A new shade of GREIN 34 Rochester Magazine

Think eco-friendly is dull? Think again. Think eco-mansions, country-chic converted barns and other beautiful ideas for a brighter future.



Building a green dream home pg. 36



Making green gorgeous pg. 40



A green habitat pg. 50



The roof is alive! pg. 45



The future is sustainable pg. 47



Getting the next generation into nature pg. 52



GLIMPSE OF THE FUTURE. A computer rendering by James Fahy shows what the state-of-the-green Chesonis residence will look like when it's built

BUILDINGA CREAM HOME

PAETEC's CEO made headlines with plans to build at Midtown Plaza. But first: his own house project.

by Sandra J. Weber

or years, Arunas and Pam
Chesonis would drive along East
Avenue, admiring the grand
homes and dreaming of someday
living in one. "We loved the old-world
character of the stone buildings," Pam says.
Now, the couple has broken ground on
their dream—not on East Avenue, but on a
prime 1.2-acre spot on Brighton's eminent
Ambassador Drive.

At more than 8,000 square feet, their French country manor home will surely equal the grandeur of those they've admired—but with an important difference. Theirs will be as state-of-the-art green as they can make it.

Arunas, chairman and CEO of PAETEC in Fairport, said that while people see building green as much more expensive, being environmentally conscious has benefits that balance the costs.

Beyond their wish for a beautiful home for themselves and their four children, the couple said they take environmental issues seriously in all aspects of their lives.

The couple drive hybrid cars and are heavily involved in environmental concerns, such as MIT's Earth Systems Initiative; Arunas chairs the directors council of the initiative's Ignition Program, which awards start-up grants to scientists and engineers for cutting-edge research on environmental topics.

"It's tough to be out there promoting sustainability and not practicing it," he said.

These days, practicing it doesn't mean sacrificing aesthetics. "People who consider building their dream house may think an environmentally sound home can't be beautiful," Arunas said. Pam added, "They

may think it would look rather clinical and

But when their house is completed in the spring of 2009, it will look anything but austere, with a stucco and Westchester stone exterior in warm tones of tan, brown, gray and bronze. Extensive use of wood, stone and tile will enhance the interior's feeling of age and comfort.

Behind the classic look will be cutting-edge technology. Project architect Jim Fahy said that a special method of framing the house will reduce lumber requirements by nearly 50 percent while better accommodating new energy-saving insulation techniques. A geothermal system will heat the home and water, using loops installed deep underground to draw naturally occurring heat inside. A groundmounted solar panel will supplement the water heater and an air-exchange system

"Building an estate home using green-building technologies is pretty progressive."

- Project architect Jim Fahy



GOOD PLAN. Pam and Arunas Chesonis look over the architectural drawings for their house.

will dispel stale air without removing heat from the home.

Landscape architect Mark Bayer said a system of drywells will collect rainwater and recycle most of it back into the groundwater instead of into storm drains. Planning this home's site, he said, was from the beginning a collaborative effort with the architect to minimize altering the sloping topography, reducing costs and environmental impact. Lawn will be minimal, with plants selected for their low-water requirements and trees preserved as a habitat for birds and other wildlife. Walkways, driveways and terraces of crushed stone and other permeable

materials also will help reduce rain runoff, preventing pollutants from washing into

As with any such project, there have been compromises. After initially considering bamboo flooring (a renewable resource), they decided against it. Pam explained, "It didn't seem to go with the old-world look we wanted." Instead, interior designer Debra Audet found a source for reclaimed white oak and chestnut.

And while the couple liked the idea of compact fluorescent lights (CFLs), they weren't sure the energy-efficient bulbs would provide the texture and depth they want in some rooms. Where CFLs are

used, frosted lenses will obscure their unattractive shape, with halogen lights providing more direct light where needed and low-energy LED lights for undercabinet and cove lighting.

Arunas is as enthusiastic as any high-tech guy about a system that will extinguish—with a single switch—every tiny light in the many home electronics powered by energy-hungry transformers. Pam likes the idea of the master temperature control for each of the home's 15-plus rooms: "We can turn down the heat when the children's bedrooms are not in use."

"A lot of [this] is about lifestyle," added Arunas, joking that the only rooms he has any real say over are his office and his closet.

Pam enjoys hunting for reclaimed limestone for flooring, and old doors with character. Antiques (a form of recycling, after all) will enhance the home's evocation of permanence and the past. Her finds so far: antique light fixtures and cabinets for bathroom vanities and a fireplace mantel. She's also pleased that the diseased black walnut trees they had to remove from the property will be reused as lumber for the home's veranda.

In keeping with the goal of a safer home, they will use natural products such as cork floor tiles, wool carpets and paint that is low in volatile organic compounds (VOCs).

It all adds up to a large project of big ideas. "Building an estate home using green-building technologies is pretty progressive," Fahy said. In fact, he said the project has been accepted for a pilot program based on the newly released Green Building Certification sponsored by the National Association of Home Builders and two standards bodies—ANSI and ICC.

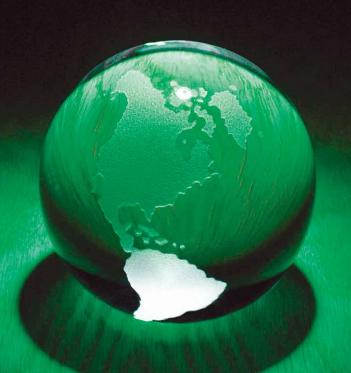
But a project like this takes time. When Fahy, who is married to Pam's sister, confirmed the home's completion date as more than a year away, Pam looked disappointed. But Arunas simply joked that in that case, Fahy would have to host Thanksgiving dinner again this year.

Freelance writer Sandra J. Weber has written for The New York Times and other publications.

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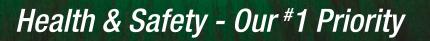
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BARNSTORMER. Architect George Baker reclaimed an old barn in Victor and transformed it into his own home. Ample daylight enters through clerestory windows and large glass walls on the east and west sides, where tall sliding barn doors once stood.

Making

gorgeous Architects and builders are getting eco-friendly in their own homes.



by Sandra J. Weber

'n the wake of rising energy costs and global warming, green-living ideas continue to pop up everywhere. But can a green home really work in our climate, and is it possible to incorporate environmentally friendly elements without sacrificing beauty and good design?

A visit with local architects, builders and engineers involved in eco-friendly building brought some answers and a look what they've done in their own houses—the ultimate endorsement, after all.

It turns out that cutting-edge ideas are alive and well here, inspired by everything from ancient Pompeii to old bowling lanes. Green in Rochester turns out to be eclectic and innovative.

STYLE STYLE

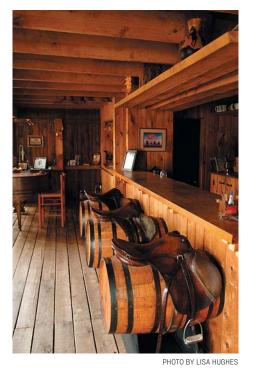






barn's roof, which Baker insulated on the outside to preserve the look of the original interior. The decorating complements the original look, as well.

LOFTY IDEAS. The central core is open to the



"The greenest things are natural, and if you build it right today, you won't need to tear it down later."

- Architectural designer Billy Cultrara

Recycle materials and ideas

Victor architect George Baker shuns synthetics. "It doesn't get any greener than wood," he says.

Baker's diverse projects include recycling old buildings—a train station, a freight elevator and a hay barn—and transforming them into attractive custom homes. But look no further than his own home to see how salvaging an old building and incorporating new technology can support an environmentally friendly way of life.

Baker converted a 19th-century hay barn into a stunning, light-filled house. Two open floors that were once haylofts are linked via bridges and a circular iron staircase that connects all four levels.

Except for the staircase, Baker left the barn's layout unchanged, tucking a kitchen and pantry under one side of the first open floor and a dining-living room under the other. The top loft contains sleeping areas and his studio. The bottom floor—its original cobblestone walls exposed—includes a sitting room, laundry, garages and utility room for his groundsource heat pump—a geothermal heating option that's growing increasingly popular as energy costs rise.

The décor, too, tends toward reuse and repurposing. To reinforce the home's country look, oak barrels turned sideways and topped with leather saddles serve as barstools—a nod to Baker's equestrian wife. In the central space on the main floor, four hay-baling hooks, tied together, hang from the barn's ridge.

Pittsford architect Chuck Smith says salvaging old-growth timber from buildings is an idea whose time has come. For one client, he used recycled conifers to create custom flooring and trim, with kitchen cabinets of reclaimed cherry. Most unusual was the durable surface of the kitchen island, made of maple wood from an old bowling lane. All the materials came from a local supplier—Pioneer Millworks of Farmington—saving the cost and energy of long-distance shipping.

Wood is timeless, and some building concepts are, too. On a visit to ancient Pompeii, architectural designer Billy Cultrara was impressed with the good condition of its 2000-year-old stone and thermal heating systems.

"The greenest things are natural," he says, "and if you build it right today, you

STYLE



INSULATION OPTIONAL. Architectural designer Billy Cultrara used a high-tech concrete, deep roof overhangs and other ideas to conserve energy use.

won't need to tear it down later."

Cultrara's favorite material is a recycled and recyclable form of concrete known as aerated autoclaved concrete. The smooth white blocks are airtight, providing an insulation value 10 times that of conventional concrete. It requires skilled installation and is more expensive than standard concrete block, but the material requires no vapor barrier or additional insulation, can be shaped with carpenters' tools and can easily take stucco.

In planning his own hillside home in Victor, Cultrara started with a south-facing entrance to take maximum advantage of the sun's heat.

High windows, along with the stucco exterior and concrete floors, absorb and store the sun's heat. With its north-facing back to the hill behind, the house is protected from cold winds. In summer,

deep roof overhangs prevent the sun from overheating the house. Radiant heat keeps the floors and house toasty in winter, and the exterior concrete block walls (the aerated autoclaved variety, of course) help keep it cool in summer.

Many of today's green technologies work their magic behind the scenes. For one client, Rochester builder Dan Viola added several thousand dollars' worth of upgrades to make an upscale subdivision home more comfortable and energy efficient. Viola added an ultra high-efficiency furnace, tankless water heater and radiant heating beneath the bathroom tile floors (if you haven't felt the warm comfort of heated floor tiles, you haven't lived). For such a tight house, Viola installed an air-exchange system that vents stale air and toxic gases released by some carpets and furniture without

THE ROOF IS ALIVE!

magine transforming an inert, dull, good-for-nothing roof into a living, breathing landscape. With colorful flowers, nesting killdeers, swarms of butterflies—and no mowing required.

Last summer, landscape designer
Laurie Broccolo did just that, with a little
help from her friends. Broccolo, founder
and co-owner of Broccolo Tree and Lawn
Care, has been a leader in green industry
efforts. Now she's working to enlighten
Rochester on the concept of living roofs,
which are designed to reduce heating
costs, filter pollutants and absorb storm
water.

Broccolo's rooftop venture on a house in Mendon took only one day to install. First, John Korutz of Pennsylvania-based Moisture Controls, Inc., used environmentally safe coal tar pitch to lay the base on the 400square-foot-roof. Next, George Irwin of Rochester-based Green Living Technologies, Inc., added a hemp "bioblanket." The company, said Broccolo, manufactures green roof supplies for the entire country. Finally, the group lodged some 34 mats or "vegetation cells" filled with pre-grown plants provided by Marguerite Wells of Motherplants, an Ithaca nursery that specializes in cultivating shallow-rooted plants happy on rooftops.

"The very first day, after everybody

had gone, a butterfly landed," said Broccolo. "Create it and they will come."

By the end of summer, the roof had bloomed with sedum, succulents and spices like lavender and sage.

Next stop: Seneca Park Zoo. "In October we put up a green roof on the administration building," Broccolo said. "It was a pitched roof, which was difficult, but it could be done. We also planted sedum on a small information kiosk." (The zoo will document how much it reduces energy consumption over the year, Broccolo said.)

Back home, Broccolo used the same techniques to add a "living wall" to her own garage. Instead of seeing a blank wall on the way to her car, Broccolo watched her annuals blooming there. This year, she's planning herbs and vegetables for the wall.

"There's minimal soil, but you could grow cucumbers and lettuce and basil in different colors," said Broccolo, who teaches an annual turf grass course at Cornell University.

Her business, nearing its second decade in operation, specializes in "integrated pest management," which uses natural approaches to reduce or eliminate the need for pesticides. It's one step you can consider if you're not quite ready for cucumbers on your garage.

- Nancy O'Donnell



COURTESY OF BROCCOLO TREE AND LAWN CARE

HIGHER GROUND. Lexie Hain, of Motherplants, gets the roof to take root in Mendon. Another Broccolo roof project, at Seneca Park Zoo, is being studied for how well it reduces energy consumption.



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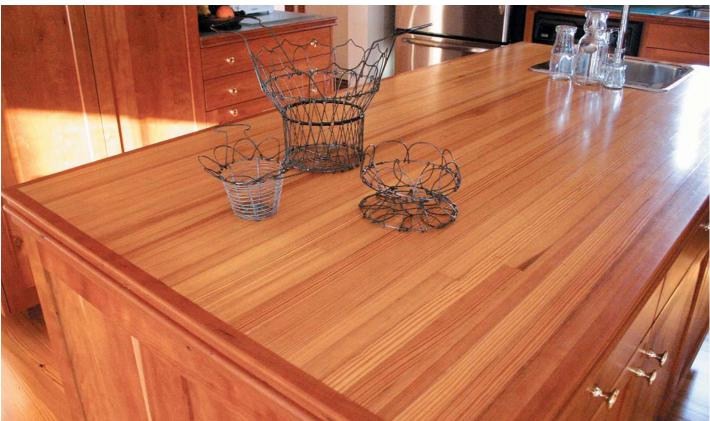
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STYLE



STRIKING LOOK. Architect Chuck Smith used wood salvaged from an old bowling lane to create a unique kitchen countertop.



MOOD LIGHTING. Builder Dan Viola added LED lights, which use very little energy, to a client's house.

removing heat. Area LED lighting uses nearly zero electricity. "I couldn't even measure it on my meter," says Viola.

More from Mother Nature

Many solar energy projects in Rochester still fall short of their promise (years ago, the solar room we added to our home was such a fiasco that our son dubbed it "the polar room"). So today, people are going underground to capture heat from nature.

Mark Tolbert, director of Eagle Mountain Inc.'s Center for Green Technology and Innovation in Bristol, used his company's geothermal-heating product to retrofit his 2,400-squarefoot ranch home in Fishers. The system uses the earth's warmth below the frost line, drawing 50-degree water through underground loops and raising its temperature—using an environmentally friendly refrigerant—to 160 degrees. The heat circulates through Tolbert's radiant floor system. In summer, the process reverses to draw heat out and distribute cooled air through the home's cold-air ducts.

Tolbert plans to install a solar hydronic collector to supplement his water heater. "I'm really doing this to reduce my

THE FUTURE IS SUSTAINABLE

om Golisano made big headlines when he donated \$10 million to the Rochester Institute of Technology last September to launch the Golisano Institute of Sustainability (GIS)—one of the first of its kind in the nation. It's new. It's exciting. So, what's in it for us?

A lot, according to GIS director Nabil Nasr. The institute, he says, "will be good for our economic growth and employment and great for our labor force."

GIS has a commitment from RIT president Bill Destler to help raise an additional \$50 million and to construct a headquarters for the institute on its campus by mid-2009. The institute is focusing on research and education in pollution prevention, sustainable design and remanufacturing and alternative energy development.

The real and unique mission is to prove that economic advantage and environmental sustainability are not mutually exclusive. In other words, what's

"good for the environment is also good for the bottom line," Nasr says.

Nasr describes the changing face of U.S. industry as a "quiet revolution" that requires manufacturers to "use less energy, fewer materials, to produce goods that last longer and that can be recycled at the end."

In the global market, manufacturers in Europe (ahead of us on the environmental front) want U.S. goods that comply with their stricter regulations. For example, when Germany buys Hewlett Packard products, it wants to see that the parts will be recyclable when they're

One project is bringing together GIS, Delphi and RIT's Center for Integrated Manufacturing Studies to further develop fuel cells, which reduce or even eliminate emissions by creating electricity through a chemical reaction rather than combustion. Delphi has long been on the forefront of developing fuel-cell-powered cars.



FUELING DEVELOPMENT. Louise Slaughter is shown a Delphi fuel cell earlier this year.

Congresswoman Louise M. Slaughter came to town recently to bring \$2.75 million in federal funds for the project and the hope that Rochester has "the potential to be a leading player in fuel-cell development."

The institute plans to prepare its graduates to be on the forefront of these new ways of thinking about manufacturing when it begins to admit students in the fall of 2008.

"This is the very heart of competitiveness," Nasr said. "It's the right thing to do in terms of competitiveness."

- Nancy O'Donnell











The dramatic mixed use renovation of this 1880's brick and wood beam factory in the center of the High Falls Historic District offers unique loft apartments and dramatic office space. • Rooftop deck with views of the Genesee and • Over 4000 square feet of Class A office space

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cost and my carbon footprint," he says. "My geothermal system has more than enough capacity to heat my home."

According to Michael Millner of MGM Homes, LLC, radiant heat is also cost-effective in making basement levels comfortable and dry. With today's technologies, such a system can be installed either before the concrete slab or after a home is built.

And a new idea on the green horizon borrows from commercial building. Residential architects are starting to use skylights and wall panels made of fiberglass and polycarbonates, which have higher insulation values than glass. The materials are strong and resilient especially when filled with aerogel, a byproduct of NASA space research that is 1,000 times less dense than glass but with an insulation value 39 times better than fiberglass alone.

These products bring much more daylight into a home, reducing lighting needs while helping to brighten moods.

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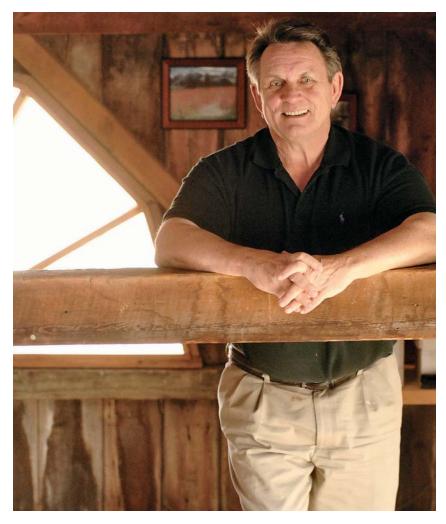
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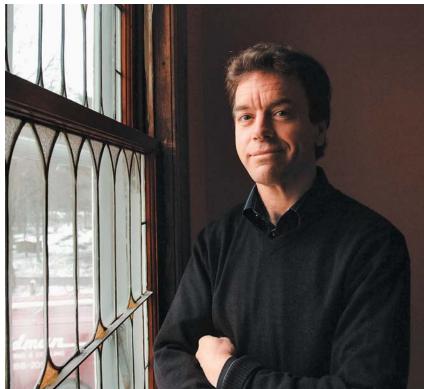
HOME SHOW HIGHLIGHTS

he Greater Rochester Home Show, March 28-30 at the Rochester Riverside Convention Center, will feature a few homegrown green ideas. Rochester's own "Fixie Chick," Brenna Hartmann, will lead workshops on "50 Simple Ways to Live Green Lite," a painless way to be eco-friendly (read her blog at www.herRochester.com). And the Rochester chapter of the American Society of Interior Designers is creating "Dream Rooms" featuring green furniture, including recycled wine barrel furniture and a "root chair" constructed from a large tree root (courtesy of Tom Baker, a.k.a. the Furniture Doctor, from Bloomfield).

For more information, call 1-800-274-6948.

- Nancy O'Donnell





HANDY MEN. George Baker (above) at home in his converted barn; Chuck Smith next to a new window that's highly insulating but is designed to look old.











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A Green Habitat



Winning design will bring an eco-friendly house to a Rochester family.



by Nancy O'Donnell

lower City Habitat for Humanity will go green for an upcoming house project, thanks to a local architecture contest run by the American Institute of Architecture (AIA) Rochester.

In January, Todd Marsh, AIA architect, FLCC, won the "Homes for Habitat Design Competition" and received a \$500 gift certificate from Rowe Photo/Video/Audio, a stipend to help develop the design into floor plans and the promise to see his architectural vision become reality.

"We couldn't afford all-the-way-to-the-moon designs—we were trying for simple and affordable," said Bill Bartlett, Flower City Habitat for Humanity construction manager, who served on the jury with Laura M. Cooney, AIA, from FRA Engineering and Architecture, and glass artist Nancy Gong.

The judges praised Marsh's winning design for sustainable ideas that were "simple and effective, viable and cost effective." The plan's best details, they said, included the "entry air lock" (to minimize heat loss) and a floor plan that offered "flexibility for openness."

Jennifer Ahrens—a Washington-state-licensed architect who recently relocated back to Rochester and is self-employed and at Bero Associates—won second place (a gift certificate from People's Pottery), while Tim Zigarowicz and Heather Smith—associate level (interns), SWBR—won third place (a gift certificate from West & Co.).

Ahrens proved that practical green doesn't have to look utilitarian; the jury praised the design's "stepped gabled roof and an enduring, romantic design." Tim Zigarowicz and Heather Smith's design, too, was lauded for its "classic elevation, with nice proportions that would fit well into any neighborhood."

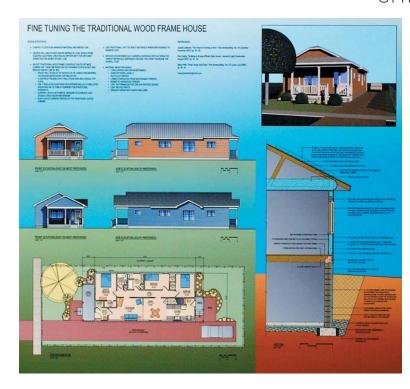
And, of course, all succeeded in creating ecofriendly designs—and that meant more than just energy efficient.

"It's how the house is made," said Cooney. "Where the materials come from, are they renewable, natural versus manmade. It goes down to the paints: Are they toxic?"

Habitat for Humanity builds houses using "sweat equity" from volunteers and the future homeowners, who are required to meet eligibility standards such as holding a full-time job and having the means to pay the mortgage provided by

The transformation of the winning design into floor plans and then the start of construction will take several additional months. The lucky city homeowner has yet to be chosen.

Nancy O'Donnell is a frequent contributor to Rochester Magazine.



TOP LEFT, AND ABOVE: Todd Marsh titled his winning design "An Efficient Bungalow, Fine Tuning the Traditional Wood Frame House." The compact floor plan minimizes materials and energy use. A center wall and pocket doors separate living space from sleeping quarters, creating an opportunity for efficient zoned heating. Materials will be selected to be low maintenance, manufactured locally and recycled. The design calls for lumber harvested from sustainable forests.

MIDDLE LEFT: Jennifer Ahrens titled her design "The Living House." Energy efficiency comes from quality insulation, air-tight construction detailing and high-performance windows and doors. Through passive solar design, the concrete slab in the public spaces acts as a thermal mass-storing energy. Window placement provides daylight and summertime ventilation. A high-efficiency boiler will provide radiant floor heating and radiator heating. High-efficiency lighting and appliances also would be installed

LOWER LEFT: Tim Zigarowicz and Heather Smith's design stresses "economy, efficiency and expression." Sustainable design elements have been incorporated by utilizing skylights to gain natural light, larger windows and the use of borrowed light throughout the home. Covered porches on both ends of the house make it functional for everyday access, such as bringing in groceries through the back, while providing a welcoming area at the front for guests.

GETTING THE NEXT GENERATION INTO NATURE

or 95 years, Camp Pathfinders has promoted a simple principle: Connect children with nature, and environmental stewardship will follow.

Mike Sladden of Brighton discovered the 17-acre island camp, located three hours north of Toronto, as a boy at his father's side—just as his father had come to the camp with his father. In 1999, Sladden bought it with another former camper, Glenn Arthurs, "to keep the tradition going."

Each summer, Sladden, his wife, Leslie, and two sons visit the camp in Algonquin Provincial Park. Hundreds of kids join them, including 7th-graders from Allendale Columbia, where Sladden went to school—the school's donors established an endowment so students can go indefinitely, Sladden said. They conduct field studies in water clarity, learn about acid rain and explore human history in the region.

"No gameboys. No iPods. No cell phones," Sladden said. Instead, the campers

learn how to survive on the wilderness island where wolves howl on the mainland and the occasional moose swims by. They sleep on wooden platforms under tarp roofs, traverse the island with map and compass, cook on open fires, and, most importantly, learn how to conserve and save and compost.

"We use a lot less fuel and resources," Sladden said. "They learn how to live more simply. They learn how to get away from technology and discover living without a huge carbon footprint."

Sladden has found that the experience continues long after the campfires are doused. Former campers have chosen careers in environmental education. forestry and public policy.

"I get calls from parents who say things like, 'My son won't let us throw things in the trash," Sladden said, laughing.

To learn more, visit www. camppathfinders.com.

- Nancy O'Donnell



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