



Total Immersion

At Unity College, students think, work, create, and live sustainably

By Vicki Glaser



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Mitchell Thomashow

At Unity College, in the town of Unity, ME (population 1,800), the term sustainability does not merely describe a degree program, a construction or renewal project, a campus-based energy initiative, or a position on the president’s advisory board. Rather, it embodies the heart and soul of the institution. As a guiding philosophy and a yardstick for decision making, curriculum development, and long-range planning, sustainability imbues every aspect of the educational and living experience at Unity. Peruse the college’s written materials and the message is clearly stated: “a sense of community transcends place; sustainable governance; celebrating community relationships; the value of diversity; make a difference in others’ lives and in the natural world; ecological sustainability is the single greatest challenge facing humanity.”

Unity was founded to promote environmental education, to nurture future leaders in the environmental movement, and to focus on contemporary issues and the future of the planet while providing students a well-rounded liberal arts and sciences education. The surroundings of rural Maine provide a hands-on laboratory for exploration and experimentation, and the town of Unity serves as an incubator for testing new ideas and technologies in a real-world setting. Outreach and community interaction are core components of a Unity education. On campus, the Environmental Stewardship Core Curriculum introduces every student to the theory and practice of sustainability through four required courses: The Unity Experience, The Environmental Citizen, Environmental Sustainability, and Environmental Challenge. During their four years at Unity, students are immersed and trained in the concepts, theory, policy, science, economics, and applications of sustainability on a local, national, and global level.

Three main features set Unity apart according to Mitchell Thomashow, who is in his fourth year as Unity president: the entire curriculum is environmentally focused, it has a powerful service component, and students get as much field experience as possible. “We come at sustainability through stew-

ardship,” says Jesse Pyles, sustainability coordinator at Unity. Thomashow created the sustainability coordinator position and hired Pyles, whose primary job responsibility is to make sure that Unity meets the challenges presented by its participation in the American College and University Presidents’ Climate Commitment (ACUPCC). It is “crucial to have someone whose portfolio is exclusively sustainability,” says Thomashow. He signed the ACUPCC in 2007, committing the school to go carbon neutral. The time line to achieve this has presented challenges, and Unity has explored deadline extensions as it continues moving forward toward the stated goal.

Pyles reports directly to the president and describes his main priorities as mobilizing students and making sure they are heard, advancing the college’s climate commitment, and representing Unity at regional networks across New England. He also works closely with the instructors of the first-year core environmental sustainability courses and supervises 15 work-study positions across various areas, such as dining, energy, and transportation.

Unity is quite different from other colleges in that its faculty is largely focused on students and teaching. “We’re not a publish or perish culture,” says Pyles. Unity is “primarily a teaching faculty, not a research institute.”

Applicants and enrollment at Unity have increased year by year, although the number of students the school can accommodate is limited by its infrastructure and the funds available for expansion. Unity’s endowment of less than \$3 million represents about 25 percent of the annual operating budget. In Thomashow’s view, the small endowment and major infrastructure needs are significant challenges. The college is adopting a new strategy that will involve constructing smaller, modular buildings that will provide what he describes as “adaptive flexibility.”

“Our demographic is changing,” Thomashow says. “We’re becoming more female, more national, and, I think, more culturally diverse. We are already very diverse from an ideological point of view.”

As the student and faculty populations grow, so too does the breadth of offerings. In 2008, Unity added two new sustainability degree programs—a B.S. in Agriculture, Food, and Sustainability; and a B.S. in Sustainability Design and Technology. These programs join offerings such as B.A. degrees in Environmental Humanities or Environmental Writing, and B.S. degrees in Aquaculture and Fisheries, Captive Wildlife Care and Education, Conservation Law Enforcement, Environmental Analysis, Environmental Policy, Landscape Horticulture, and Wildlife Conservation. Five Academic Centers of Excellence—the Center for Biodiversity, the Center for Environmental Arts & Humanities, the Center for Environmental and Experiential Education, the Center for Natural Resource Management & Protection, and the Center for Sustainability & Global Change—replace the traditional department-based organization in place at most universities and are intended to be more inclusive and multidisciplinary in nature.

Practicing What They Preach

Not only is Unity “More than a Place,” it is “A State of Being,” as the promotional literature touts; it is also a community that puts its words and commitments into practice. Unity’s greenhouse gas (GHG) emissions—2 metric tons of CO₂ emitted per full-time equivalent/employee (FTE) in 2008—is among the lowest of U.S. colleges (emissions for 100 self-reporting baccalaureate colleges average 9.17 metric tons CO₂ equivalent per FTE, according to the ACUPCC online reporting system). GHG emissions from campus energy use have decreased approximately 20 percent since 2001, a reduction achieved through a combined emphasis on energy efficiency in new construction and efficiency upgrades in existing buildings. All of Unity’s purchased electricity derives from renewable sources within Maine, including hydropower and biomass.

Construction of Unity House, a 1,937-square-foot building completed in 2008, which is home to President Thomashow, received LEED Platinum certification. The college offers tours of this net zero carbon home, which also serves as a site for hosting campus events, student and faculty gatherings, and classes and seminars. Other recent construction on campus, including the Maplewood residence hall and the health center, contain highly insulated ceilings and walls and low-emittance windows (coated with a thin layer of metallic oxide that prevents passage of heat and ultraviolet rays), and were built using paints, glues, and adhesives with low volatile organic compound (VOC) content.

In June, Unity College received a \$389,000 grant from the Kendeda Fund, a private foundation based in Wilmington, DE, to construct a cottage-style

Core Elements of a Sustainable Campus

Unity College President Mitchell Thomashow identifies nine elements of a sustainable campus—outlined below with examples of each—and “all are systemically integrated in how we move forward,” he says.

- **Curriculum:** Unity offers an Environmental Stewardship Core Curriculum and a broad range of environmental degree programs.
- **Interpretation:** Unity House is a LEED Platinum residence; Unity 2020 is a master plans for future campus development that is sustainable.
- **Aesthetics:** Unity hosts the annual Art of Stewardship Education for a Changing Climate conference, in which the campus grounds become a canvas for visual and literary works focused on environmental issues.
- **Energy:** Unity pays a premium for purchased electricity from renewable sources; the college appointed a sustainability fellow as part of the Rocky Mountain Institute’s Accelerating Campus Climate Change Initiatives program, to assess and prioritize emissions and cost reduction projects.
- **Food:** Unity emphasizes local sourcing and use of seasonal foods. Its dining services work closely with campus garden staff. The college has also appointed a farm and grounds manager and two half-time sustainable food production assistants.
- **Materials:** Unity is committed to LEED building standards and environmentally friendly building materials
- **Governance:** A full-time sustainability coordinator reports directly to the president; all department heads must develop a sustainability plan; every job description incorporates sustainability factors, which are also part of annual performance reviews.
- **Investment:** Unity partners with the Maine State Housing Authority to purchase carbon offsets and has played a role in the development of the Mid-Maine Sustainability Coalition; the college has also invested in the Community Wind Assessment Program and in a project to weatherize homes in the surrounding communities.
- **Wellness:** The school offers a Sustainable U program for employees and holds a Dean’s Cup competition among residence halls.



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residence based on the principles of passive house design. The building will rely on the capture of solar energy and design features that minimize heat loss, such as super-insulation, for effective space heating, with a back-up active energy system in place if needed. The project has an educational component as well; Unity students will participate in the design, construction, and monitoring of the facility.

Comprehensive Training

Mick Womersley, associate professor of human ecology at Unity, directs the Community Wind Assessment Program (CWAP), which began in 2005 to support the college's Campus Climate Emissions Reductions initiative. With a background in both engineering and economics, Womersley is well aware that, "lots of people know how to crunch numbers, but don't know the technology," and vice versa. The education of students planning a career as sustainability coordinators too often lacks the systems analysis and business-related knowledge and experience required in that position, as well as expertise in outreach and public relations. Engineers are not typically trained to do cost analysis or to write a business plan. These skills need to be part of a comprehensive education and training program that includes engineering, policy, business, and economics.

Furthermore, "to be competent you have to practice," says Womersley. The CWAP "is a cost analysis system," he adds, and the participants need to know about wind, geography, mapping, cost analysis, and how to produce a business plan." They acquire skills and experience by going out into the surrounding community and employing the technology (specifically, anemometers, which measure wind speed) and cost analysis models to conduct low-cost wind assessment studies for community businesses and institutions thinking about installing a wind turbine for energy generation. To date, the CWAP has completed two full-scale assessments: one community-based project at the local high school, where a turbine was successfully installed; and one at the nearby state prison, where the study demonstrated feasibility, and installation of a turbine is planned in the next 12 to 24 months.

Learning by Doing

Jamie Nemecek has completed two years of study at Unity and is on track to graduate a year early with a degree from the Sustainable Design and Technology program. Unity's small size and growing reputation have afforded her several opportunities, including a summer internship working with the Mid-Main Sustainability Coalition through Colby College, organizing a Green Living Expo in nearby Waterville, and helping to conduct a community survey in four communities aimed at gauging interest in sus-

tainability and learning what types of projects and areas are being pursued. In the summer of 2010, she helped launch a Unity Energy Committee through the college's Center for Sustainability.

The Center for Sustainability and Global Change "helps define sustainability for the campus," says Doug Fox, director of the center and professor of landscape horticulture. "Our focus is environmental sustainability," Fox adds, with consideration of the economic and human impact of its activities and initiatives and an understanding of their scientific basis and implications.

The Center's activities also have an outreach component. For instance, a Neighbor-Warming-Neighbor home weatherization program began with the concept of investing \$100 worth of materials into individual houses in the community, \$50 of which would be contributed by each homeowner. The United Way agreed to provide funds to purchase the needed tools. As a result of the weatherization work, homeowners save an estimated \$500 each in energy costs in the first year alone.

A successful spin-off of the Neighbor-Warming-Neighbor program is a project that provides reusable window inserts designed to fit a typical 7-square-foot window. The inserts are comprised of a pine frame covered with plastic shrink-wrap. The inserts typically save about one gallon of oil per square foot of window covered. The Center has held two insert-making workshops to date. Community residents who attend pay \$1/sq. ft. to cover the cost of materials. With community interest and participation in this program continuing to rise, plans for its growth and expansion include having students take over and run future workshops.

The Center received a federal \$80,000 Energy Efficiency and Conservation Block Grant, administered through the state, that has enabled the hiring of professional energy auditors to perform energy audits of about 10 percent of the buildings in the town. The grant will also be used to begin to retrofit targeted structures. The Center also hired a summer intern who was responsible for conducting a GHG inventory of the town.

Many other examples of outreach programs involving Unity students focus on sustainability. For instance, a student group is planning a state-wide Climate Change Student Summit. In February, Unity welcomed 30 students selected from colleges in Maine for a two-day Sustainability Training Institute, which focused on sustainability outreach to local communities. The main topics were GHG emissions accountability, building weatherization, and renewable energy opportunity assessment. The organizers plan to expand this program for 2011 to offer more students the training needed to serve as

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sustainability advocates on their campuses and in the community.

Strengthening the Foundation

Building and maintaining a sustainable campus requires a strong and broad-based foundation constructed of core ideas, attainable goals, and the tools and knowledge needed to move forward. Unity College has taken its unique qualities and opportunities and applied them across a varied scope of projects and activities, as exemplified by the following.

Art

In 2010, an effort to make art more visible on the Unity campus began to take shape. For instance, a mural in the cafeteria courtyard was constructed of plastic pieces derived from bottles collected from a local recycling center. An emphasis on using recycled and repurposed materials, as well as inexpensive, found materials underlies these efforts, which will generate pieces of art intended to exist for as little as a few minutes to many years.

Diversity and acceptance

The Safe Zone program at Unity began in 2002 and offers interested students the opportunity to participate in a two-hour educational program that introduces them to the lives and experiences of fellow students who are part of the Lesbian Gay Bisexual Transgendered Questioning and Allies (LGBTQA) community. The goals include promoting mutual understanding, identifying safe and supportive contact, and creating and maintaining a sense of community.

Food

The college owns and runs its food services operation, and 35 percent of the food served is grown or harvested locally, including in the organic gardens maintained on campus. Food from the campus garden also yields organic produce that is provided to the local emergency food pantry. The college works with Maine's Organic Farmers and Growers Association, and these efforts have attracted small-scale

growers to the area and encouraged the establishment of distribution networks. With the relatively short growing season in Maine, local sourcing can be challenging, and Unity continues to focus on overcoming storage capacity issues.

Wellness

The Wellness Committee was created in 2006 and works hand-in-hand with Unity's Health and Wellness Center. Group activities vary with the seasons, including cross country skiing, canoeing and kayaking, hiking, meditation, aerobics, and belly dancing.

Solar power

The 32 solar panels that sat atop the White House during Jimmy Carter's presidency and symbolized his energy policy goals of reducing oil imports and increasing energy production from renewable resources, came to Unity College in the early 1990s. Half of them were installed and used to provide hot water to the cafeteria for 12 years. The college is committed to refurbishing and preserving the panels. Drawn to this story, two Swiss filmmakers created a documentary entitled *A Road Not Taken*, which premiered at the Swiss Solothurner Filmtage in January 2010 and, in the United States, at the Environmental Film Festival in Washington, DC, in March.

Research

Unity was selected as a Sustainability Solutions Partner to share in the \$20 million National Science Foundation (NSF) Experimental Program to Stimulate Competitive Research (EPSCoR). The University of Maine oversees the state's EPSCoR funding, which is intended to encourage partnerships between institutions of higher education, industry, and government.

Literature

Hawk and Handsaw, The Journal of Creative Sustainability, published by Unity College, is a collection of poems, essays, short stories, art work, and photographs "that interprets and redefines notions of sustainability," according to the editors.



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Unity Facts and Figures

- Founded in 1965 (as the Unity Institution of Liberal Arts and Sciences; name was changed in 1967)
- Located on 225 wooded acres of farmland overlooking Unity Pond
- Campus population: 530 students; 60 faculty (35 full-time)
- Original campus was a farm; farm buildings served as residence halls, classrooms, and administrative offices
- In the early 1990s, the male to female student ratio was about 3.5:1. The fall 2008 freshman class was the first in which women outnumbered men, and the current overall ratio is nearly 1:1.

