,” said King Arthur Flour President and CEO Steve Voigt. “We’re glad to be one of the corporate leaders in this area and hope that our participation will inspire other companies to get on board.”

King Arthur Flour is among 82 Founding B Corporations with a collective market presence of $650 million, all leaders within the green, local-living economies; employee-ownership, fair-trade, organic, and sustainable business movements; and from the food, apparel, home, financial services, building, action sports, technology, business services, telecom, restaurant,
marketing, and retail industries.

America’s oldest flour company, King Arthur Flour has grown from a regional staple to a brand known nationwide not only for its high-quality flours but for its passion in sharing the joy of baking; from a small mail-order business with five employees in 1990 to the premier baking resource with nearly 200 employees today; from a family-owned operation for five generations to a 100 percent employee-owned business. King Arthur Flour continues to strive toward its mission: To be a creative and profitable company that’s a product, information, and education resource for, and inspiration to, bakers worldwide.

**Website and Handbook for Farmers Highlight the Benefits of Energy Conservation and Self-reliance**

In response to record-high energy prices and increasing financial pressure on independent farms, the Institute for Energy and the Environment at Vermont Law School (IEE) is releasing two publications and a website highlighting the benefits of energy self-reliance. The resources are an indispensable tool-kit for farmers looking to save money and protect the environment through alternative energy sources. *The Farmer’s Handbook for Energy Self-Reliance* offers in-depth analysis of energy efficiency, biomass, and alternative energy use on small farms. The publication covers best practices and technical aspects of start-up, and includes success stories from a variety of different regional farm scenarios. Highlights include:

- Energy planning strategies that farmers can use to model their energy choices
- Analysis of energy efficient practices that can save time and money in farming operations
- A review of the different applications of biomass (wood, manure, biodiesel, and ethanol) for on-farm production and consumption
- An appraisal of the benefits of wind and solar power on the farm.

A second publication, *A Farmer’s Guide to Energy Self-Reliance*, offers tips and suggestions outlined by price-point, ranging from cheap and easy adjustments to substantial investments. The IEE’s Energy Solutions For Independent Farms website offers a glossary of state-specific financial incentives for alternative energy investments, links to related web resources and publications, a selection of success stories, and will be updated regularly with new information.

The publications are free and available online at the Energy Solutions For Independent Farms website [http://www.agenergysolutions.org/site/](http://www.agenergysolutions.org/site/), or in print by contacting the IEE directly at Energy@vermontlaw.edu.

**Speaking of cool, free newsletters:**

Solar Energy International:
[newsletter@solarenergyinternational.net](mailto:newsletter@solarenergyinternational.net)

GreenLine Paper (tips for greening your office):
[info@greenlinepaper.com](mailto:info@greenlinepaper.com)

*We welcome your suggestions for more!*
Alternatives to Toxic Flea and Tick Products.

by Jill Breitner

Summer is here and that means fleas, ticks, hot spots and the dilemma of how to safely rid our pets of these nasty, bloodsucking, disease-laden parasites. Have no fear; there are alternatives to the typical toxic products. You can care for your pets in a healthier way, while caring for your family and the environment.

Buyer Beware! Just because the ingredients in flea and tick products are plant-based or “NATURAL,” they’re not necessarily safe. Indeed, they are toxic to your pets, your family and the environment. In order to KILL parasites, these products contain a synthetic chemical that may cause serious side effects, such as cancer, skin allergies, liver damage, etc. Most of the recommended spot-on products are made from chemicals, which are toxic to our pets. One spot-on flea control product is a class C carcinogen and enters systemically, (into the bloodstream) of your pets, while the others enter subcutaneously, (under the skin). The chemicals: fipronil (a class C carcinogen) selamectin, and imadocloprid are the chemical agents in these products, also in shampoos and sprays, and may very well be causing the problems we are facing in our pets today, to include, cancer, liver damage, immune deficiency disease, and more. Most of these products are toxic to aquatic life, sickening fish and wildlife that are drinking out of our polluted streams and rivers. So, you see that not only are we poisoning our pets, we are putting our own family and the whole environment at risk, for a problem that is very easily managed naturally and non-toxically.

Again, please don’t be fooled by the word “NATURAL.” As with so many other products, is nothing more than a well-thought-out advertising scheme. For example, Pyrethrin is an insecticide that comes from chrysanthemum, and d-Limonene comes from citrus—but the final chemical agent made from these ingredients is toxic. Consider the following statements put on the labels of these so-called natural, safe flea and tick control products.

“Avoid contact with skin.”
“Harmful or fatal if swallowed.”
“This product is toxic to fish, birds and other wildlife.”
“Harmful if absorbed through skin.”
“Harmful if inhaled.”
“Avoid contact with eyes, skin or clothing.”
“Keep out of reach of children.”

Does this sound like something you really want to put on your pets or be exposed to yourself?

These products debilitate our pets’ immune systems; meanwhile, fleas and ticks are becoming resistant to them, which provokes manufacturers to make even stronger products. The ripple effect of all this is toxic to our precious loved ones and mother earth.

A spot-on flea or tick-control product may be a convenient and effective way to kill parasites, but if the cost is poisoning our pets, then we must find alternatives. By feeding our pets healthy foods and managing our homes in a safe, environmentally friendly way, we can keep our pets, children and planet free from toxic chemicals.

FLEAS - The inside of your home may be a breeding ground for fleas. If you have carpet or rugs in your home, fleas may be laying their eggs in your carpet. When they hatch, your pets are susceptible. Boric acid is a non-toxic product that kills fleas as soon as they hatch in your carpet. It lasts 1 full year and can be found online or in any pet stores. (Some common boric-acid flea products are Flea Stoppers and Flea Busters.) You can do it yourself, by simply dusting the carpeted areas in your home, with a broom. The more you vacuum, the finer the boric acid powder gets and increases its effectiveness. You can also hire a professional to handle this.

Fleas also live and hatch outside in grass. Nematodes are microscopic worms that eat the larvae in the grass, killing them naturally. Nematodes are safe for your pets and your family. You can find them at your local gardening-supply store or online at www.fleabusters.com.

Managing our pets while managing our home environments is crucial. Diminishing the flea population inside, outside, and on our pets is another step toward healthier, longer-living pets and a healthier planet. Less-invasive methods may not be as convenient as traditional methods, but the cost of convenience may be the life of your pet. Using a flea comb daily, bathing your pet in a non-toxic shampoo monthly during flea season and treating your home with boric acid and nematodes are very viable alternatives.

Hot spots usually come from fleas, and one flea can cause such an allergic reaction that hot spots can easily get out of control. If your dog gets a hot spot, you must shave or cut the hair around it and clean it well, with hydrogen peroxide or betadine scrub. Exposed to air, it will not become infected. The hot spot becomes infected when the dog licks himself and the saliva in the coat/hair gets wet and remains moist, creating an environment for bacteria growth. It will heal naturally, without harmful steroids—the most common treatment for hot spots.

TICKS - Another area of concern is, ticks. We’ve all heard horror stories about Lyme disease. I hike daily,
with all of my dogs, and we do get our share of ticks. But I have never had a dog with Lyme disease. Vaccination for Lyme disease has not proven effective. I simply groom my dogs daily, checking for fleas and ticks, and removing any ticks I find. Ticks are easily pulled off with a tick tool, tweezers, or your fingers (my preferred method), and killed by flushing or crushing. Clean the area where the tick bite was with a little alcohol or hydrogen peroxide. (Cats rarely have ticks, and if they do get one, they are very good at removing it, themselves.)

If you are diligent in your efforts to manage your home and your pet, you will keep the flea and tick population down. I have never used toxic products, and my animals are free of hot spots, Lyme disease, and heartworm.

If we take the time now to keep our pets’ naturally/organically healthy, we will not only enjoy them longer, we will be contributing to a healthier environment for the whole animal kingdom, and that is worth our every effort.

Jill Breitner, SheWhisperer, has a degree in Animal Science and has worked as a behavioral specialist/dog whisperer for 30 years. Learn more about Jill at: www.shewhisperer.com

Insect Control Using Natural Cedar Oil Product

While reading Jill’s article I “Googled” fipronil. The search eventually led me to the CedarCide Industries website and their biting insect control product called Best Yet which contains natural cedar oil and cosmetic grade quartz fluids. This was developed for the U.S. Army for the control of sand fleas in Iraq. Check it out at http://www.cedarcidestore.com

There are many principles of sustainability that the Gorge Games are weaving into programming and logistical infrastructure from the earliest planning stages. People will be amazed at the level of commitment the Gorge Games have to sustainability and how the Gorge Games are changing the ways events do business at every level. It just may turn into the “GREEN GAMES.”

Sustainability Manager, Suzanne Wright can be contacted at www.greengames@gorgegames.net

Muddy Boot Organic Festival

The 3rd annual Muddy Boot Organic Festival will take place September 6th – 7th and the keynote address will take place Friday, September 5th, and will feature agricultural visionary Dr. Wes Jackson.

Dr. Jackson established and served as chair of one of the country’s first environmental studies programs at California State University-Sacramento and then returned to his native Kansas to found The Land Institute in 1976. He is the author of several books including New Roots for Agriculture and Becoming Native To This Place and is widely recognized as a leader in the international movement for a more sustainable agriculture. He was a 1990 Pew Conservation Scholar, in 1992 became a MacArthur Fellow, and in 2000 received the Right Livelihood Award (called the “alternative Nobel prize.”)

The Muddy Boot Organic Festival features:

- Workshops and exhibits on sustainable living
- Local and healthy organic foods and beverages
- Organic beer and wine
- Kids’ activities and entertainment
- Musical entertainment

LOCATION: St. Philip Neri Church
2408 SE 16th Ave
Portland, OR
Tickets are $15

DO YOU KNOW OF A GREEN EVENT OR HAPPENING?
Email event info to: Susan@greenlivingjournal.com

Visit us online at GreenLivingJournal.com • Green Living • Summer 2008 • 29
have fallen. Thorny plants provide an additional level of protection from predators. Rock piles and brush piles also provide cover for small animals such as chipmunks and salamanders.

Nesting sites are also a necessity for wildlife. Once again, the vertical structure of the landscape is important by providing various locations for different species to breed. The shrub level is the area most used by birds. Some birds nest in the cavity of large trees. Since most large trees are cleared from the suburban landscape, nesting cavity sites are greatly reduced. Nesting boxes can be installed to provide nesting cavities for birds such as swallows, chickadees and eastern bluebirds. The size of the box and entrance hole helps to control what species of bird uses the box. These boxes should be cleaned out yearly for repeated nesting.

In today’s fast-paced society many people have lost their connection with nature. “Biophilia”, according to biologist E.O. Wilson, describes “the connections that human beings subconsciously seek with the rest of life.” This explains why most people care about plants and animals and have them in their homes. No matter how advanced society becomes, we are still part nature’s web-of-life and what we do to it will have an affect on us. Making the home landscape more ecologically beneficial to wildlife will help to restore a part of the natural environment. Spending time in an ecological landscape can help us reconnect with nature on physical, mental and spiritual levels.

For further reading on this subject:

Ron Dellapenna is a professional landscaper and avid reader of Green Living Journal. He picks up a copy every time he heads north to play in the snow.
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