

THE UNIVERSITY OF VERMONT

Environmental
Program

40
YEARS

The Mission

To alert people to the state of global and local environments and opportunities for action by advocating, demonstrating and inspiring environmentally sustainable activities and ways of thinking.

To nurture and encourage a deep respect for Earth and the community of life in all its diversity, and a greater understanding of Earth's dynamic physical, biological and social processes.

To demonstrate and encourage a commitment to social and economic justice, equity, and respect for cultural diversity.

To serve as a university-wide center for innovative thinking and interdisciplinary learning on the environment, complementing the strengths of disciplinary units across campus and working collaboratively with them to build an interactive network of faculty, staff and students committed to environmental education, research and action.

To provide students with an intellectual learning environment that fosters creative and independent thinking, mature self-reflection, integrative scholarship and collaboration, through classes, fieldwork, research and internships.

To provide students with the knowledge and skills required to be active, effective, and responsible citizens of the social and natural communities whose future they will help shape.

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Welcome

This profile marks the 40th anniversary of the founding of the University of Vermont Environmental Program in 1972. As current Director, I felt it was time to get our story down on paper before too much was forgotten. To pull this together, we read through historical documents (dusty!) and browsed through self-study reports (even dustier!). We looked at thesis titles, photo images, and newsletters that reflect our progress over time. We surveyed alums and recorded interviews with faculty and staff. We wanted to somehow convey the sense of abundant creativity that has been the hallmark of the Program since day one.

Throughout the last four decades, the mission of the Environmental Program has remained remarkably consistent. We have been blessed with stable institutional leadership and long years of service from directors Carl Reidel and Ian Worley. Across 35 years, these two people maintained a strong vision for the Program and a core commitment to interdisciplinary, student-centered education. They urged students and faculty to go deep and follow the questions that called to them.

The story of the Program is the story of the people who have made it what it is—in every changing season and in each learning moment. From the start, the Environmental Program has been all about community—learning together, celebrating together, and working together to do right by our home planet. We share a common purpose that goes far beyond the usual college curriculum. Each of our alums, faculty, staff, and students carry the spark of their experience with others, sharing the vision of hope for these challenging times. I can testify that it is truly a joy to be part of this community of bright thinkers and lively souls.

We have tried to tell this story as accurately as possible, but inevitably there are gaps and omissions. Many people deserve credit for the work that went into this publication; they have my deepest thanks. My regrets for any errors that remain. I hope you will enjoy our story. May these pages offer a small glimpse into the rich and widening circles of UVM's Environmental Program.



Stephanie Kaza, Director

October 2012

The Story

How does one tell a single story of a program history? It is not possible to capture the thousands of stories and moments that make up the life of a human endeavor. The UVM Environmental Program story can be seen as a response to changing world events, to the accelerating pace of ecological change. Our story is equally a response to the changing climates of institutional leadership. Across this period of 40 years, the Program has stayed true to its mission and charge, responding to the challenges at hand. But this has not always been an easy task.

What follows is a timeline of major events in Program history in the context of relevant UVM, Vermont, and U.S. events. The accompanying narrative is the story as best I could put it together, from what I personally witnessed in 20 years and the stories that have come down to the Program from those who were here earlier. The individual profiles that follow provide a few of the many stories that make up the whole.

In looking back over these years, we have identified five themes woven through much of what we have tried to do in the Program. These are: 1) *an interdisciplinary approach to understanding*, 2) *a commitment to high impact experiential learning*, 3) *the joy of creative teaching*, 4) *sustainability values as compass point*, and 5) *our role as catalyst for change*. Underpinning all of

these is a positive sense of resilience based in the strong community of learners and doers that has shaped the UVM Environmental Program.

THE BEGINNING

In the late 1960s, long-accepted worldviews on environment were being shaken to the core. Wake-up calls rolled in one after another—the oil spill on the coast of Santa Barbara, anti-nuclear protests around the world, the humbling Apollo 8 images of earthrise from space. Rachel Carson's urgent words in *Silent Spring* called out for a new approach to the ecological web of life.

Rumblings of environmental interest were stirring on the UVM campus. The strongest initiative came from the College of Agriculture and Home Economics (with units that later became the School of Natural Resources). While the College of Arts and Sciences ruminated on a possible major in environmental studies and Civil Engineering discussed a degree in environmental engineering, Ian Worley, new Botany professor, along with department chairs in Forestry and Agricultural Engineering, were moving things forward. In 1970 they gained approval for an undergraduate major in Environmental Studies and the first students enrolled in two tracks—Generalist (interdisciplinary) and Specialist (disciplinary).

Milestones

Environmental Program, above
UVM and world events, below

Environmental Studies major
in CALS proposed

1969

1970

First Earth Day
Environmental Protection
Agency created





Tom Hudspeth (left) and Ian Worley (right) work with ENVS field classes in landscape ecology and environmental education. Students gather on Redstone green (center) for the first Solar Fest with music powered by the sun.

Responding to these start-up conversations, UVM President Ed Andrews called together a campus-wide group of interested parties. He charged the planning committee to develop a program that was “consciously interdisciplinary and liberal, with an honors component, and designed to educate undergraduates for a broad spectrum of advanced studies in science, policy, and the professions.” It was an ambitious goal; if UVM could establish a new program, it would clearly be in the forefront of academic leadership in the field.

The UVM committee invited Carl Reidel, formerly of Williams College and currently on fellowship at Harvard, to prepare a prospectus for UVM. Carl was soon chosen to be the new director and implement the recommendations. Rather than assign the Program to any single unit, President

Andrews declared the Program to be “university-wide”—a key feature distinguishing UVM from all other U.S. environmental programs. Among UVM’s early peers were University of California at Santa Barbara, University of Colorado at Boulder, University of Oregon, and Middlebury, Williams, Dartmouth, Brown.

At Convocation in 1972, Reidel laid out the UVM environmental vision:

“What is required is a new synthesis of scholarship built firmly on the strengths of disciplinary analysis... This will mean tearing down some artificial barriers between disciplines, departments, and colleges; between students, professors, and administrators... It will mean new ways of teaching that recognize experience and involvement in community action as powerful teachers of synthesis and wholeness.”

To accomplish this would require ongoing cross-campus discussion and thus the Director was assigned to report to the President through the Academic Vice President (Provost equivalent). He would participate in the weekly Council of Deans meetings as an in-house catalyst for change for UVM environmental initiatives. Andrews provided the new director with a budget, a building, and an administrative assistant, Jeanette Brown. The College of Agriculture start-up was folded into the new program and Carl hired Tom Hudspeth to serve as Assistant to the Director and lead outreach person for the Program. In 1973, seven students were admitted to the new major in Environmental Studies, and Program staff and faculty moved into the newly renovated Bittersweet (ghosts and all).

UVM recommends university-wide Environmental Program

Environmental Program founded; Carl Reidel appointed director

Bittersweet renovated and Program moves in

UVM Natural Areas designated

1971

1972

1973

1974

1975

1976

Vermont Act 250 signed into law
Vermont Yankee begins operating
The Limits to Growth, Donella Meadows

Arab Oil Embargo
Endangered Species Act passed
Small is Beautiful, E. F. Schumacher

Safe Drinking Water Act passed

The Monkey Wrench Gang, Edward Abbey

Lattie Coor, new UVM President
CFCs shown to damage ozone layer

GETTING ESTABLISHED

In the early years, the biggest challenge was passing the new undergraduate major proposal through all five college curriculum committees—no small feat! The concept was brand new: students could matriculate in any college, write an honors thesis, and receive a degree in Environmental Studies (ENVS). Core to this approach was allowing students access to courses from across campus to build their interdisciplinary programs of study.

There were two options—a formal major centered on the core courses (ENVS 1–2, 51, 100, 201, 204 and a required thesis) and a coordinate major (later replaced by an ENVS minor). ENVS 2 options were to be developed by collaborating departments.

Being new in an old campus is not easy. We needed allies and a lot of them. Historic files list supporting players in Education, Engineering, Agriculture, Medicine, and Home Economics. At first Natural Resources and Arts and Sciences voted against approval but eventually changed their minds. Faculty from Geology, Art, Botany, and Geography co-taught courses, advised senior theses, and sponsored joint seminars. Collaborations with colleagues offered stimulating possibilities for interdisciplinary research.

With this new initiative in place, Reidel and Hudspeth sought ways to take environmental



“It was a rich yet personal department. You were known and cared about and challenged all at the same time. I think I have carried that with me ever since.”

Deborah Eng Kielsmeier, '76

Membership Pastor

Christ Presbyterian Church, Edina, Minnesota

THESIS Community-Based Environmental Education

teaching into the field. They proposed that UVM take the lead on protecting valuable ecological study sites for future research and education. In 1974 the Board of Trustees established a system of natural areas to be “preserved to the greatest extent possible in their natural state, and for educational and scientific purposes insofar as such uses are compatible with the preservation of their natural character.” The Trustees charged the Environmental Program with bringing these nine reserves together under a single program: Centennial Woods adjacent to campus; East Woods, Redstone Quarry, and Colchester Bog in the Burlington area; Shelburne Pond and Pease Mountain to the south; Molly’s Bog and Concord Woods farther afield; and the Mount Mansfield alpine zone.

Environmental concerns were on the front page across the 1970s, keeping hallway conversations

lively in the Bittersweet. The oil crisis of 1973 delivered a major reality shock, causing fears of food shortages in New England. Lois Gibbs spoke out about buried chemical waste at Love Canal. Edward Abbey challenged citizens to take action. ENVS students looked for ethical guidance from now classic environmental books, such as Aldo Leopold’s *A Sand County Almanac*. Almost every environmental problem of concern today was first exposed in the 1970s. It was a heady and rich time to begin a new academic venture about real-time subjects of deep ecological and humanitarian concern.

THE 1980s: MOOD SHIFT

When Ronald Reagan was elected president, he appointed James Watt as Secretary of the Interior. In short order, Reagan implemented major policy reversals in all the national agencies, sending shock waves through the environmental community. Membership in environmental nonprofits soared in outrage, and action shifted to the local level. When Secretary Watt came to UVM to speak in 1982, ENVS students carried signs protesting his devastating policies.

Across the country the start-up pace of environmental programs slowed, and the number of ENVS majors at UVM slumped. But Program faculty were just getting going. Along with Vermont

James Watt visits UVM to ENVS student protests

1977

U.S. Dept of Energy created
Soft Energy Paths, Amory Lovins

1978

Love Canal disaster,
Lois Gibbs speaks out

1979

Three-Mile Island meltdown
Gaia: A New Look at Life on Earth,
James Lovelock

1980

Hudspeth, Howard Dean launch
planning for Burlington waterfront
Superfund Law passed

1981

Bernie Sanders elected
mayor of Burlington

1982

Nuclear Freeze resolutions
in 100 Vermont towns



Students (left) prepare timbers to build the Colchester Bog boardwalk. Environmental Justice class (center) hosts anti-racism workshop with Pajj Wadley-Bailey to expose structural patterns of bias. Davis Te Selle (right) leads nature drawing class by the river.

citizens and local agencies, they remained active in land conservation and energy concerns. Nuclear Freeze resolutions passed in 100 town meetings, inspiring a course on peace and nuclear war. The Program's role as catalyst for change was reaffirmed in a 1986 Provost memorandum:

"It is essential that the Environmental Program continue to serve in the vital role as a university-wide catalyst—to strengthen UVM's commitment to the study and improvement of the human and natural environment; to promote and demonstrate effective interdisciplinary education; and to foster integration of the University's environmental research and education programs. As a catalytic force for change and innovation, the Program must be responsive to changing social needs and student interests, yet purposeful in providing intellectual leadership."

The Program continued to expand. With funding and support from President Lattie Coor, new faculty were hired: Jean Richardson, who brought strengths in biogeography and environmental law, and Leslie King, whose global experience reshaped ENVS 002, *International Environmental Studies*. Rick Paradis was added to coordinate research and education in the Natural Areas and Sue Bean stepped in to assist Madonna Gordon. Faculty scholarship addressed pollution issues in Lake Baikal and energy development in Canada. The Bittersweet offices filled as the Program gained critical mass in staff and faculty.

With the Chernobyl explosion in Russia and the Exxon Valdez oil spill in Alaska the scope of disasters far exceeded what we had imagined possible. Though

climate modeling was in its infancy, the first World Conference on the Changing Atmosphere called for 20% reduction of CO₂ emissions by 2005. Clearly there was no shortage of topics for creative ENVS courses, and by the end of the decade, interest in Environmental Studies was on the rise again.

THE 1990s: CHANGING LEADERSHIP

After 12 years of anti-environmental action under Republican leadership, we shared a cautious optimism with the election of President Bill Clinton. Campuses across the U.S. lobbied for new programs in Environmental Studies. At UVM Environmental Studies enrollment soared to a new high of 332 majors. Two new faculty were brought on board to meet rising demand—Laura MacArthur and

Reidel signs MOU with Provost on Environmental Program governance

1983

1984

Worldwatch begins annual *State of the World* reports
Bhopal Union Carbide disaster

1985

Ozone hole discovered over Antarctica

First internal program review

1986

Chernobyl nuclear reactor meltdown in USSR

Reidel gives Earth Day speech at UVM

1987

1988

Waterman takeover on apartheid demands
Intergovernmental Panel on Climate Change established

Stephanie Kaza. For a small faculty, we were one of the most gender diverse on campus, reflecting a desire for multiple perspectives to inform our teaching. Colette Paul became the new business manager; Shelly McSweeney (ENVS '85) and Gioia Thompson (ENVS '87) each served as student services coordinator. Ibit Getchell took up the role in 1995 and expanded advising services by developing a web-based student resource center.

In 1991 Carl Reidel worked closely with an anonymous donor to set up a sizeable gift known as the "Enrichment Fund." This gift provided support for faculty travel and research, student theses and conference participation, funding for guest speakers, and equipment to support Program activities. It was a significant piece of Carl's legacy to the Program, a means for meeting the Program charge and vision. Carl stepped down as Director in 1994, having given the Program a solid foundation and many supportive allies.

When Ian Worley assumed leadership, he immediately faced a proposal from the Provost to subsume the Program into the School of Natural Resources. The two units represented different philosophies regarding the environment; the merger highlighted a clash of values. Natural Resources was grounded in the applied science fields of Forestry and Wildlife Biology, with an emphasis on resource management. In contrast, Environmental Studies



"The Program helped me think more thoughtfully about global environmental issues and ways to act locally as my part in being a positive force for change."

Edward Sortwell Clement, Jr., '91

Executive Director, Aquidneck Land Trust, Middletown, Rhode Island • *THESIS Sacred Space: A Way to Live with the Environment*

required a broad interdisciplinary approach to natural systems, with cultures, ethics, and human communities all interrelated elements.

The conflict came to a head in a packed meeting in Memorial Lounge where over 300 faculty and students fiercely defended the Program in written and verbal testimony. The upshot was strong reaffirmation of the Program's purpose by the Board of Trustees (1994).

"With respect to the Environmental Program, the overall aim must be to maintain the essential characteristics that make it successful, namely: 1) its interdisciplinary emphasis, 2) its adaptability to the educational goals of each individual student, 3) the opportunity for independent study, and 4) a commitment to advising and student-focused services."

Despite this seeming victory, later directions in UVM administrative leadership resulted in major

changes in Program management. While staff lines remained in the Program budget, faculty lines were moved into the colleges and redistributed to various deans. This meant a much stronger role for partnering units, particularly after the first collective bargaining agreement clarified tenure and promotion roles. The Program still reported to the Provost but now had to compete with other departments in requests for new lines.

Meanwhile, student leaders formed the Environmental Studies Student Advisory Panel to build community spirit and offer suggestions for Program curriculum (and roast the faculty at the senior reception!). The faculty responded with new breadth requirements to deepen interdisciplinary understanding across natural science, social science, humanities, and international aspects of Environmental Studies. Tom Hudspeth developed the first ENVS travel study courses to gain access to third world perspectives, and college curriculum committees approved a number of popular courses as well as ENVS 197 *Students Teaching Students*, a boon to future student course design creativity.

In related co-curricular activities, VSTEP (Vermont Student Environmental Program), promoted responsible recycling while Slade Hall, the environmental dorm, became a hotbed for testing environmental ethics. These two communities

Major gift establishes ENVS Enrichment Fund

First STS course in Environmental Justice

Carl Reidel steps down; Ian Worley becomes new director

1989	1990	1991	1992	1993	1994
Exxon Valdez runs aground in Alaska	Earth Day 20 year anniversary		UVM students attend Earth Summit in Rio EPIC grant from Kellogg Foundation awarded		Proposal to merge Environmental Program with School of Natural Resources



The severe ice storm of 1998 paralyzed campus (left), foreshadowing climate change events to come. ENVS students protest the new campus shuttle system (right), arguing instead for low emissions human powered transportation.

fostered a sense of camaraderie among ENVS students, enlivened by appearances at Slade by members of the soon-to-become famous rock band Phish. On campus and across the country, environmental networking took off at high speed, galvanized by the emergence of the internet.

As the national conversation turned more hopeful, environmental faculty took on more challenging initiatives. Stephanie Kaza attended the first Campus Environmental Summit at Yale in 1995 and set things in motion for an Environmental Council at UVM. Carl Reidel accepted a nomination from Governor Howard Dean to fill a vacant Vermont House seat. Jean Richardson received a major Kellogg Foundation grant to distribute seed grants to build resilience in Vermont’s rural communities. Hector

Saez joined the faculty to add economic expertise in community development and environmental justice.

THE 2000s: A NEW CENTURY

The World Trade Tower attacks on September 11, 2001 put all other politics in stark perspective. Environmental issues once again came under coordinated attack with George W. Bush’s administration. The list of rollbacks filled books and websites, and environmental advocates were despondent with the massive reversal of protections. Rainforest destruction, environmental justice, and global warming topped the list of critical concerns. The mission of the Environmental Program seemed more important than ever. With warnings from the U.N. Intergovernmental Panel on Climate

Change (IPCC) and the release of Al Gore’s film, *An Inconvenient Truth*, students in large numbers were suddenly interested in Environmental Studies.

Fortunately the decade-long hiring logjam broke open, and the Program was able to bring six new faculty on board in relatively short order. Each search required collaborative planning and negotiation between the Environmental Program and the tenure home department. Cecilia Danks (2001), Saleem Ali (2002), Jon Erickson (2002), and Adrian Ivakhiv (2003) were appointed through the School of Natural Resources, adding Program strengths in environmental economics, policy and humanities; Ernesto Mendez (2006) and Frank Zelko (2007) added partnerships with Plant and Soil Science (CALs) and History (CAS).

First Bittersweet Vine published

First external review of the program

First ENVS travel study course to Belize with Tom Hudspeth

1995

1996

1997

1998

1999

2000

Carl Reidel serves a term in the VT state legislature

Julia Butterfly Hill defies loggers in California redwood
Kyoto Protocol adopted

Judith Ramaley, new UVM president
First UVM Environmental Council report, *Greening UVM*

Rainforest logging banned in New Zealand

Expertise in Vermont and national environmental issues was now complemented by international connections in Pakistan, El Salvador, Dominican Republic, Australia, Ukraine, and the Philippines. The new faculty brought fresh energy to the Program that helped fill gaps from the departures of Leslie King and Laura McArthur (1998) and the retirements of Carl Reidel (2000) and Jean Richardson (2001). Dianne Pratt (ENVS '81) joined the Program as business manager when Colette Paul retired.

When President Fogel came on board in 2002, he actively promoted UVM's green brand to draw more students to UVM. From 2004–2009 undergraduate enrollment grew from 7,000 to 10,000, putting pressure on popular programs such as Environmental Studies. The Environmental Science major, approved in 1997, added to UVM's attractiveness as a green campus. Students flocked to the new GreenHouse, a 400-bed residential community featuring the theme of sustainable living. A student Eco-Reps program was launched and the new Office of Sustainability established. In 2008 spirits were hopeful, and dozens of students joined up to send the largest campus delegation to Power Shift in Washington, D.C. All the pieces were falling into place for the full blossoming of environmental culture at UVM.

With so much happening on so many fronts, UVM's green reputation was soaring. In 2003 the



“The program made me think big, not only for my dreams but for what shapes things, how politics influences science and how culture influences the environment.”

Laura Flight, '97

Hydrologic Technician, U.S. Geological Survey
THESIS *An Evaluation of Streambank and Riparian Restoration Projects in the Lewis Creek Watershed, and a Proposed Restoration Monitoring Plan*

School of Natural Resources received a substantial donation to become the Rubenstein School of Environment and Natural Resources (RSENr) and another major gift allowed the Gund Institute for Ecological Economics to move to UVM. In some quarters it seemed to make sense to once again suggest the Environmental Program merge with RSENr. After a two year conversation exploring all options, the Provost decided that the Program would report to the RSENr Dean who was assigned to be its advocate. Despite good faith efforts, this structural arrangement added new challenges to meeting the university-wide mandate of the Program.

BUDGET CHALLENGES

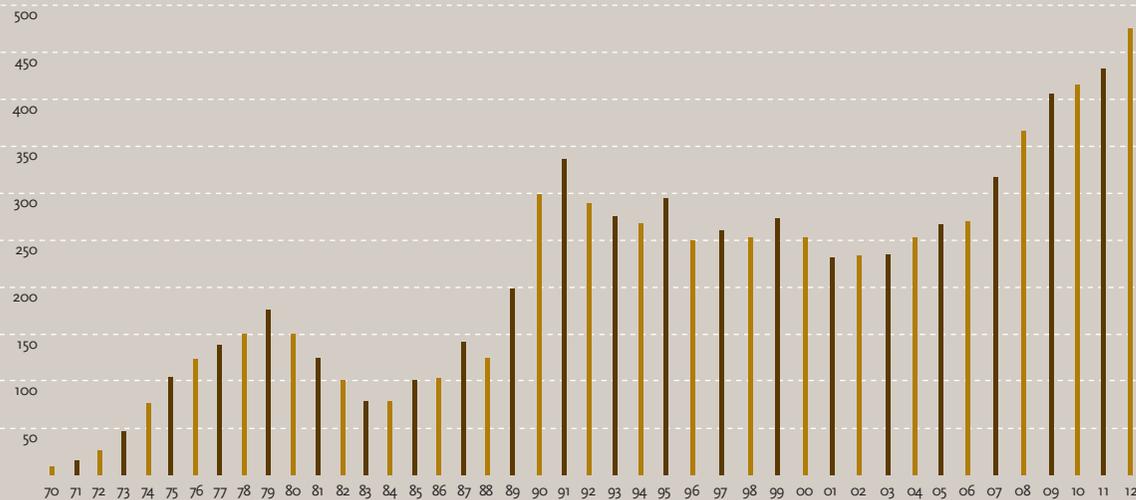
When Wall Street collapsed in fall 2008, higher education was in shock. UVM's endowment was hit

hard. Budget cuts were implemented immediately and the Environmental Program suffered difficult losses. Finance operations were moved to RSENr, eliminating our business manager position, and Ian Worley's faculty line was terminated after he retired. Ian left an enormous Program legacy from so many years of growth and faculty development. He had seen the Program through two major reviews and countless administrative near-crises.

With administrative leadership in flux, Stephanie Kaza took up the helm as new director, hoping to maintain internal morale at the Bittersweet. Meanwhile environmental disasters showed no signs of slowing down. In short order we witnessed Deepwater Horizon, Fukushima tsunami, and Tropical Storm Irene. Students and professors struggled to find a way forward in the midst of rapid change. As ENVS enrollments soared close to 500, we needed new efficiencies. The Program introduced six new concentrations to guide student advising and three senior capstone options to broaden choices beyond the traditional thesis. We moved numerous courses through the many-stepped curriculum review process in three colleges, solidifying our course offerings. With the help of Continuing Education, new courses were added to meet student interests and enrollment pressures, allowing us to follow emerging trends in climate

Provost assigns Environmental Program to report to RSENr

2001	2002	2003	2004	2005	2006
UVM President Ramaley resigns World Trade Center attacked	Daniel Fogel, new UVM President	Bush administration environmental rollbacks	Don DeHayes and John Bramley write UVM environmental "white paper"	Hurricane Katrina disaster	First march for climate change in Vermont, led by Bill McKibben <i>An Inconvenient Truth</i> , Al Gore



A 1986 class portrait (left) includes faculty members Bill Eddy, Ian Worley, Leslie King, and Carl Reidel (top to bottom). The growth in ENVS student majors shows three peaks that parallel national trends, including today's all-time high.

justice, transportation planning, media literacy, environmental entrepreneurship, and other hot topics.

NEW LEADERSHIP STRENGTH

In 2011, the Environmental Program stepped up its leadership role as one of the oldest and largest programs in the country to host the annual meeting of the Association of Environmental Studies and Sciences (AESS). With guidance from Rick Paradis, Rich Wallace, Ibit Getchell, and UVM Conference Services, we put together an outstanding academic conference. Over 400 professors from around the U.S. and Canada attended paper sessions, field trips, and keynote talks. Our closing speaker, U.S. Senator Bernie Sanders, minced no words in urging

participants to take their environmental expertise into gridlocked political decision-making arenas.

After 40 years the Program had come into its own strengths in leadership. Adrian Ivakhiv and Cecilia Danks helped to coordinate related graduate concentrations. Ernesto Mendez played a key role in developing the new Food Systems research spire at UVM. Stephanie Kaza was elected to executive councils of AESS and the Council of Environmental Deans and Directors. Rick Paradis and Kit Anderson gave papers on teaching our capstone courses. Saleem Ali hosted international scholars at UVM through his Institute for Environmental Diplomacy and Security. By now the reach of environmental initiatives was infused throughout campus, an

explosion of creativity far beyond the story of this one program. While there is much to celebrate, there is still much to do.

In the pages that follow you will hear some of the stories that are part of this history. Through these stories we see what an *interdisciplinary approach* means when it takes shape, what *high impact learning* looks like, and how our faculty and students engage in *creative teaching*. You can follow our exploration of *sustainability values* and the venues in which we have tried to be a *catalyst for change*. These are but a sampling of dozens of ENVS stories, but they carry the spirit and imagination that has been consistent across our 40 years as the UVM Environmental Program.

Ian Worley retires; Stephanie Kaza becomes new director

Environmental Program hosts national AEES conference

40th anniversary celebration of the UVM Environmental Program

2007

Davis Center opens at UVM
Northwest Passage in Arctic opens to navigation

2008

Program self-study completed for Faculty Senate
Wall Street crash, budget cuts in higher education

2009

Copenhagen Climate Negotiations
Deepwater Horizon oil spill

2010

Vermont Senate votes to close Vermont Yankee nuclear plant

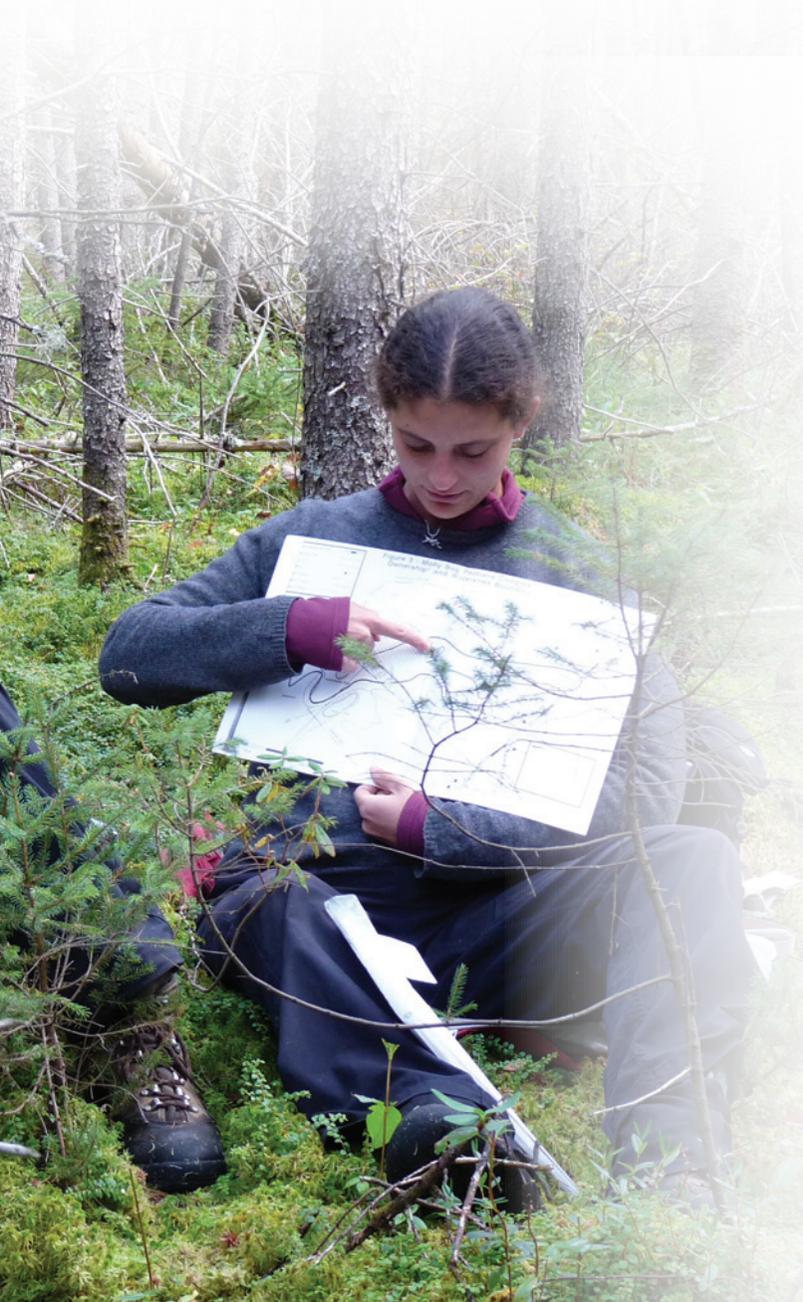
2011

Carl Reidel, founding director, passes
Tropical Storm Irene hits Vermont

2012

Thomas Sullivan, new UVM President

Interdisciplinary Approach



If there is one overarching hallmark of the Environmental Program, it is an interdisciplinary approach in all our academic activities—scholarship, teaching, advising, service. Faculty and students drawn to Environmental Studies seem naturally inclined to engage different points of view. They want both scientific *and* ethical perspectives. They want to know the world as a vibrant resilient whole, not as a collection of parts. They have a keen appreciation for multiple perspectives, understanding that any given situation carries many stories and often conflicting values.

It is possible to define interdisciplinary in many different ways, depending on your academic culture and experience. Most Environmental Studies programs begin with the intersection of ecological science and environmental policy. First, you must understand how the basic systems of life work as a dynamic interconnected web of influence, feedback, and mutual shaping. To manage human activity in relation to that web, you need to make policy, establish acceptable limits, and find ways to minimize harm. In the early days we thought the science-policy interface could address and even solve every environmental problem. Those were hopeful and naïve times. Now we see there are many other powerful forces at work shaping environmental decisions—economics, cultures, morals, history. Solving environmental problems turns out to be a humbling human endeavor that brings pretty much everything into the picture.

INTERDISCIPLINARY CURRICULUM

Shaping a course of study that is interdisciplinary is not simply a matter of taking courses in different disciplines. It requires planning, integration, and thoughtfulness to understand how these perspectives shed light on the whole. Exactly how to do this is the subject of many ENVS faculty discussions. Some of our peer programs have designated a chosen sequence of required courses to map the study of the environment for their students. We have taken a more learner-centered approach, supporting students in designing individualized courses of study based on interest and skill level. In contrast to some programs, we have emphasized the environmental humanities from the start.

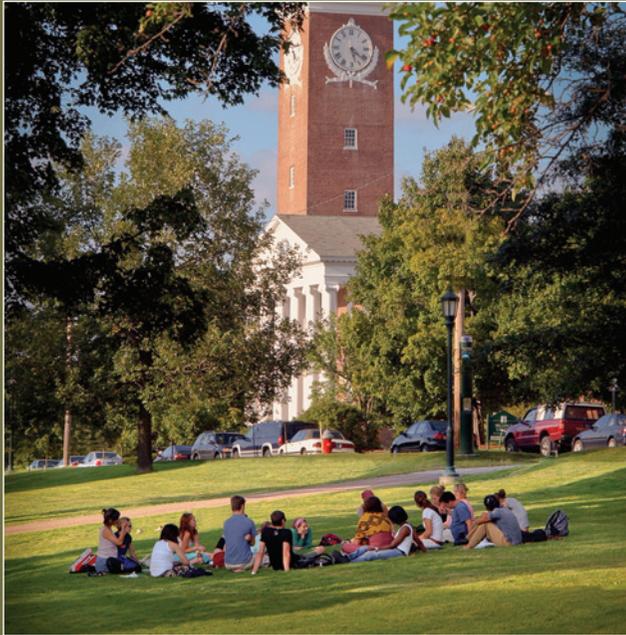
We provide a basic scaffolding in the core courses, where we lay out our interdisciplinary philosophy and approach. Students develop this with environmentally-related courses that draw on the theory and methods of natural science, social science, humanities, and international perspectives. Each student identifies a concentration of courses that builds understanding in specific



“The faculty inspired me to think dynamically in an interdisciplinary manner—to understand and then to act on information to solve problems.”

Lawrence Kast, '85

Vice President, Government Relations,
Honeywell, Washington, DC • *THESIS Solid Waste
Management in Chittenden County, Vermont*



The First Core Course

Introduction to Environmental Studies is the gateway course to the major; virtually every ENVS student takes this class as their first exposure to interdisciplinary environmental thinking at UVM. The course is constructed to introduce students to scientific, political, economic, and cultural approaches to environmental issues in the U.S.—each with their strengths and biases. A common theme is understanding how ecological systems interweave with human systems. Students are asked to take a big picture view, looking at the dynamics of climate change, political change, and social change as they impact each other. As one student said, “This class has given me an excellent foundation for the rest of my time here. I won’t forget it.”

Weekly lab sections are a highlight and tradition in the course. Here students spend time in the field and empirically study environmental topics first hand. The teaching assistants

are top-level undergraduates who have been through the course and know the ropes in the ENVS major. They form a strong team at the helm of the class, building a peer-to-peer community and providing guidance for first year students.

At times the course has carried the burden of gloom and doom, as students wake to the serious and difficult challenges facing the world. But ENVS 001 instructors have taken the optimist’s path—Carl Reidel and Jean Richardson for almost 20 years, Stephanie Kaza for five years, and now a fresh approach under the vision of Amy Seidl. Core and guest professors share their own hopes for the future and provide examples of forward thinking from around the country. The learning community includes everyone, all keeping company with the breaking issues of the day.

Richard Wallace, '88 *Professor and Chair, Environmental Studies, Ursinus College*

Richard Wallace has devoted his academic career to studying the role of interdisciplinary thinking in environmental studies. His writing looks at the integration of disciplinary approaches, problem solving methods, and social values in addressing complex environmental problems.

“One of the great fallacies in modern society is that we have an ability to separate who we are and how we feel from the work that we do. It isn’t true! Many great conservation successes—and failures—have been influenced by the values that people hold. In my work I explore the values that influence people’s behavior, such as the desire to obtain or limit power, respect, knowledge, skill, well being, or wealth. These sorts of influences can have a profound effect on conservation outcomes.”

Richard was strongly influenced by Professor Leslie King, who often invited student TAs out to her house in North Hero

for conversations late into the evening. “The faculty-student mentoring relationships had a strong focus on developing learning skills that was enormously influential.” Working closely with other students added to the rich learning environment. “I loved the peer to peer engagement, particularly with the ENVS majors my senior year—we were a very tight group.”

Richard went on from UVM to complete an M.E.S. and Ph.D. at Yale University in Environmental Studies, with a focus on conservation governance and behavior. He was founding chair of Environmental Studies at Ursinus College, where he has taught since 2002. Richard lives in Collegetown, Pennsylvania with his wife Shannon Spencer and children Tucker and Noah.

THESIS *Conservation of the Western North Atlantic Humpback Whale in the U.S. and Dominican Republic*



interdisciplinary contexts. Our current advising guides offer these choices:

- Ecology and Conservation*
- Food, Land, and Community*
- Environmental Policy and Development*
- Nature, Culture, Justice*
- Sustainability Studies*
- Environment and Health*
- Individually-designed*

With more and more environmental offerings on campus, today's ENVS academic plans reflect the complexity of the field itself. Some draw on courses in environmental anthropology and sociology, others mix classes in development and global environmental politics. As more faculty bring their broad range of environmental expertise to UVM, ENVS students benefit from their perspectives and training. We actively encourage the development of new interdisciplinary courses through our partnerships in the colleges that host Environmental Program faculty and with adjunct instructors teaching through Continuing Education.

Because of the breadth of course plans, it is essential that students achieve depth of integration through a senior capstone learning experience. These can take the form of a research thesis, a creative arts or other project, an internship, or a sequence of advanced courses. Within each of those categories the variation is astonishing. The long (and subject-indexed) list of theses on the Environmental Program website offers quite a history of in-



“Promoting links across disciplinary perspectives, the program had a big impact on interests such as language and culture that I have continued to explore.”

Peter Wilshusen, '89

Professor and Executive Director of the Environmental Center, Bucknell University • *THESIS A Foundation for Cooperation: The Biosphere Reserve Concept as a Model for Environmental Cooperation*

depth ENVS student engagement. In many cases the capstone turns out be the springboard for a rewarding job or graduate program in a related field.

INTERDISCIPLINARY SCHOLARSHIP

The strength of the UVM Environmental Program begins with the faculty and the work they do to advance interdisciplinary environmental thinking. Every one of the faculty holds advanced degrees in at least two, if not three fields of study. Their research spans fields as diverse as ecocritical media studies and environmental conflict resolution. UVM faculty with appointments in Environmental Studies identify themselves by the work they do more than by the label of a disciplinary field. One professor works on forest carbon markets, another on biodiversity and coffee farms, yet another on traditional ecological knowledge.

Faculty interdisciplinary research sets the bar and serves as a model for student research, whether

in course projects, senior capstones, or independent studies. Program faculty are broadly familiar with a wide range of research methods and are able to guide students in designing research projects to address complex environmental questions. Several members of the faculty are Gund Institute fellows, working even more broadly in what is known as transdisciplinary research, not just mixing disciplines but going beyond disciplinary limitations to develop new frameworks of knowledge and theory.

The commitment to an interdisciplinary approach informs every aspect of the Environmental Program, even its administrative structure. Though it presents some unusual challenges, the Program must work effectively with all the academic units supporting the Environmental Studies major and minor. That includes the College of Arts and Sciences, the College of Agriculture and Life Sciences, the College of Education and Social Services, and the Rubenstein School of Environment and Natural Resources. For those relations to serve both faculty and students in the Program, we invest time and energy in being good partners and colleagues across campus. It is perhaps no accident that three Program faculty have held office as UVM Faculty Senate president or vice-president. The foundation of interdisciplinary work is building bridges across academic and community cultures to address common issues of concern. For those of us in Environmental Studies this is not theoretical; it is the imperative that motivates our effort.

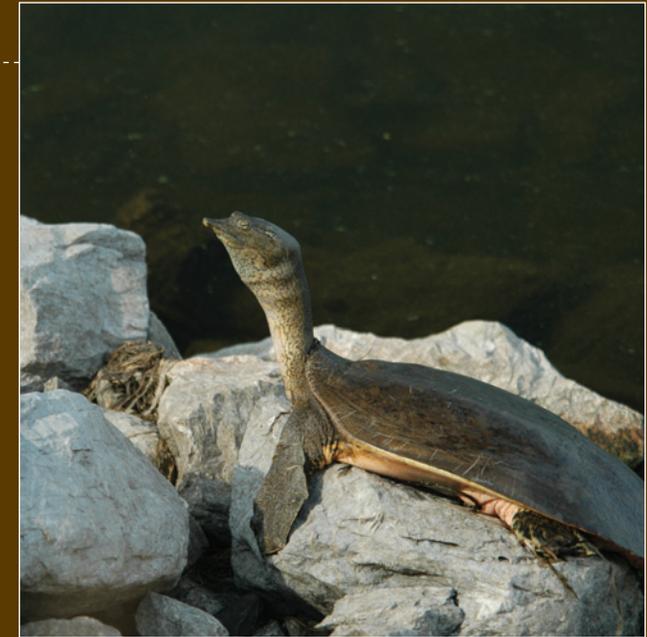
Vermont Endangered Species Committee

From the beginning of the Program, ENVS faculty brought an interdisciplinary approach to Vermont and national environmental policy debates. Participation was seen as not only an obligation but critical to enhance student learning. Faculty served on state commissions, led efforts to clean up Lake Champlain and participated actively in Vermont's environmental planning.

In 1987 the Vermont Endangered Species Committee invited Professor Ian Worley to offer his ecological expertise in advising the Vermont Secretary of Natural Resources on matters regarding threatened and endangered native species. The committee has three charges: (a) to determine what species are threatened and endangered, and recommend their listing; (b) to review Endangered Species takings permit applications; and (c) to create conservation and education

plans for endangered and threatened species. Ian served as chair from 1991–2008, taking up a number of important policy issues that involved conflicting environmental values.

To prepare for meetings, Ian would rise before dawn to review stacks of documents, particularly thick for permit applications. These required numerous public hearings, work sessions with applicants, and oversight of activities by developers and governmental agencies. He chaired the effort to protect spiny softshell turtles during construction of the Alburg Bridge and recommended regulations to protect bats and birds impacted by wind turbines. One of the most hotly debated issues was the decision to apply chemical pesticides in Vermont rivers to control lamprey eels. In each of these cases, Ian worked with committee members to include multiple perspectives with an eye to ecosystem implications of their decisions.



Eric Palola, '82 *Executive Director, Guanacaste Dry Forest Conservation Fund, Costa Rica*

When Eric Palola found the Environmental Program at UVM he knew he was home. Drawn to economics but skeptical of cost-benefit formulas, Eric felt that there was a disconnect between economics and natural systems. Ecological economics was not part of the discussion in those years, Eric recalls. Still, he remembers sitting in his first ENVS 001 class listening to Carl Reidel connect his work as a forester with ecosystems and economics.

“Carl was always pulling from different disciplines. He could talk seamlessly about ecology, ethics, economics, and public policy. It served to connect my wide-ranging and haphazard interests. The Environmental Program took seriously the mix of social sciences with natural sciences. Carl used to say the world needs fewer specialists and more generalists because

the generalists connect the dots, see the relationships, and figure out how to solve problems.”

Eric went on to earn a graduate degree from the Kennedy School for Public Policy, Harvard University. He has worked in environmental policy at the Vermont Natural Resources Council, the U.S. Environmental Protection Agency, a private energy firm and for almost 20 years as a resource economist at the National Wildlife Federation. Today from his home in Vermont, he directs a nonprofit group that conserves biodiversity in Guanacaste, Costa Rica, a rich ecological hotspot. Eric married Shelley McSweeney (Environmental Program, '85) and they have two children, Tristan and Aniken.

COORDINATE MAJOR *Resource Economics*

High Impact Learning



What makes an impression? What creates that spark of insight? And what keeps a student engaged? National research in higher education by George Kuh and others offers a very clear answer: high impact educational practices. These are the modes of learning that actively engage students and demand their full participation. Environmental programs across the country have an appetite for this kind of experiential learning. Faculty are drawn to service learning, travel study, group research projects, and other modes that put the teacher as a “guide on the side” rather than a “sage on the stage.” Environmental Studies field courses offer opportunities to learn ecology on site; travel study courses open doors to other cultures. Senior thesis capstones challenge students to integrate and apply methods and perspectives from multiple disciplines in new ways. Internships at all levels provide students with valuable “hands on” experience in a real world context.

The Environmental Program actively encourages such educational practices, asking students to include them in their academic study plans. We introduce the concepts of high impact learning in the foundation courses and then build on these in our intermediate planning course. We ask students to identify internships, service learning courses, independent research, off-campus and co-curricular activities that will shape their understanding as well as their resumes. We post such opportunities on our list-serve and announce them in our classes. The Program offers its own travel and field studies courses as well as a number of service learning classes. Faculty work closely with students

on their senior thesis research, honing methods and results to develop critical thinking skills. Ibit Getchell advises students on stimulating course choices to enrich their ENVS concentrations.

How can high impact learning experiences shape a person’s path through college? A traditional course of study might emphasize a sequence of content courses, each required for the next higher level. In Environmental Studies, we ask students to focus on a concentration and find high impact learning opportunities to deepen their understanding. For example, students in Amy Seidl’s *Adaptation to Climate Change*, a service learning course, prepare mitigation plans for rural counties in Vermont, addressing regional needs in the context of state climate predictions. Students interested in global environmental policy might spend two weeks in an ENVS travel course studying international peace parks in the Balkans. Students in *Campus Sustainability* build a Google map of key reference points that define UVM’s sustainability efforts. We hope students will catch a spark from these enrichment activities and seek the next related



“The Program taught me how to learn with all five senses. It was self-directed yet structured so I could take my passion for the environment and run with it.”

Cayla Tepper, '12

Co-owner and co-founder, Fat Rabbit Farm, Sheldon, Vermont • *THESIS Alternative Models for Community: A Students-Teaching-Students Course*



UVM's Natural Areas: Stewardship and Learning

UVM's stewardship of natural areas in Vermont began in the 1850s with the rare alpine ecosystem on Mt. Mansfield. Other natural areas followed in the 1970s, including Centennial Woods, Colchester Bog, Pease Mountain in Charlotte, and 1,000 acres around Shelburne Pond. In 1974, the UVM Board of Trustees asked the Environmental Program to knit these pieces together and create a learning oriented management and activity plan. The program brought students on board through field courses and internships that fostered student learning and provided the manual labor to maintain the areas. Rick Paradis joined the program in 1985 and began teaching a course on *Natural Areas Conservation and Stewardship*.

"In my course, we try to bring a lot of hands on access to the things we do. We're out in the field, we use lands that we

manage, and care for them as our outdoor laboratories and field sites. The program has continued to be innovative over the years as we've responded to emerging environmental issues." The UVM Natural Areas Center sponsors conferences and summer institutes to foster professional development.

UVM's nine natural areas are home to some of Vermont's rarest and most endangered species yet they remain accessible to the public. Under the "new normal" of changing climate, researchers will be watching closely for changes in species distribution and impacts of insect outbreaks. Currently the Program and several partners are working to transform a recently vacated building on the ridgeline of Mt. Mansfield into a state of the art field station for scientists and students interested in mountain ecology and conservation.

Lou Borie, '77 *Executive Director, Vermont Natural Resources Board*

For Lou Borie a core aspect of the Program that has stayed with him for 35 years is the way it allowed and encouraged people to pursue their environmental interests. "I think the program really empowered people to explore ideas and issues to find ways of expressing themselves that were not traditional." Lou remembers investigating the Burlington landfill as a class assignment and taking photos of leachate running into local ground water. The resulting slide show provided a compelling illustration of the contamination.

Environmental communication became a theme of his academic studies and later professional career. Key to that was the use of photographs to tell stories and illustrate issues of the environment. "The program made me feel like I could really explore different ways to talk about environmental issues. Staff

and faculty were always receptive to ideas that did not fit the traditional academic type of pursuits." Lou focused his thesis on photos of UVM's natural areas, turning the results into a small book, *University of Vermont Natural Areas*.

Today, Lou serves as the Executive Director of Vermont's Natural Resources Board—the state agency that administers Act 250, Vermont's landmark development review law. Environmental communication remains very much a part of what Lou does, explaining and illustrating the laws his agency administers, and drawing on the different perspectives he was first introduced to in the Environmental Program. Lou lives in Richmond, Vermont with his wife Kathy and daughter Hannah.

CONCENTRATION *Environmental Communication*



experience, perhaps an internship with a nonprofit or government agency working in that same focus area. Experiences such as these are full of good stories, high achievement, and a sense of personal satisfaction for relevant work well done.

BUILDING SKILLS AND RELATIONSHIPS

High impact learning experiences deepen skills in collaboration, research methods, communication, and time management. They offer depth of knowledge needed for the particular project or task. They cultivate relationships with peers, faculty, and community members. For young people starting out on their life paths, such experiences build maturity, technical skills, and professionalism. They learn how to navigate the stages of research and thesis writing, the highs and lows of tackling complex



“The Program provided opportunities for real-life skills: research, networking, and working independently. I apply all of these daily in my work and life.”

Beth Truzansky, '00
 Director, We All Belong Program, Community and Economic Development Office, Burlington, Vermont
THESIS *The Vermont Student Summit Council; A Burlington Environmental Youth Group*

ideas, the many drafts required to complete a quality project. These sorts of intangibles are what count when students take their academic training into the marketplace. It is what allows them to adapt to new work environments with demanding responsibilities. One component of high impact learning

experiences is the opportunity for self-evaluation and reflection. As students find out what it is like to be part of an organization or travel study group, it is important to take time to evaluate their contributions. They process feedback from peers and supervisors and set goals for future work and learning situations. Self-reflection provides the space for engaging other cultures and points of view about the environment. Students can then grow beyond self-referencing norms to see a wider range of human experience. All this is invaluable preparation for the challenges they will encounter in their careers and communities.

Given the urgency of the global environmental situation, the Environmental Program takes such preparation very seriously. We want our students to use what they learn at the University of Vermont to be effective citizens and professionals able to make a difference in their world. We want them to leave UVM ready to direct their own learning and creativity and to collaborate with others committed to the same goals. High impact experiential learning can accelerate this process, heightening a sense of purpose for their education in Environmental Studies. Students “own” what they have accomplished, an ownership that rings with growing confidence when they speak about their work. We are convinced this approach offers a strong foundation for lifelong learning that is so necessary in a rapidly changing field.

UVM NATURAL AREAS



The nine reserves of the UVM Natural Areas system provide field sites for outdoor education, scientific research, and public recreation. They represent a range of ecological habitat types and complement other private and public protected areas in Vermont.

1. Mount Mansfield
2. Colchester Bog
3. Centennial Woods
4. Redstone Quarry
5. East Woods
6. Shelburne Pond
7. Pease Mountain
8. Molly Bog
9. Concord Woods



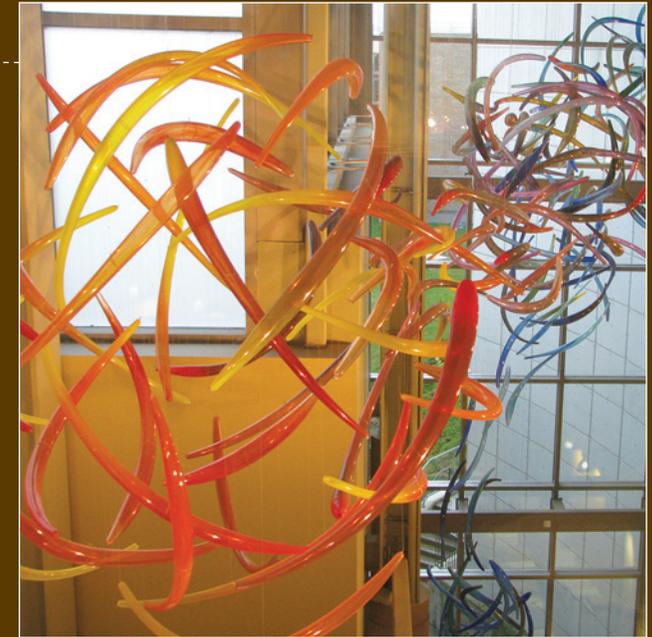
Environmental Arts and Humanities

It is the rare Environmental Program that includes the humanities in its curriculum. At UVM this tradition is strong, dating from the first *Environmental Ethics* course through many years of ENVS 100 *Environmental Theory*. Students are required to take one course in environmental humanities that will develop ethical thinking, environmental perception, or expressive skills. These courses, such as Adrian Ivakhiv's *Ecopolitics and the Cinema*, draw on the academic disciplines of philosophy, studio art, religion, literature, and history.

A number of students have taken up the challenges of independent creative work for their senior capstone projects, producing children's books, novels, a series of paintings, or a collection of poetry. Sense of place is a common theme, with environmental threats adding drama. Students must not only

produce the work but share it publicly (as in a gallery) and analyze it against artistic models and standards.

Occasionally a senior thesis in the environmental humanities becomes the spark for a professional career in art or writing. Maria Hummel, '94 first proposed a *Nature Writing* class at UVM. After completing an MFA, she published two works of environmental fiction, *Wilderness Run* and *City of the Moon*. Caitlan Scholl, '01, also took up the writing life, bringing her environmental ideas to her recent fiction, *Makebelieve* and *Mocemoce Na Vanua* (The Land Abiding). In 2008, glassblower Ethan Bond-Watts received an unusual commission from his senior class to produce a sculpture for the UVM Davis Center. Titled "Emergence," it beautifully represents his philosophy of the way things unfold synergistically in the web of life.



Rachel Jolly, '94 *Director of Women's Programs, Vermont Works for Women*

Rachel felt she joined a community when she entered UVM's Environmental Program—a community that continues to engage and inspire her today. Core to her experiences at UVM were three formative years at Slade Hall—a hub of environmental activism on campus. Students grew some of their own food, worked member hours at the original Onion River Co-op and engaged in dinner time and late night debates around the environmental issues of the day—Hydro-Quebec impacts, recycling, diversity on campus and a proposed campus bus system, among others.

"I feel like my years at UVM really changed the direction of my life in so many ways. It was such a pivotal time. I attribute that to living at Slade and being involved with the Environmental Program. Both opened up my world and

exposed me to new ways of thinking. Those years shaped me into who I am, gave me many of the friendships I still hold dear, and put me on my career path."

Rachel went on to work as an environmental educator at ECHO Lake Aquarium and Science Center and Chewonki Camps, earning a master's in South Africa on an international Rotary fellowship. She now directs a program empowering women to improve their lives and careers. She lives in Burlington, Vermont with husband Adam Walker and three-year-old daughter Shayna.

THESIS *Ecofeminism and its Potential to Counter Religious Dualisms: Seven Women's Perspectives on Hierarchical Dualisms within their Religious Views*

Creative Teaching



Teachers in Environmental Studies are often motivated to share their skills and knowledge out of an urgent concern for the state of the world. They teach because they care about sustaining life on the planet; they want to develop awareness and capacities in others to serve that purpose. The Environmental Studies classroom is a lively place where concerns, information, feelings, and values, are shared in support of creative responses to difficult challenges. The classroom may be an ordinary room with desks and a blackboard, but it just as often is a field site in a natural area, a city landmark in a travel study course, or an intern office in a local agency or nonprofit.

Our teaching philosophy in the Environmental Program has always defined education opportunities as broader than the walls of UVM. We want students to learn not only from faculty but from environmental professionals, from their peers, from communities and the land itself. Professors and students form a single learning community, advancing environmental knowledge and solutions in common arenas. Because the field evolves so rapidly, we have found ways to be responsive to new topics and student interest. Ideas for new courses are looked at closely and developed in a supportive community, while holding a high bar for rigor and content.

FACULTY AS ROLE MODELS

The primary role models for good teaching are the Environmental Program faculty. In the last ten years, two people have received the Kroepsch-Maurice teaching award (Stephanie Kaza, 2002, and Ibit Getchell, 2001) and two have received the prestigious George V. Kidder alumni award

for excellence in teaching (Tom Hudspeth, 2002, and Stephanie Kaza, 2011). Many faculty have pursued course development projects on sabbatical or received UVM instructional incentive grants for curriculum initiatives. Over half the faculty have become Sustainability Faculty Fellows, receiving incentive funds for sustainability-related course development. Hallway conversations in the Bittersweet are often about students or course ideas, requests to guest teach in each others' classes, or simple sharing of classroom experiences.

The broad approach to teaching stems back to an early Program mandate to reach out from UVM to the wider community in the state. With Carl Reidel's support, Tom Hudspeth offered his services to dozens of schools and nonprofits, laying the foundation for a strong environmental education culture across Vermont. From the start, the Program invited professionals to teach as adjunct lecturers, bringing their expertise in environmental law, ethics, and planning to UVM students. ENVS classes have been taught by artists, journalists, farmers, transportation planners, developers, conservation leaders, and activists. Alums mention special topics



"The freedom to pursue my interests in college allowed the opportunity to deepen my understanding and interest in sustainable travel —now my life-long career."

Keith Sproule, '88

Tourism Business Advisor, World Wildlife Fund, Namibia • THESIS *Food Security in Western Province, Kenya*



Study Abroad: Learning through Exposure

Is ecotourism a viable path to sustainability? That's the question that Environmental Studies students wrestled with in the Program's first study abroad trips in the 1990s. Faculty member Tom Hudspeth led 18 trips to Belize, Costa Rica, Ecuador, Honduras and Brazil, staying in lodges deep in the rainforest or traveling from island to island in the Galapagos. Taking students directly to the issues, he set up learning opportunities in tropical ecology, resource economics, and biodiversity conservation.

"Is ecotourism for real? Is it just a greenwashing? Do they give any money back for protection of natural areas or the ecology of the area? Do they provide training for their employees so that they can rise up in the ranks? I don't know the answers. I let the students think about it. What is their take on these issues?"

Often the courses have included a service learning component. On the Galapagos, students worked closely with the Darwin Research station to protect 200-year old tortoises. Tom noted, "Galapagos tortoises are pretty vulnerable until they are about five years old. When they are young a wild pig or goat can and crunch through their soft shells." Students helped identify turtle nests and support the station's safeguarding of the eggs.

Other Program faculty have led trips to El Salvador (Ernesto Mendez), the Balkans (Saleem Ali), Scotland (Rick Paradis), and the Dominican Republic (Jon Erickson). Faculty share their research expertise and personal contacts with the students, setting up vivid learning experiences in the field. Travel study inevitably shakes up student perspectives, offering unanticipated insights that can only be learned away from home.

Erik Wallenberg, '03 *Graduate student in History, UVM*

Shortly after arriving at UVM in 1999, Erik joined UVM's global justice movement—a movement sparked by massive citizen action at that summer's Seattle WTO meetings. His passionate response was fueled by the impacts of world trade imbalances, corporate power and the extreme differences in quality of life between the south and the north.

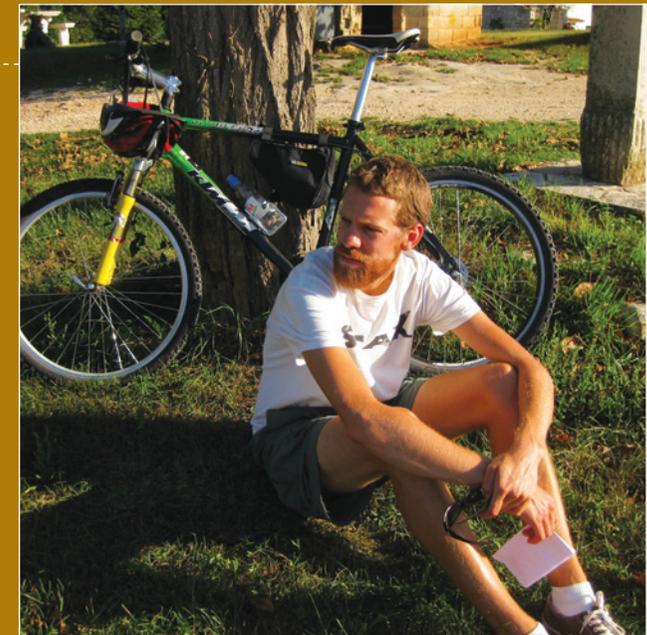
He brought this passion to UVM, opposing the run-up to the 2003 Iraq War as a co-founder of Students for Global Justice. Courses related to environmental justice and environmental philosophy further engaged his interests. Following a semester abroad, Erik seized the opportunity to co-teach a course on environmental justice with fellow student Mai Nguyen.

Both students had traveled extensively and believed strongly in integrating the environmental justice framework with their world experiences. "We wanted an approach that engaged

the students and ourselves with real world questions. Not issues that were abstract or historical but real problems that real people have to deal with. Problems that span the globe in understanding environmental justice."

Following graduation, Erik worked in UVM Admissions and helped organize a staff union drive. He then moved to Seattle where he remained active as a union steward at a public hospital. His experiences in the Program and as a teacher stayed with him. Today, Erik is working towards his Masters in environmental history at UVM with plans to pursue a PhD and to teach, bringing him back full circle to his work in the Environmental Program as an organizer, scholar, and teacher.

THESIS *Students Teaching Students: International Environmental Justice*



courses such as Bill Eddy's *Environmental Perspectives* and Justin Brande's early organic gardening course as particularly memorable. Today our graduate students work under faculty mentorship to gain valuable teaching experience while at UVM.

PEER TO PEER TEACHING

Undergraduate students, too, are invited to teach at a variety of levels. ENVS 001, *Introduction to Environmental Studies*, has long been staffed by undergraduate teaching assistants. These TAs lead the three-hour lab sections—organizing field trips, framing discussion questions, and most importantly, building the learning community for first-year students. TA training is extensive and involves weekend planning retreats and weekly team meetings. The TA team is made up of ace ENVS majors who grow to be role models and mentors in the Program.



“I was inspired to teach from my professors and had the courage to do so in another country because of the Program's international component.”

Sara Cleaver, '11

Teacher, WorldTeach, Leone High School, American Samoa • THESIS *What's the Catch?: An Analysis of Seafood Sustainability at UVM*

Working together through the semester, they gain skills in leadership, management, and communication. It is not uncommon for TA alums to go on to serve professionally in formal or informal teaching roles.

In the mid 1990s students raised the possibility of team-teaching courses themselves on topics that weren't being covered at UVM. What did we think of that? The faculty supported the original proposal

for a course in *Environmental Justice*, offered several years in a row by different student teams. A formal course number (ENVS 197) was designated and approved for the UVM catalog. Since then 25 courses have been developed, approved by faculty, and offered as peer-taught seminars. Almost all have served as senior theses for the students who taught them; they now comprise a significant teaching resource for the development of new courses.

Students in Environmental Studies hear from other students about these teaching options and are motivated to find venues for sharing their creativity. A number of senior capstone theses and internships have focused on developing and testing curriculum with children in local schools and summer camps. Topics vary from solar energy to school nutrition and gardening, from protecting Lake Champlain to Japanese views of nature. Senior ENVS majors now offer modules at the UVM GreenHouse Residential Learning Community as part of the first-year orientation course. In all cases, the new course ideas are shared, nurtured, and supported through the various hoops of approval to enable students to try their hand at teaching.

By encouraging diverse forms and arenas for teaching, Environmental Program faculty and students invest in the multiplier effect, sharing key concepts far beyond the classrooms at UVM. We see teaching as core to community building and thus central to environmental problem solving. Teaching encourages a high level of responsibility in the ENVS student while also bringing out personal inspiration. Skills gained in teaching are used in the office, the courtroom, and the public meeting to find common ground and agree on effective action.

STUDENTS TEACHING STUDENTS (STS) COURSES

- 1992 Environmental Justice
- 1993 American Nature Writing; Environmental Justice
- 1994 Environmental Justice
- 1995 Environmental Justice
- 1996 Living Self-Sufficiently; Environmental Justice
- 1997 Biotechnology and Democracy; Ecopsychology, Environmental Justice; Wilderness Education
- 2000 Environmental Justice
- 2002 Issues in Biotechnology
- 2003 Ecopsychology; International Environmental Justice
- 2004 Ecopsychology; Cultivating Holistic Lifestyles
- 2005 Exploring Communities of Intention; Campus Sustainability

- 2006 Ecopsychology
- 2007 Food, Farms, Community; Yogic Environmental Philosophy
- 2008 Building Peace: Nonviolent Environmental Conflict Resolution; Cultivating Holistic Lifestyles
- 2009 Intentional Communities; International Environmental Justice
- 2010 Ecological Tipping Points and World Systems Analysis; Rethinking Education Paradigms; Environmental Activism
- 2011 Psychological and Indigenous Approaches to Environmental Learning; Intentional Communities as Activism; Gender, Power, Action
- 2012 Hunger, Leadership, and Social Change

Students Teaching Students: A Program Tradition

Walk into an STS classroom and students are fiercely debating the points in the reading or working in groups on their activism projects. The place is buzzing with energy and excitement. There are no faculty in the room. Yet here is an approved curriculum with impassioned students sharing their creativity with classmates.

In early STS environmental justice classes, understanding power dynamics was a core theme. By breaking out of the standard faculty-student power roles, students gained insight into patterns of race and gender relations. “We wanted to find another way of teaching and learning that would get at the heart of what we cared about,” wrote one STS teacher in her thesis.

Students prepare a draft syllabus in their Research Methods class (ENVS 201) and present their proposals before an

ENVS faculty meeting. Once the course is approved, they meet regularly with faculty advisors to report on progress and discuss issues. As one senior wrote, “I grew in maturity and in my understanding of the process of education. I found myself paying close attention to the teaching methods of other teachers whenever possible.”

Sometimes a new course points to a need that is later formalized into the UVM curriculum. The first *Campus Sustainability* courses were offered as STS classes, likewise *Environmental Justice* and *Ecospsychology*. The STS courses are now part of the Environmental Program culture, with many that emphasize student activism and effective organizing. “This entire experience has opened my eyes to a world of opportunities that I could not have imagined beforehand.”



Susan Clark, '83 *Author, facilitator, community consultant*

Susan’s interest in the outdoors drew her to the Environmental Program, a passion that continued to grow during her years at UVM. “I had always been interested in nature, but once I took ENVS 001, that really pushed it for me. When you’re 18, it is a powerful time in your life. The Program gave me words for things that I always thought about. It was a very formative, holistic approach.”

Susan spoke to the strong integration among different courses and educational opportunities. “There was a lot of synergy. I remember taking an anthropology class that really worked well with what I was studying in environmental studies. The Program offered a broad, interwoven fabric for individual curiosity. You could pursue many different strands that were constantly crossing one another.”

Faculty engagement in local policy issues and state

environmental groups increased the opportunities for student learning. “Faculty all walked the talk. The Program was not an ivory tower but instead a resource for the community.” Susan’s senior thesis looked at one aspect of that resource, Burlington’s citizen engagement in the early 1980s. Susan went on to complete an M.S. in Natural Resource Planning at UVM and work for the Vermont Natural Resources Council as Communication/Education Director. She recently completed her second book, *Slow Democracy: Rediscovering Community, Bringing Decision-Making Back Home*. Susan lives in Middlesex, Vermont with her husband Mark Bushnell and 13-year-old son Harrison.

THESIS *A Study of Citizen Participation in Burlington, Vermont 1981–1983*

Sustainability Values



The Environmental Program mission clearly identifies sustainability as a high priority. Our intention is “to alert people to the state of global and local environments and opportunities for action by advocating, demonstrating and inspiring environmentally sustainable activities and ways of thinking.” This sets a sharp compass point for teaching and learning, a call for integrating sustainability values in all we do.

Our core values align with the mandate of the 1972 Declaration of the United Nations Conference on the Human Environment in Stockholm, the first global Earth Summit—“to defend and improve the human environment for present and future generations.” Such challenging imperatives were part of the conversation as UVM launched the Environmental Program that year. Early on the Program engaged sustainability through local issues of land conservation, lake protection, and advocacy for rural communities. Faculty and student projects generated practical long-range plans to protect both ecosystems and economies. They discussed current thinking in environmental ethics that considered sustainability values, reading Thoreau, Wendell Berry, Vandana Shiva, and others concerned about a viable future.

Now in the 21st century, the word “sustainability” ranks high on global agendas for addressing climate change and is given far more weight on university agendas than in the past. It has become a central theme shaping our curriculum and the Program’s initiatives for environmental change across campus.

CAMPUS SUSTAINABILITY

The sustainability movement at UVM began long before the establishment of the Environmental Council. Building on earlier interest at Slade Hall and VSTEP, the Council of students, staff and faculty aimed to improve UVM practices regarding water, waste, energy, transportation, and purchasing. ENVS classes and senior thesis students got involved through proposals to ban pesticides, compost food waste, and promote the use of biodiesel bus fuel. The Program has worked closely with the Environmental Council to consider such topics as green building principles and electronic waste recycling. Each spring ENVS students present their projects, with action recommendations and proposals for campus greening policies. “Sustainability” on campus has come to represent something in reach—steps that can be taken and improvements made.

In 2005, two ENVS students developed a course in *Campus Sustainability*, bringing in guest speakers from around campus to look at composting, paper purchasing, and stormwater management. The STS course was picked up by staff and graduate fellows



“The Program gave me a strong commitment to sustainable practices in my personal life. I constantly use the skills I learned while in the Program.”

Robert Scott, '86

Staff Attorney, United States Courts, Denver, Colorado • THESIS *An Historical Perspective on Environmental Journalism: A Case Study of The Atlantic Magazine, 1857–1901*



Office of Sustainability: Center for Campus Change

UVM's well-known Office of Sustainability—a university wide program bridging academics and university operations—grew out of a 1994 Environmental Program faculty initiative. Determined to see UVM decrease its own environmental footprint, Stephanie Kaza worked with the UVM administration to establish a campus-wide Environmental Council coordinating greening initiatives between campus operations and academics. “We saw our role as a catalyst, pushing the envelope, building the partnerships, making things happen.”

Over time the Council and the programs it spun off began to multiply. A start-up graduate fellowship turned into a staff position. Gioia Thompson, '87 became director, with Ralph Stuart and Kaza as co-chairs. Increased support from the Provost and project grants propelled the office forward.

In 1998 the Council published its *Greening UVM* environmental footprint report, followed by a ten year indicator study, *Tracking UVM*. ENVS students provided critical energy, leading campaigns to bring biodiesel fueled buses to campus and develop a *Campus Sustainability* course.

In 2007, President Fogel declared UVM to be “the environmental university” and signed a national pledge to reduce campus-based carbon emissions. The following year UVM established the Office of Sustainability, with two full-time staff and three graduate fellows. ENVS students took leadership roles in advocating for a Clean Energy Fund supported through an annual student fee. In just three years the fund grew to \$400,000, investing in energy demonstration projects and campus lecture series.

Laura Pagliarulo, '02 *Green Products Specialist, Washington Gas Energy Services*

For Laura Pagliarulo, it was the broad range of classes offered through the Environmental Program that helped her discover the issue and field that inspires her career today.

“The program opened the world up to me by letting me explore different subject areas. I took environmental courses in anthropology and religion and business.” Then she discovered the powerful links between energy use and the environment and shaped her concentration around energy policy.

In her Belize study abroad program and course work, Laura pursued this path, capping her studies with a senior thesis on the co-generation proposal to bring waste heat from Burlington's McNeil biomass generating station to campus. “Although the technical part of the issue was interesting, what I really enjoyed about that work was seeing all the different

perspectives—UVM's heating plant manager, the staff at Burlington Electric Department and the local community stakeholders. It was pretty eye opening.”

Following graduation, Laura went on to work in energy policy for the Alliance for Climate Action and the Vermont Energy Investment Corporation. In graduate school at James Madison University, Laura studied wind power policy and engineering. Today Laura co-manages the renewable energy program for one of the Capitol's largest energy suppliers, Washington Gas Energy Services. She lives in Washington, D.C. with her husband John and two-year-old son Dominic.

THESIS *Green Energy: Benefits and Barriers of the Burlington Community Energy System*



in the new Office of Sustainability and approved as an ENVS catalog offering. The parallel Eco-Reps initiative for residential halls has also become an ENVS class, adding academic support for the promotion of “green culture” on campus.

With so much campus interest, UVM faculty are expanding their knowledge and understanding of sustainability alternatives. The Sustainability Faculty Fellows professional development program, with support from UVM’s Center for Teaching and Learning, has been a great success. In just three years, 50 faculty from over 20 departments have participated in two-day trainings and developed new units or courses incorporating sustainability concepts. Among Environmental Program faculty, over half are Sustainability Faculty Fellows, with several attending the annual conference of the Association for the Advancement of Sustainability in Higher Education (AASHE).



“The Program taught me to be a systems thinker, a skill I have used in many areas of my life, helping me understand environmental impacts in a regional and larger context.”

Kristin Hathaway, '96

City of Oakland, Watershed and Stormwater Management Program • THESIS *Hydorelectric Projects and Native Communities*

SUSTAINABILITY STUDIES IN THE ENVS MAJOR

As climate change, peak oil, and green design became hot topics, the ENVS curriculum evolved in response. The first of our new concentrations was Sustainability Studies, an academic path that highlights the range of offerings around campus, many of them special topics courses designed to fill the gaps of faculty expertise. Students are drawn to complementary minors in Green Building and Community Design (CDAE)

and Food Systems (CALS). From the weekly AASHE news bulletins, we can see that the hottest career entry positions for Environmental Studies graduates are as sustainability coordinators for campuses, businesses, and nonprofit organizations.

Our neighbor down the road, Bill McKibben, urged us to join him on the first climate march into Burlington in 2007. Every year students of the large intro class participate in McKibben’s climate action events that have now gone global. We have added courses in climate and energy, complementing related topics in Natural Resources, Geography, and Community Development. In the aftermath of Tropical Storm Irene, we are offering a *Climate Action Seminar* to explore adaptation and mitigation of climate impacts. *Sustainability Studies* is one of the most popular ENVS concentrations today. Students and faculty alike see the critical need for well thought out action that builds resilience in human and ecological communities.

SELECTED SUSTAINABILITY THESES, 2006–2012

Laura Darling, *The Role of Green Businesses in the Restoration of the Chesapeake Bay* (2006)

Byron Murray, *Energy Efficiency through Efficient Lighting Technologies in Saint Lucia* (2006)

David Nathan Anderson, *An Environmental Management System for Construction and Demolition Waste* (2007)

Daniel Belhumeur Jr., *Municipal Buildings in Burlington, Vermont: An Assessment of Energy Efficiency and Bureaucracy* (2009)

Scott Dolmat-Connell, *Bikes Not Buses: Improving the Bicycle Pedestrian Network on the UVM Campus* (2009)

Kelsey Wilson, *Farm to Table Restaurants: Investigating the Nexus between Local Food and the Restaurant Industry* (2009)

Sophia Bielenberg, *Building a Sustainable Foundation for the Local Food System: Heating Systems in Vermont Greenhouses* (2010)

Casey Butler, *Inside the Blue Line: Wind Potential in the Adirondacks* (2010)

Peter Gossens, *Algae-Oil: Assessing the Current State of the Algae Oil Technology* (2010)

Marlee Baron, “Let’s change this B.S.!”: *Creating a Sustainable Beverage System at UVM* (2011)

Melissa Kelly Cameron, *Appetite for Local Fare: Local Produce in UVM Dining Halls* (2011)

Katherine Devine, *Stormwater Management at UVM: Mapping and Design for Campus Sustainability* (2011)

Caroline Shepard, *Sustainable Urban Composting: Best Practices for Organic Waste Management in Burlington, Vermont* (2011)

Page Atcheson, *Strategic Climate Change Communication: A Creative Effort Toward Mitigation and Adaptation* (2012)

Seth H. Levin, *Sustainability Departments in Small to Medium Sized Business in Vermont* (2011)

Slade Hall: A Community of Exploration

Slade Hall and the Environmental Program are interwoven like a bittersweet vine. The two have a shared history, a passion for the environment and a sharp focus on how to live more sustainably. Slade residents harvest and cook their own food, recycle and compost with vigor, and have long debates about environmental issues of the day. One year Slade students tried to live only on what they grew, a challenging effort in any climate, but particularly in a state with a short growing season. As one student said, “That winter we ate a lot of beets.”

Slade Hall or “Slade Nation” residents practice a low consumption life style, including reduction and recycling of waste through composting and re-use. Food comes from Slade’s garden and greenhouses and an orchard with apple,

plum and pear trees, as well as other gleaned and purchased sources. Students organize food buying and cooking teams, sharing a common meal at dinner.

Slade Hall is famous for hosting the rock band Phish a number of times in the late 1980s and 90s. But it is the group’s unwavering focus on creating, testing and exploring more sustainable ways of life that has been a constant thread since the beginning. As Slade’s web site says, student residents make the “extra effort required to live happy, healthy, and environmentally conscious lives, creating the lowest impact possible on our wonderful mom, Earth. This means thinking about everything we do and how it affects the world around us.”



Tristam Coffin, '07 *Internal Sustainability Consultant, Whole Foods Market*

On a summer day in San Francisco, Tristam Coffin was up to his ears in lighting plans, recycling machines and local green building codes for a new store in the Castro district. The goal was to achieve Gold LEED. At the same time he was fielding emergency calls from another store with electric power failures. And it was only early afternoon. As the go-to guy for sustainability issues for 37 Whole Foods Market stores in northern California, Tristam’s days vary widely. The training Tristam received in the Environmental Program has been key to his success.

“There’s no silver bullet solution with anything that we are doing, but having a background built on different disciplines has really helped me in my career. My role leading the sustainability program for Whole Foods Market is based on my ability to answer a broad array of questions that come

from internal consultants, architects, engineers, as well as store staff and managers.”

Recently Tristam has applied his education in recycling, electric infrastructure and planning to some of the pressing issues facing the company. “I loved the Program’s interdisciplinary approach, having a bigger perspective in natural sciences, and being able to draw from the different folks in the Program—for instance, understanding composting systems, but also looking at the energy grid, transportation and any number of different areas. Overall, the Program allowed me to understand and speak the language of sustainability.”

THESIS *Defending an American Icon: The Buffalo Field Campaign: A Look into the Evolution of an Environmental Advocacy Organization*

Catalyst for Change



Environmental Studies programs and their host institutions have long debated just how involved faculty and students should be in environmental issues. Some programs affirm traditional academic values of objectivity and analysis, eschewing direct engagement beyond the ivory tower. They fear that programs focused on advocacy might lose their academic integrity and thus collegial respect. Other programs are built around change-making initiatives. What is an appropriate role for scholars and students in the pursuit of not only knowledge but ethical action on behalf of life? Where should we draw the line? These are not easy questions to answer.

At UVM, however, the answer has always been quite clear. Faculty not only *should* be involved with the important issues of the day—they *must* be involved. From the beginning, President Andrew’s mandate for the Environmental Program called for active faculty and student engagement in current affairs and environmental problem solving. In 1984, the University affirmed: “As a catalytic force for change and innovation, the Program must be responsive to changing social needs and student interests, yet purposeful in providing intellectual leadership.”

This was consistent with the university’s land grant mission outlined in the Morrill Act of 1867. Justin Morrill, a Vermont U.S. Senator, felt the university should be engaged in the local community, training and educating state citizens in the “practical arts” and advancing the public good. How then, should the Environmental Program harness the resources of the University to serve others?

PARTNERSHIPS FOR CHANGE

On his first day with the Program in 1973, Tom Hudspeth sat down with Shelburne Farms staff to brainstorm ideas for building an educational program. Over the next two decades, Tom spent several days a week offering seminars and workshops for state teachers, often in coordination with Shelburne Farms. In his environmental education courses, students found classroom placements where they shared what they were learning at university. Among the many partnerships that grew out of Tom’s work are ELF, Environmental Learning for the Future at Vermont Institute of Natural Science and SWEEP, Statewide Environmental Education Programs.

Managing the UVM Natural Areas has required partnerships with land owners, environmental agencies, and conservation nonprofits. Protection of Shelburne Pond, Molly Bog, and Colchester Bog was made possible by support from the Vermont chapter of The Nature Conservancy. Visitor education and alpine research on Mount Mansfield depend on partnerships with The Green Mountain Club, Vermont Department of Forests,



“I have spent all my life trying to improve the lives of children. The foundation of the Environmental Program has guided my lifestyle and the places I choose to live.”

Margaret Couture, '78

Principal, South Seneca Central School District, Ovid, New York

THESIS Colchester Bog: Local Understandings and Awareness



Burlington Waterfront: Launching the Bike Path

In the mid-1800s Burlington's waterfront was humming with activity, as the third largest lumber port in the U.S. and a center of commerce and industry. A century later, the area between Oakledge Park and North Beach had become an industrial wasteland with abandoned rail cars, a closed oil power plant and 80 hulking petroleum containers. Public access was sharply restricted, and barbed wire and warning signs greeted the unwary visitor.

In the late 1970s public interest in revitalizing the waterfront gained momentum. This coincided with Tom Hudspeth's dissertation on urban waterfronts, focusing on Burlington as a case study. "There was a lot of interest in this as the place was a real eyesore and dangerous."

One crisp day in October 1980, Tom presented his work in

the Firehouse building on Church Street at what was then the UVM Center for Community Education. Listening intently was local medical internist Howard Dean and attorney Rick Sharp. Afterwards they cornered Tom and talked for another hour. Excitement was high. Within a month the three had formed the Citizen's Waterfront Group—a citizens' advocacy organization committed to increasing public use of the Burlington waterfront.

The following March, Bernie Sanders won the Mayor's Office by 11 votes and the race was on to open access to the waterfront. The Citizen's Waterfront Group focused on raising funds and support for what would become the Burlington Bike path. Today the 7.5 mile waterfront bike path draws 300,000 visitors a year and is a centerpiece of the now vibrant and accessible Burlington waterfront.

Kerry Duggan, '00 *U.S. Department of Energy*

Kerry Duggan was recruited to UVM as a talented basketball player but changed course to follow a passion she found reading Rachel Carson in her high school environmental studies class. "I came to play basketball. But I got into the Environmental Program and went back to my roots – I found that there's a lot more to life than just shooting hoops."

Inspired by the teachers, by the global approach and by the books she read, it all started to come together for Kerry in her sophomore year. "I remember a book by David Orr about digging in and really living, not just in a residence hall or a dorm, but actively participating in your community. I started to understand that everything I threw into the waste basket was going somewhere."

After UVM, Kerry returned home to Detroit, motivated to take up graduate study in environmental justice with a

Master's degree from the University of Michigan. Fired up about local political issues, she served as an organizer for the Michigan League of Conservation Voters and later took up national issues at the LCV office in DC.

"Probably the biggest thing I learned in the Environmental Program was critical thinking—looking at the connections between things, a systems thinking approach and why policy matters. I think back to learning about Rachel Carson and how one person can really make a big change."

Kerry lives in Washington D.C. where she is Director of Legislative, Regulatory, and Urban Affairs, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy.

THESIS *Michigan Environmental Council Internship: Building Legislator Relations through the Michigan Outdoors*



Parks and Recreation, and Stowe Mountain Resort. Monitoring land use issues in and around Centennial Woods builds on relations with Burlington and South Burlington planning departments, the federal and state highway agencies, the stormwater management district, and the Vermont Land Trust.

Today's faculty and students are sharing their effort and expertise around the globe. Professor Saleem Ali has been instrumental in supporting cross-border partnerships to create international peace parks in areas of chronic strife. Ecological economist Jon Erickson led his students in building a case for Genuine Progress Indicator metrics to be adopted by the state of Vermont. Social forestry specialist Cecilia Danks is working with local timber producers to develop markets for community-based wood biomass energy. Agroecologist Ernesto Mendez' research in coffee-producing communities links growers in Nicaragua and El Salvador with producers in Vermont.

INNOVATION AND ENTREPRENEURSHIP

In 1994, the Board of Trustees re-endorsed the participatory and engaged emphasis of the program, "to be a catalyst for innovation in the study of the environment...and to be an active participant in Vermont, national, and internal environmental affairs." The renewed mandate was broad but clear: be bold!

This spirit of innovation is at the heart of the ever evolving ENVS course offerings. We actively solicit new courses on cutting edge topics such as *Climate Justice and Advocacy* or *Race, Class and*



"The Program's extensive network of support and robust course offerings sparked my enthusiasm for renewable energy and sustainability issues."

Ted Dobbin, '10

Clean Energy Fellow, Massachusetts Department of Energy Resources • THESIS *The Feasibility of Zero Energy Homes in the Residential Sector: A Northern New England Case Study*

Garbage. We find local experts who can share their professional knowledge on *Vermont Energy Systems* and *Sustainable Transportation Planning*. Under the leadership of Laurie Kutner and Kit Anderson we put together a searchable-text database of ENVS honors theses, the first of its kind at UVM. Faculty give professional papers sharing their insights from courses such as *Unlearning Consumerism* and *Traditional Ecological Knowledge*.

Interdisciplinary research on emerging topics requires innovative approaches and methodologies. ENVS faculty have drawn on community participatory action research, service learning, and atelier-based workshops to produce their scholarship. As entrepreneurial academics, they have found funding from local businesses, rural planning agencies, private foundations, and federal programs.

ADVOCACY AND ETHICAL CONCERN

Over the years Environmental Program faculty and students have taken up controversial issues, raising ecological and moral concerns in public

forums as well as classrooms. When local water pollution issues remained unaddressed, Carl Reidel and others formed the Citizen Advisory Committee on Lake Champlain. When Vermont's Act 250 was threatened, Jean Richardson lobbied to retain its protections. When diversity issues on campus boiled over, Leslie King was at the forefront of student-administration negotiations.

Environmental Studies students have taken on activist campaigns such as recycling, food composting, and fair trade coffee. In the early 1990s they protested the proposal for a campus bus transportation system, urging people to walk or bike instead. Later the goal was to switch to biodiesel fuel, then natural gas. After years of groundwork, ENVS students were instrumental in banning virgin-sourced toilet paper and plastic water bottles from campus, two major victories.

Budding activists have incorporated professional training from Greenpeace or VPIRG into their academic curriculum at UVM. These skills are then passed on to other students in STS classes such as *Environmental Activism* and *Gender, Power, Action*. In 2008 ENVS students were at the forefront, organizing around energy and climate change for the national student movement Powershift. That year, with Program support, UVM students mobilized the largest U.S. campus delegation for the national gathering in Washington, D.C. Such activism continues today as a central concern for many ENVS students, alums, and faculty. Be bold, indeed! The call for informed advocacy on behalf of healthy earth and human communities is as urgent as ever.

Environmental Partnerships in Communities (EPIC)

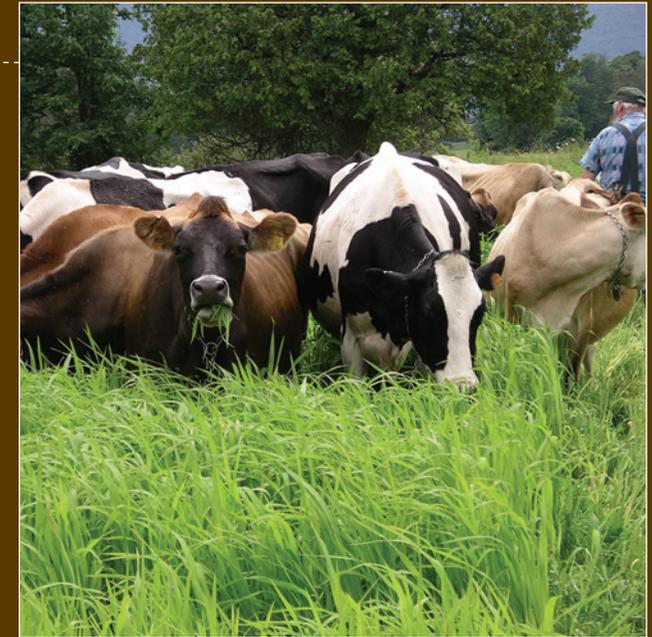
As a sheep farmer, mother, and biogeographer, environmental law Professor Jean Richardson's love of rural areas runs deep. Policymakers tend to respond to an immediate crisis and ignore interconnected environmental problems. This inspired Jean to request funding from the W.K. Kellogg Foundation in 1989, to help rural Vermont "develop a more comprehensive, and potentially more sustainable, integrated approach to rural development."

Out of that proposal came a series of grants totaling \$1.6 million over ten years to work with Vermont's rural communities, developing long-term solutions based on grassroots, citizen-based initiatives.

"The idea was to capture a lot of what we had done in the Environmental Program which was to build relationships and strengthen community by getting people to work together.

For example, we worked on grass management planning with colleagues in the College of Agriculture and Life Sciences to find new ways to build soil health."

The grant facilitated partnership building across the state, by giving seed grants to community leaders to use on local projects most likely to build community whether it involved a new business, better farming methods, history projects or community centers. More than 1,000 Vermonters actively participated in dozens of Vermont communities. "The idea was you give away your knowledge and your money to help them build programs and foster ideas that would continue after EPIC." Spin-offs from the work continue today, from a community center in Franklin County to youth and Abenaki programs, town Conservation Commissions, and a farmer-run grass-farmers organization supporting Vermont organic agriculture.



Michael Crowley, '02 *Senior Program Manager, Institute for Sustainable Communities*

Michael Crowley stumbled on the Environmental Program as a thoughtful 19-year-old after trying several other majors at UVM. "I knew there was something fundamentally wrong with the way we were organized as a society. I didn't have the words to articulate it. When I took ENVS 001 it connected a lot of the dots for me in terms of where we were heading in the world and it gave me a global perspective."

Michael went on to earn a master's degree in Holistic Science at Schumacher College in England and then served as one of the first campus sustainability coordinators at Harvard University. Now back in Vermont, Michael works with sustainability practitioners across the country. Central to his job is promoting the systems thinking he was first introduced to in ENVS 001. "What I'm doing now, what I have been doing across my career, is basically change management for

sustainability. We help practitioners think about how they can engage with their organizations and communities to really change mindsets around sustainability."

The interdisciplinary nature of the Environmental Program spurred Michael to think holistically, "taking a systems view of opportunities and challenges rather than just focusing on narrow areas. It helped me to think bigger." Michael's thesis focused on designing ecological systems for communities and he's been doing that ever since.

Michael lives in Middlesex, Vermont with newborn daughter Lila and wife Chayah.

THESIS *The City as a Meta-Organism: Principles of Urban Ecological Design*

Looking Forward

At times it can seem as if the environmental challenges facing us as a human species are beyond our capacities to solve. So much is at stake, and yet so many barriers arise to block effective action. These conversations have been underway for 40 years in the Environmental Program at UVM, and certainly much longer than that in human history. Sometimes it can be helpful to take the long view on such matters. These words from the 1972 Proclamation of the United Nations Conference on the Human Environment are heartening: “What is needed is an enthusiastic but calm state of mind and intense but orderly work.”

Models of planetary change offer predictions beyond most of our imaginations. We try to think carefully and plan for a changing future but in some ways it is always just out of reach. As we engage these issues in the Environmental Program, we need to find orderly work that leads us to the next useful steps. But we also need to maintain our fundamental enthusiasm for the project of sustaining life on earth. In the thoughtful words of Rachel Carson: “I believe that the more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for its destruction.” This is best done with friends in community, enjoying each other on the journey.

A rich history at UVM has laid the foundation for a fruitful future. High impact experiential learning and creative teaching have become hallmarks of the Environmental Program. Our interdisciplinary approach has deepened in both curriculum and faculty scholarship. Sustainability values are front and center in much of what we do, pointing the way toward healthy ecosystems and



“Without a doubt it is the people and their stories that impacted me the most. Each teacher offered a wealth of information above and beyond their regular duties.”

Caitlan Stephens, '11

Student Services Assistant, UVM • *THESIS Things Need to Change Around Here: The Diversification of a Small Farm in Northwest New Jersey*

human communities. Now, more than ever, we are committed to our Program role as a catalyst for change—on the UVM campus, in the Burlington community, in the state of Vermont, and in the wider world which affects all we do.

It is impossible to predict what the next 40 years will bring. Certainly there will be loss and suffering as a result of environmental degradation. We sense even the basic processes of democracy are threatened in many corners of the world. But just as certainly there will be joy and resilience in our human response to the dilemmas before us. At the heart of the UVM Environmental Program is a belief in the human capacity to respond, to feel, to engage, to share. In the years to come, we feel confident that this spirit of creativity and encouragement will

grow even stronger. Professors encourage students; students encourage professors. We help each other to meet the path as it opens before us.

In the last 40 years, more than 1700 Environmental Studies graduates have made their way from University of Vermont into the world, bringing their bright ideas and willingness to the concerns at hand. In the decades to come, we will still need creativity, thoughtfulness, and hard work to address the environmental challenges we face as a global community. So, taking the long view here, may the next 40 years bring forth many more Environmental Studies graduates, and yet more after that.

And may the stories that make up this Program's story stream on like an unending river and be rich with life and unexpected delight.



“I am in my work today due to the faculty guidance, the flexibility and interdisciplinary nature of the curriculum and the ethic of advocacy which ran through the Program.”

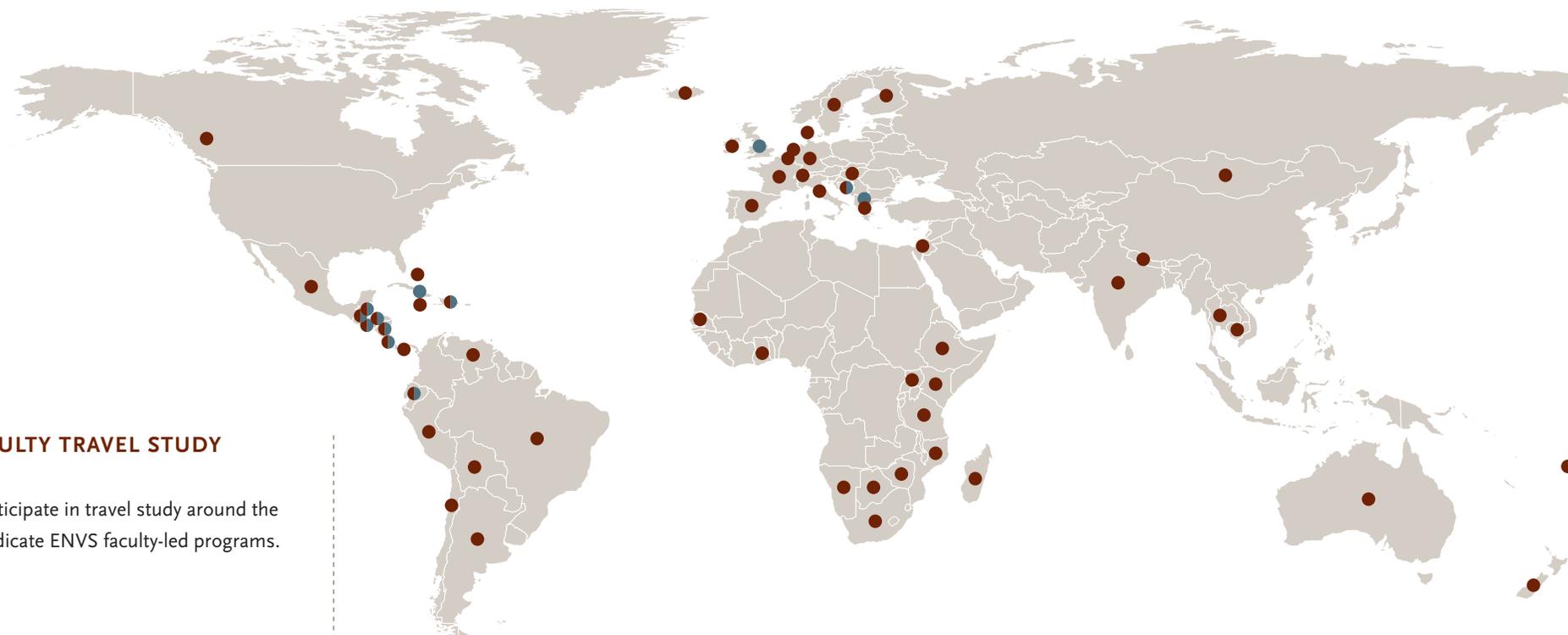
Keith Brunner, '10

Communications Associate, Global Justice Ecology Project, Burlington, Vermont

THESIS Ecological Tipping Points and World Systems Analysis: An ENVS Students-Teaching-Students Course

STUDENT/FACULTY TRAVEL STUDY

ENVS students participate in travel study around the world; blue dots indicate ENVS faculty-led programs.



Program Directors



Carl Reidel (left), founding Program Director, served from 1972–1994. Ian Worley (center) served from 1994–2008. Stephanie Kaza (right) has been the Director since 2008.

Core Faculty and Staff

Carl Reidel	1972–2000
Ian Worley	1972–2008
Tom Hudspeth	1972–present
Phil Wagner	1973–1978
Jeannette Brown	1973–1985
Mark Lapping	1976–1980
Madonna Gordon	1985–1991
Rick Paradis	1985–present
Sue Bean	1985–present
Leslie King	1985–1998
Jean Richardson	1988–2001
Laura McArthur	1988–1998
Stephanie Kaza	1991–present
Colette Paul	1991–2001
Shelly McSweeney	1992–1994
Gioia Thompson	1994–1995
Ibit Getchell	1995–present
Kit Anderson	1997–present
Laurie Kutner	1998–present
Amy Seidl	2000–present
Hector Saez	2000–2005
Diane Pratt	2001–2009
Cecilia Danks	2001–present
Saleem Ali	2002–present
Jon Erickson	2002–present
Adrian Ivakhiv	2003–present
Ernesto Mendez	2006–present
Frank Zelko	2007–present

Lecturers

John Abbott	Jared Margolis
Seth Appiah-Opoku	Karen Nordstrom
Darby Bradley	Jim Northup
Justin Brande	Teague O'Connor
Susan Raybur Bray	Kati Osgood
Joshua Brown	Lucy Petrie
Logan Brown	Walter Poleman
Harvey Carter	Lance Polya
Todd Comen	John Quinney
Alicia Daniel	Barbara Raab
Cami Davis	Cara Robeck
Suzanne DeBrosse	Karel Samson
Bill Eddy	Rachel Schattman
Ned Farquhar	Subir Sinha
Monte Fischer	Ann Spearing
Andy Fisher	Ralph Stuart
Heather Fitzgerald	Davis Te Selle
Karen Freudenberger	Gioia Thompson
Jennifer Green	Brian Tokar
Reese Hersey	Tracey Tsugawa
Robert Huntoon	Richard Watts
Bill Kelley	Dan Wells
Luke Krieg	Robert Williams
Matthew Landis	Robert Winkler
Steve Libby	

2012 Faculty and Staff



Saleem Ali, Ph.D.

Professor, Environmental Program, RSENR; Director, Institute for Environmental Diplomacy and Security; Gund Fellow

COURSES Environmental Conflict Resolution, Conservation Beyond Borders

RESEARCH Environmental conflicts, environmental peace parks; environmental health, mining, and social responsibility



Katherine Anderson, Ph.D.

Senior Lecturer, Environmental Program, RSENR; Sustainability Faculty Fellow

COURSES Ethnobotany, Traditional Ecological Knowledge, Research Methods

RESEARCH Cultural dimensions of human-plant interactions, big trees of Louisiana and Guatemala



Cecilia Danks, Ph.D.

Associate Professor, RSENR

COURSES Forest Carbon and Communities, Community-Based Forest Management

RESEARCH Community-based resource management and climate change, forest carbon markets, woody biomass energy



Jon Erickson, Ph.D.

Professor, Gund Institute of Ecological Economics, RSENR; Gund Fellow

COURSES Introduction to Ecological Economics, Sustainable Business

RESEARCH Climate change economics and policy, greenhouse gas emissions and energy modeling



Thomas Hudspeth, Ph.D.

Professor, Environmental Program, RSENR; Gund Fellow, Sustainability Faculty Fellow

COURSES Sustainability Education, Creating Environmentally Sustainable Communities

RESEARCH Sustainable communities and ecotourism, environmental literacy and citizen participation



Adrian Ivakhiv, Ph.D.

Associate Professor, Environmental Program, RSENR

COURSES The Culture of Nature; Ecopolitics and the Cinema

RESEARCH Culture, religion, identity, and environment; environmental thought, media ecologies



Stephanie Kaza, Ph.D.

Professor, Director of the Environmental Program, RSENR; Faculty Director, Sustainability Faculty Fellows Program

COURSES Unlearning Consumerism, Women Health Environment

RESEARCH Buddhist environmental thought, Rachel Carson's environmental ethics



Laurie Kutner, M.I.L.S.

Library Associate Professor, Bailey-Howe; Environmental Reference; Sustainability Faculty Fellow

COURSES Research Methods, ENVS curricular support

RESEARCH Digital librarianship; information access in the Global South



V. Ernesto Mendez, Ph.D.

Associate Professor, Environmental Program, Plant and Soil Science, CALS; Gund Fellow, Sustainability Faculty Fellow

COURSES Advanced Agroecology, International Environmental Studies

RESEARCH Agriculture and biodiversity conservation in the tropics; agroecology, agroforestry, food systems



Rick Paradis, Ph.D.

Lecturer, Environmental Program, RSENR; Director, UVM's Natural Areas; Sustainability Faculty Fellow

COURSES Landscape Restoration, Natural Areas Conservation and Stewardship

RESEARCH Mountain landscapes of New England and Scotland, ecological and cultural influences on conservation practices



Amy Seidl, Ph.D.

Lecturer, Environmental Program, RSENR; Sustainability Faculty Fellow

COURSES Introduction to Environmental Studies, Adaptation to Climate Change

RESEARCH Impacts of global warming on alpine communities, renewable energy and ecological design



Frank Zelko, Ph.D.

Assistant Professor, Environmental Program and History, CAS

COURSES Global Environmental History, Environmental History seminar

RESEARCH History of environmental politics, environmental movements in North America, Australia



Elizabeth Getchell, M.S.

Student Services Coordinator, Environmental Program

ADVISING Academic plans, internships, jobs, study abroad

INTERESTS Environmental literature, web communication, career planning



Sue Bean

Receptionist, Secretary

SERVICES Student records, appointments, budget assistance

INTERESTS Family, wildlife watching, crochet

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The University of Vermont
