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SMC Students Study Ways to Close Sustainability Loop

By Jennifer Wake

SMC adjunct professor Kristen Sbrogna (kneeling) shows students natural water flows behind the Saint Mary's College Legacy Garden Photo Jennifer Wake

It wasn't your typical class at Saint Mary's College last week, with students trekking through thick brush and menacing stalks of poison oak on a muddy hillside facing North Claeys Hall.

The focus of their quest? Water.

As part of their Jan Term course, "An Introduction to Permaculture," students studied the nearby creek bed and the topography of the hillside to identify natural water flows and to incorporate them into the design of a sustainable water source for the fledgling garden located behind the dorm.

Permaculture - a land use and community building movement - has a central theme of developing ecological landscapes that produce food. Other components include designing energy-efficient buildings, and focusing on waste water treatment, recycling, and land stewardship that mimic patterns found in nature.

"We are seeing an increasing need to conserve resources in our communities and across the world," says SMC adjunct professor Kristen Sbrogna, who is teaching the Jan Term course. "Permaculture responds to climate change, food and water security, and affordable energy with simple and small-scale measures people or communities can implement right away. By doing so, we can improve our collective quality of life."

Sustainability efforts are nothing new to Lamorinda residents, who have taken steps to become more eco-friendly in recent years.

These include changing light bulbs to CFLs, switching to tank-less water heaters, buying hybrid vehicles, and participating in city-wide composting efforts.

Lafayette resident Bart Carr and his family began traditional composting and worm composting at his home, while Jodie Howe started buying her family's produce through a Community Supported Agriculture (CSA) program, where families pay local farmers up front for each season's vegetables, which are boxed in bulk and delivered locally to be separated by participants. Many other Lamorinda residents have started their own vegetable gardens and are planting fruit trees instead of ornamentals.

"The simplest thing people can do is to start growing their own food, even if it's just one thing: a fruit tree, lettuce, tomatoes, something," Sbrogna says. "When a number of people in a community are growing food then it's easy to start a neighborhood home-grown foodshare program or collaborative. You can't get much more local than raspberries from your own yard or eggs from your neighbor's chickens."

The goal is to create a closed-loop system.

"This concept seems so cutting edge, yet every traditional culture and native people have been growing food forever," Sbrogna added. "People are so divorced from their food. The permaculture concept takes this most basic need and gives people this power."

Moraga resident Deva Rajan gave the students a tour of the Moraga Community Gardens, which has been providing a bounty for local residents for years. Bill Durkin of Sustainable Moraga plans to give students a tour of the Orinda City offices and the Moraga Barn (both of which are "green" certified by the Leadership in Energy & Environmental Design Green Building Rating System).

Sbrogna's goal is for the students to develop their own understanding of permaculture as it relates to their immediate lives and surroundings. By applying the principles of permaculture to resource management on local and global levels, Sbrogna hopes students will envision new design possibilities for their dorms, communities and cities.

"Permaculture works to mimic patterns and designs found in nature rather than work against it," Sbrogna says.

For example, with proper design placement of shade plants or placement of windows to bring in sunlight during the winter months, homes would not need as much energy to heat or cool during peak seasons. Sbrogna says most Americans work against nature, and thus find themselves scrambling for resources.

It makes no sense that our driveways and rain gutters divert water, and then we import water into our homes," she says.

Some simple permaculture concepts can be utilized, explained Sbrogna. Add a greywater system (which collects wastewater from bathtubs, shower drains, sinks, washing machines, and dishwashers) to homes or substitute a green lawn with edible plants, a garden, or native fauna.

"America is somewhat lawn obsessed," she says. "It would be great if people could change what we consider to be beautiful."

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