

UVM Institute for Environment
Mission, Strategy, and Operating Plan
November 2014

Executive Summary

Environmental issues will define this century. Satisfying human needs without destroying the natural systems that provide for many of them is the defining challenge of our generation – one facing leaders in Vermont, across the United States, and worldwide. These issues are complex and span disciplines. Addressing them will therefore require tighter interdisciplinary collaboration within universities, as well as stronger partnerships between scholars and leaders in government, business, education, and civil society.

This document outlines The University of Vermont's response to this grand challenge: a new ***Institute for Environment**** that capitalizes on UVM's longstanding scholarship and leadership in this area. Here we focus on designing a strong and appropriate institute; several implementation issues and decisions remain for the next phase of development.

Mission: "To mobilize scholars and leaders to understand and solve the world's critical environmental problems." To fulfill this mission, the institute will catalyze transdisciplinary research, nurture a community of scholars, and connect research outcomes to local and global decision-makers. It will provide opportunities for emerging leaders, and will use Vermont's unique natural and social setting as a laboratory to test ideas of global significance.

Strategy: The institute's strategy consists of three major elements:

- **Catalyze transdisciplinary research.** The institute will provide seed grants to encourage new collaborations, support PhD and post-doctoral fellows, and help faculty identify funding opportunities and prepare proposals. These activities will make UVM a more collaborative and rewarding place to pursue environmental scholarship. The broader collaborations that result will attract better graduate students, create opportunities for young faculty, increase publications, and strengthen external recognition for faculty and UVM.
- **Connect UVM with the state, national and global communities.** The institute will help connect UVM scholars to colleagues worldwide through symposia, visiting scholars, and sabbaticals. It will strengthen connections with the practitioner community, including governmental agencies, industry, development groups, and civil society. And it will communicate with the public to bring greater attention to the scholarly findings and problem-solving efforts at UVM.
- **Solve critical environmental problems.** The institute's most fundamental role will be to identify an evolving set of environmental challenges that are strategic for UVM to address. These challenges will serve as the focal points for the institute's work, including all of the activities described under *Catalyze* and *Connect* above. Most environmental challenges have vexed society for generations. They will likely not be solved by the work of this (or any) institute alone, but solving them must be the ultimate goal of the institute's work.

* Final name to be determined

Role at UVM: The institute is intended to ***add value*** for faculty and students interested in connecting interdisciplinary scholarship to environmental solutions. It will focus on several strategic themes and ***incentivize collaboration*** among scholars – at UVM and beyond – with interest and energy to participate.

Leadership: The institute will be a campus-wide resource, open to participation of faculty and students from all units. It will therefore report to the ***Provost's office***. We propose a ***core team of five people*** (Director, Deputy Director, Communications and Policy Leads, and Administrative Assistant), as well as a ***Board of Advisors***.

Budget: The Institute for Environment is a new entity with ambitious goals. We propose an annual budget of ***\$2.5 million*** to ensure success and impact. A clear lesson from similar institutes is that they are only effective when adequately funded.

Our generation has an opportunity to ***create a future*** that is ecologically sustainable, socially equitable, and economically viable. Our vision for the Institute for Environment at UVM is to contribute significantly to creating that future. In so doing, it will help ***redefine the university's role*** in society, as an active partner in understanding and solving environmental problems.

1. Introduction

1.1 *The Challenge*

Environmental issues will define our century. Natural systems underpin virtually every aspect of human society. They purify drinking water, regulate climate, contribute to food and energy supplies, provide cultural and spiritual connections, and supply the raw materials required for all economic production. Of course, these systems also support millions of species with which we share the earth. The environment is everywhere.

Yet signs of strain are increasingly evident. Natural habitats are continually lost to unsustainable land uses. Suitable regions for both crops and wild species are shifting as climate changes. Severe weather events are becoming more common. Natural resources such as water and minerals are more difficult to access. Our continued reliance on fossil fuels accelerates the changing climate. In fact, as the human population grows towards nine billion people, we face an era so dominated by our own species that many have come to call it the *Anthropocene*: an epoch in which human activity shapes the Earth's ecosystems, climate, atmosphere, and evolution.

Managing and adapting to these changes – satisfying human needs without destroying the environment that provides for so many of them – is the defining challenge of our generation. It is a challenge facing leaders in Vermont, the United States, and worldwide.

These problems are complex and span multiple disciplines, so any attempts to solve them must be interdisciplinary as well. For example, addressing the impacts of climate change requires insights from physical and biological sciences, arts and humanities, social and behavioral sciences, human health and engineering, business and law. Solutions, therefore, require stronger interdisciplinary collaboration within universities, as well as stronger partnerships between universities and leaders in government, business, education, and civil society.

1.2 *Responding to the challenge*

This document outlines one response to this enormous challenge: a new Institute for Environment[†] at the University of Vermont (UVM).

UVM has a unique opportunity to lead in the environmental arena. The university has a long history of innovation in the environment; it was one of the first to establish a cross-campus major in Environmental Studies, an Office of Sustainability, and an interdisciplinary school of Natural Resources and Environment. We have

[†] Final name to be determined

built a strong tradition of service learning, in which students and faculty orient research and teaching around concrete, real-world problems.

UVM also holds several comparative advantages that make a new institute compelling. First, the region surrounding the University offers a living laboratory, where many of the world's pressing global environmental issues intersect. Second, Vermont offers a fertile political laboratory, where creative solutions can be tested, modified, and scaled up. Third, UVM has an impressive array of talented minds working on environmental issues, as the Envisioning Environment Report made clear. Fourth, UVM represents an unusual hybrid of a Land Grant university sharing a campus with strong programs in basic science and natural resources, and with professional schools in medicine, engineering, nursing, business and education. (For a more detailed analysis of comparative advantages, see Appendix A).

In short, many of today's global environmental challenges occur here in microcosm, and UVM is well-positioned to address them. The Institute for the Environment will be instrumental in drawing together UVM's strengths and generating new synergies for transdisciplinary research and problem solving.

1.3 This proposal

The idea for a campus-wide institute was proposed as part of the 2013 "Envisioning Environment" report, commissioned by UVM President Sullivan. The authors of that report conducted a thorough inventory of UVM's resources, consulted widely with the campus community and with centers on the environment, and analyzed collective strengths and challenges in the broad areas of environment, sustainability and health. (See Appendix B for the report's executive summary; full report available [here](#)). The report made five major recommendations to the President; establishing a campus-wide institute was the first.

In response, in April 2014 Provost Rosowsky charged a university-wide committee of 13 faculty to develop a proposal for an Institute for Environment at UVM (Appendix C). See Appendix D for a detailed description of our committee's work.

In designing the institute, our committee agreed to the following **design principles**, which guided our subsequent discussions and research.

1. The institute is a ***campus-wide resource***, shared by the whole university and open to participation of faculty and students from all units. It should therefore report directly to the Provost's office.
2. The institute ***complements and adds value*** to existing environment-related work at UVM, but does not own or gather all such work within the institute itself.
3. The institute focuses on ***research and outreach*** – strengthening areas that lead to new solutions to environmental problems. The institute will therefore not be a degree-granting unit of UVM.

4. The institute **facilitates** key initiatives across the entire campus, to bring a critical intellectual mass to bear on environmental issues.
5. The institute **leverages UVM's unique resources** – geographic, ecological, political, and cultural – to address environmental issues facing both Vermont and the world.

What follows is the committee's proposal for the UVM Institute for Environment, describing its mission, strategy, and operations. We have focused on designing a strong and appropriate institute for UVM. Several issues and decisions remain regarding implementation, including the institute's funding model, leadership, and interactions with other units on campus. We identify and summarize those issues within this document, but do not resolve them.

2. Mission

We propose the following mission statement to describe the fundamental purpose of the institute.

UVM Institute for Environment *Catalyze. Connect. Solve.*

Mission: mobilize scholars and leaders to understand and solve the world's critical environmental problems.

To fulfill this mission, we catalyze transdisciplinary research, nurture a community of scholars, and connect research outcomes to local and global decision-makers. In all that we do, we provide opportunities for emerging leaders and use Vermont's unique natural and social setting as a laboratory to test ideas of global significance.

Our generation has an opportunity to create a future that is ecologically sustainable, socially equitable, and economically viable. Our vision for the Institute for Environment at UVM is that it contributes significantly to the realization of that vision.

3. Strategic plan

3.1. Strategy

Achieving this mission requires a new level of campus-wide collaboration at UVM. The institute will need to stimulate cutting-edge, transdisciplinary research, build community, create opportunities to engage effectively with leaders outside of academia, and focus UVM's talent and resources on real-world problems and solutions.

The institute's strategy consists of three major elements: ***catalyze***, ***connect***, and ***solve***. In the following sections we expand briefly on each of these, and propose illustrative activities within them. (See Appendix E for a full list of proposed activities). Taken as a whole, this strategy represents an opportunity for UVM to create a world-class reputation in this rapidly growing transdisciplinary arena, while strengthening disciplines across the campus.

- **Catalyze** transdisciplinary research.

The institute will serve as a catalyst at UVM, accelerating and strengthening transdisciplinary research that can have wide-ranging impact.

The institute will provide seed grants to encourage new collaborations among faculty in different departments. It will fund PhD and post-doctoral fellowships, targeted at interdisciplinary environmental issues, to accelerate research and bring faculty advisors together in new ways. The institute will help to mentor graduate students and post-doctoral researchers, enabling them to make major contributions toward solving key environmental issues. It will offer grant facilitation to not only help faculty locate funding opportunities, but also to support the process of assembling complicated transdisciplinary proposals (e.g., NSF Coupled Human and Natural Systems).

Together, the institute's catalyzing activities will make collaborative research easier, more efficient, and more rewarding, so that UVM is an exciting and vibrant place to pursue environmental scholarship. The large-scale collaborations will provide growth opportunities for junior faculty, attract stronger graduate students, and increase the number of publications, all of which help faculty with promotion and external recognition. The presence of the institute would also position UVM well for large institutional grants relating to environment.

- **Connect** UVM with the Vermont, national, and global communities.

Addressing environmental challenges requires connecting expertise within the UVM community to local, regional and global leaders. Three types of connections are important.

First, connections with colleagues. The institute will build and facilitate these collaborative connections by enabling UVM scholars to immerse themselves elsewhere for short periods of time (e.g., provide release time for professional development or semester-long sabbaticals) and by bringing the best and brightest to Vermont (e.g., high-profile symposia, visiting scholars in residence, regularly hosting Fulbright scholars). We expect the institute to become a draw for outside researchers.

Second, connections with practitioners. The institute will leverage UVM's unique social and geographic resources to strengthen connections with governmental agencies (e.g., Vermont's ANR, US EPA), industry, development groups (e.g., Tetra Tech, ISC) and non-profit organizations (e.g., Vermont Land Trust, World Resources Institute). These relationships should be bi-directional, with UVM both providing information but also responding to input from practitioners on promising directions and information needs. A full-time policy lead will help to develop and manage these connections.

Third, connections with the wider public. The institute will work to bring public attention to the scholarly findings and problem-solving efforts at UVM. A full-time communications lead will bring expertise and funding for media relations, data visualization, web development, videos, and social networking.

- **Solve** critical environmental problems.

The end goal of all the institute's work will be to help solve critical real-world problems. The institute's most fundamental role, therefore, will be to identify a subset of environmental challenges that are strategic for UVM to address. These challenges will serve as the focal points for the institute's work, including all of the activities described under **Catalyze** and **Connect** above.

Challenges will be chosen through a participatory process, and they will evolve and rotate over time so that the institute can be responsive to emerging trends and engage different sectors of the university. Each will represent a global "Grand Challenge" that has particular importance in our region. We use the term "Grand Challenges" to describe fundamental problems with broad application. Institutions ranging from the [U.S. National Academies](#) to the [Gates Foundation](#) have identified such challenges in order to recognize barriers to solving key problems and then to build collaboration and secure funding to accelerate impact. The institute will adopt this same spirit in identifying ambitious challenges that make strategic sense for UVM. Challenges will be derived from areas that might include the interactions between environment and: human health, food, water resources, governance, behavioral change, and climate change.

Challenges of this magnitude and complexity have vexed society for generations and will take decades to address. We are not so naïve as to believe we can truly "solve" them globally through this institute's work alone. Solving them, however, must be the ultimate goal. By mobilizing the diverse expertise of UVM and other institutions, we will achieve greater impact in understanding these enduring problems and moving rapidly toward solutions.

3.2 Measuring progress

Regardless of the strategies that are implemented, UVM must be able to track and assess the institute's activities and impact with appropriate measures. The committee considered a wide range of specific measures for each of the three strategic elements described above. (A full list can be found in Appendix E). In summarizing these metrics, we propose five measures that reflect areas in which the institute aims to make an impact (Table 1).

Table 1. Impact measures.

Impacts
Research – number of new projects, cross-campus faculty representation, number of visiting scholars/fellows
Outreach - number of publications and citations; amount of popular media coverage, external reputation of institute, number of workshops and educational programs
Policy – number of new practices/policies informed or adopted, number of joint projects with stakeholders
Funding - number of institute-facilitated proposals, number of successful grants, total funding amount
Mentoring - number and quality of PhD applicants, students/post-docs involved, alumni job placement

Institute staff will develop empirical metrics for these impact measures, and set a specific timetable of targets and periodic reporting. The institute may work with an outside contractor such as Academic Analytics to track key metrics, benchmarked against similar units at other universities.

4. Operations

4.1 Leadership

Effective leadership of UVM's Institute for Environment is critical to its success, especially because it aspires to be a campus- and community-wide resource. Given these aspirations, the institute will ultimately report to the Provost, but with opportunity for input and influence from a broad base of experts within and outside UVM.

Key people involved will include:

- *Director.* Sets strategic direction, convenes faculty and others, liaises with UVM and external partners, fundraises, helps lead relevant research efforts, hires and oversees staff. Allows for 25% research time.
- *Deputy Director.* Assists in all aspects of managing the institute, especially budgets, day-to-day tasks, helping oversee other staff, standing in for Director when absent. 50% time dedicated to grant facilitation and writing.
- *Communications Lead.* Facilitates high-level communication outreach and strategy with a budget to contract specialists.

- *Policy/Engagement Lead.* Connects scholarship to impact via relationships and collaborative research.
- *Full-time Administrative Assistant.* Assists with all activities.
- *Advisory board.* Comprises external experts, stakeholders, and selected UVM Deans and faculty. Provides high-level strategic advice to the Director regarding research directions, support, connections, and political capital.

4.2 Budget

As outlined here, the UVM Institute for Environment is a new entity with ambitious goals for enhancing research and involving people from across campus and the globe. The reality is that real financial investment is necessary to achieve these goals.

We see three categories of expenses as critical to the program's success.

1. Faculty and Student Support: investment in scholars and their scholarship through a diversity of approaches, including seed grants, doctoral and post-doctoral fellowships, and professional development funds.
2. A Core Team: this group of five staff will implement the mission set forth here, evolve the mission in response to developing experience with the institute, and manage the resources to realize this vision.
3. Activities: aimed at increasing the level of interaction between UVM faculty and external parties. Here we include operating expense in support of institute activities.

A clear lesson from other universities is that institutes such as this, designed to add value and catalyze work across a campus, are only effective if they are adequately funded. A study of comparable institutes found that they have annual budgets of \$4-5 million dollars. (See Appendix F for institute budgets). Several had endowments at launch of \$10-40 million. Several institute directors remarked that it is only worth pursuing a new institute if sufficient funding is actually committed to the program itself. Provost Rosowsky has made clear that UVM will not launch such an institute unless and until adequate resources have been identified and secured.

Table 2. Proposed annual budget at launch, with the potential to increase over time.

Item	Annual cost	Notes
Faculty and Student Support	\$1,640,000	
Seed Grants	\$500,000	Support new collaborations
Graduate Student Support Fund	\$50,000	Professional skills, travel, research costs
Faculty Support Fund	\$50,000	Travel, research assistance, research costs
PhD Fellowships (6)	\$240,000	1-2 new PhD slots per year, 4 years of support

Post-doc Fellowships (4)	\$300,000	2 new post-docs per year, 2 years of support
Research Faculty (4)	\$380,000	4 new RF that focus on priority research topics. 3 years of support
Visiting Scholar support	\$60,000	Sabbaticals, under-represented fellowships
Course buy-outs	\$60,000	Buys out 10 typical courses per year.
Core Team (Salaries and Fringe)	\$520,000	
Director	\$200,000	Salary and fringe (47.5%)
Deputy Director	\$90,000	Salary and fringe (47.5%)
Communications Lead	\$90,000	Salary and fringe (47.5%)
Policy Lead	\$90,000	Salary and fringe (47.5%)
Admin. Assistant	\$50,000	Salary and fringe (47.5%)
Activities	\$340,000	
Joint Ventures Fund	\$20,000	For use by Policy Lead to engage outside partners
Communication Activities	\$20,000	For use by Comms Lead (web design, publications, etc.)
Grant Writing Funds	\$100,000	For use by Director to engage grant writers or facilitators
Writer in Residence	\$60,000	Bring professional communicator to campus
Speaker Series	\$20,000	Bring exciting outside speakers to UVM
Annual symposium or event	\$20,000	To launch initiatives, position UVM as convener
Discretionary	\$25,000	Small events, build community, fix problems
Space	\$50,000	Approximate placeholder
General Operating Expenses	\$25,000	
Grand Total	\$2,500,000	

Identifying and securing funds to meet these financial needs is a significant next step in developing the institute. (See Appendix G: Next Steps and Outstanding Issues for more detail).

4.3 Space

To fulfill its role in connecting researchers across campus and catalyzing interdisciplinary work, the institute will require a dedicated physical space. This space will provide:

- a critical and cultural focal point for campus-wide collaboration, where faculty and graduate students meet to collaborate on seed projects, convene outside stakeholders, and gather regularly to build community;

- a home for institute-affiliated scholars (e.g., research faculty, post-docs, visiting scholars, faculty or students) who elect to have their main working space there;
- workspace for institute leaders and staff.

The importance of dedicated space was emphasized by nearly every institute we consulted externally, and was raised repeatedly in early feedback from UVM Deans and Directors. This is an important next step in the implementation of the institute, and could include new space on campus or re-assignment of existing space to this new purpose. (See Appendix G: Next Steps and Outstanding Issues).

4.4 Faculty and student engagement

The institute is intended to be a resource for faculty and students interested in connecting interdisciplinary scholarship to environmental problems and solutions. As such, its efforts and initiatives will be open to all on campus. Instead of pre-selecting individuals and groups to engage, the institute will act to incentivize collaboration (e.g., seed grants, student and post-doc fellowships), to attract scholars with interest and energy to participate. UVM faculty and students from across campus can therefore “opt in” to be affiliated with the institute.

At the same time, a core group of committed faculty is essential to building an enduring community of engaged scholars. This is a repeated lesson from institutes at other universities. The Director may establish a formal affiliation with the institute (e.g., Faculty Fellows) for faculty committed to long-term and meaningful engagement and who are experts on the core themes identified. This affiliation will carry some responsibilities and commitments (e.g., participating in events, reviewing fellowship applications), as well as some benefits (e.g., access to enrichment funds, role in institute governance).

Graduate students will engage with the institute through research projects related to focal challenges, and through fellowship support. In general, we expect the institute to create a campus-wide community for graduate students to interact and collaborate. The institute will also enhance undergraduate education at UVM, providing opportunities for students to conduct related thesis projects, assist in faculty research, participate in symposia, and interact with visiting scholars.

4.5 Relationships with existing environment-related units at UVM

The institute aims to add value to the work of others and to be truly a campus-wide resource. Given the number and strength of existing academic units on campus, the institute will not grant degrees or serve as tenure home for faculty. Instead, it will work to better connect faculty and students around environmental problems, and to catalyze collaborations among them. Faculty involved with the institute will benefit from a cross-campus community of scholars, access to seed grants and student support, grant writing assistance, professional communicators to help connect their work to policy and public audiences, relationships with visiting scholars, etc. These

resources will enhance their work as teachers, scholars, and citizens in their own departments.

UVM is already home to several centers whose work relates to the environment. The prior “Envisioning the Environment” report compiled a full and impressive catalogue of these organizations, including the Institute for Environmental Diplomacy and Security, Transportation Research Center, Office of Sustainability, Gund Institute, and many others. This new institute is not intended to absorb these centers, or even to act as an umbrella to coordinate their work *per se*. Instead, the institute will focus on several strategic themes, and engage those on campus with interest and time to participate. Part of this function may be to convene a “Round-table” of leaders of environment-related centers and initiatives on campus, to improve communication and foster campus-wide efforts. The institute’s eventual Director will need to have specific discussions with the leaders of existing environment-related centers, to agree on the most strategic relationships. (See Appendix G: Next Steps and Outstanding Issues).

5. Conclusion

An Institute for Environment would capitalize on UVM’s longstanding scholarship and leadership on the environment. It would connect the impressive roster of environmental experts and activities at UVM to realize many untapped synergies. It would catalyze new, transdisciplinary research, focused on major environmental challenges facing Vermont and the world. It would position UVM well for large institutional grants, and attract scholars and resources to campus. It would provide a platform to communicate UVM’s work and increase our real-world impact. Most fundamentally, it would help redefine the university’s role in society, as an active partner in understanding and solving environmental problems.

Appendix A. Comparative advantages for UVM

UVM holds several comparative advantages that make a new institute compelling. First, the region surrounding the University offers a living laboratory, where many of the world's pressing global environmental issues intersect. The Lake Champlain Basin spans two states and two countries. It comprises a wide range of natural ecosystems and human land uses. Leaders in the region struggle to balance the impacts of a changing climate with agricultural production, environmental protection and the transition to renewable power. The region is governed by a complex set of regulations and cultural norms, mirroring the multi-jurisdictional nature of many environmental issues. In short, many of the attributes that typify today's global environmental challenges occur here in microcosm.

Second, Vermont offers a fertile political laboratory, where creative solutions can be tested, modified, and scaled up. Vermont's political leaders have a history of embracing progressive ideas related to land use, environment, and sustainability. Vermont's business community, including such successful enterprises as Ben & Jerry's, Keurig Green Mountain, and Seventh Generation, has been at the forefront of innovation on sustainability. Our statewide leaders and congressional delegates are uniquely positioned in this relatively small state, offering opportunities to bring new ideas to the national stage quickly.

Third, UVM has an impressive array of talent and resources, as the Envisioning Environment Report made clear. The breadth of expertise in environmental topics extends across all schools on campus. UVM has extraordinary access to natural resources, including Lake Champlain and nine university-managed natural areas that encompass a wide array of environments around the state. Several established and respected research centers or programs already exist, including the Gund Institute for Ecological Economics, the Rubenstein Ecosystem Science Laboratory, the Institute for Environmental Diplomacy and Security, the Transportation Research Center, the NSF-funded Research on Adaptation to Climate Change, the Vermont Complex Systems Center, the Food Systems Initiative, and many others (for the full list, see the Envisioning Environment [report](#)).

Fourth, UVM represents a relatively unusual hybrid of a Land Grant university sharing a campus with strong programs in basic science and natural resources, and with professional schools in medicine, engineering, nursing, business and education. As the sole public research university in this small state, UVM is ideally situated to facilitate collaboration between academe, government, industry, public education, and local communities. These interactions already exist and in some cases are quite strong. However, they could be coordinated in a way that generates even greater synergies.

Appendix B. Executive summary from 2013 “Envisioning Environment” report

The Envisioning Environment Work Group was charged by President Sullivan and Provost Jane Knodell in October 2012, to develop an inventory and recommendations regarding environmental research, education, and outreach at University of Vermont. We gathered broad campus input from environmentally-related units; participant summaries are inventoried on the provost’s web site. The committee interviewed UVM deans and experts at other institutions with a strong environmental focus; we also gathered public input via web portal and faculty survey. Our report is set in the context of the significant “grand challenges” shaping the future at global, national, and state levels as well as in higher education. The committee chose to redefine its task with a broad focus on “environment, sustainability, and health (as it pertains to environment)” (ESH) to indicate the importance of a systems approach to addressing long-term planetary and human well-being. Detailed findings are reported according to the charge: research, graduate education, undergraduate education, and outreach.

Areas of prominence. One of UVM’s core missions is to foster the development of knowledge across all fields of study. ESH research is exemplary in its interdisciplinary approach to building fundamental understanding and addressing challenging issues. The committee identified a number of areas of strength and potential investment for UVM. Current strengths include: (1) fundamental science related to the natural environment; (2) sustaining landscapes and watersheds; (3) promoting regional food systems; (4) environment and society (e.g. economies, cultures, and governance); and (5) environmental health. Emerging areas of demand include: (6) sustainable business and entrepreneurship and (7) ecological and environmental design. A high priority theme is global change (including climate) and the pressing need for effective science, policy, management and communication.

Supporting elements. The committee noted a number of unique features that characterize and support all aspects of UVM’s ESH programs. These include: (1) Vermont as a small but well connected state, with a vibrant entrepreneurial spirit; (2) our location in an ecologically complex setting, adjacent to a very large freshwater lake and between two mountain ranges with a strong sense of place attractive to faculty and students; (3) a number of well established professional schools, some very highly ranked, with strong existing or potential ESH programs; (4) a small enough campus community to be well connected internally and to participate effectively in productive relationships locally and regionally.

Major Recommendations. The committee identified five “big ideas” to guide long-term strategic planning. These are: (1) Develop an ESH Institute that fosters collaboration among ESH researchers, provides fellowships to ESH scholars, and creates an umbrella for interdisciplinary ESH graduate advising. (2) Assign responsibility within the Office of the Provost to lead, coordinate, and manage ESH

activities in research, education, and outreach at UVM. (3) Streamline ESH graduate and undergraduate programs to identify curriculum synergies and redundancies, orienting UVM education to the global “grand challenges.” (4) Expand graduate support for ESH to recruit the most talented graduate students with competitive funding packages in ESH. (5) Create an “Environmental Commons” -- a physical and web gateway for undergraduate activity in ESH to coordinate advising, research, and internships.

Immediate Action Steps. To build momentum, the committee recommends five steps that can be implemented promptly. (1) Enroll UVM in Sustainability Tracking and Assessment Rating System (STARS) to participate in this nationally recognized campus rating system for monitoring our campus sustainability initiatives. (2) Appoint faculty leadership to follow up on Work Group recommendations to continue forward momentum. (3) Develop sustainability general education learning outcomes through the Faculty Senate. (4) Create a high profile ESH publicity and marketing print and web vehicle that clearly describes ESH undergraduate choices. (5) Convert the Work Group inventory to an accessible master list for internal reference and public review.

Appendix C. Letter from Provost with charge to the committee

MEMORANDUM

TO: Members of the University of Vermont Academic Community
FROM: David V. Rosowsky, Provost and Senior Vice President
DATE: April 4, 2014
SUBJ: Institute for Environment Task Committee

I am writing to update you on plans for the Institute for Environment at UVM. The vision for a university-wide institute, the first of its kind at UVM, evolved out of the campus-wide conversation that led to the Envisioning Environment report last year. The plan to create an Institute for Environment was first announced in my February 'Across the Green' memo.

I am pleased to announce the creation of a university-wide task committee to take us to the next step in this process, toward what I hope will be a successful launch of the institute by the end of the calendar year. The mission of the task committee is to develop (1) a mission statement for the institute, (2) a strategic vision for the institute (with goals, measures to assess progress, and metrics to assess impact), and (3) an operating plan (financial and governance) for the institute. These will be transmitted as a series of recommendations for my consideration.

The task committee will start meeting this month and complete its work by the end of October. The task committee will submit its specific recommendations to me as a report at that time. My office is providing support for the work of this task committee.

The academic deans suggested potential task committee members from their colleges. Individuals were selected because of their scholarly record and area(s) of expertise, their thought-leadership and vision, and their record of interdisciplinary and/or collaborative scholarship.

If you have questions or suggestions for the task committee, please send them to either of the co- chairs, Taylor Ricketts (taylor.ricketts@uvm.edu) or Donna Rizzo (donna.rizzo@uvm.edu) or you can direct them to Gary Derr (gary.derr@uvm.edu).

Thank you.

[Names of committee members removed. They appear in Appendix D.]

Appendix D. Description of the committee's work

D.1 Committee roster

Donna Rizzo, Dorothean Chair and Professor of Engineering, College of Engineering and Mathematical Sciences, Co-Chair

Taylor Ricketts, Gund Professor and Professor of Natural Resources, Rubenstein School of the Environment and Natural Resources; Director, Gund Institute for Ecological Economics, Co-Chair

David Barrington, Professor of Plant Biology, Interim Department Chair of Plant Biology, College of Agriculture and Life Sciences

Pablo Bose, Assistant Professor of Geography, College of Arts and Sciences

Breck Bowden, Patrick Professor of Watershed Science & Planning, Rubenstein School of Environment and Natural Resources

Alison Brody, Professor of Biology, College of Arts and Sciences

Melody Burkins, Senior Director of Research and Strategic Initiatives, Office of the Vice President for Research

Jan Carney, Professor of Medicine, College of Medicine

Christopher Danforth, Flint Professor and Associate Professor of Mathematics, College of Engineering and Mathematical Sciences

Joshua Farley, Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Adrian Ivakhiv, Professor, Environmental Studies and Environmental Thought and Culture, Rubenstein School of Environment and Natural Resources

Regina Toolin, Associate Professor of Education, College of Education and Social Services

Burton Wilcke, Associate Professor of Medical Laboratory and Radiation Sciences, College of Nursing and Health Sciences

D.2 Timeline of committee's work

Spring 2014

- April 15, 2014: Kick off meeting with Provost.

- April 22, 2014: Initial discussion of “Why this institute exists” – mission.
- May 12, 2014: Discussed decision-making protocol; “What is the role of the institute on campus?”; and, “What other institutes should we assess for ideas and inspiration?”.
- May 27, 2014: Group presented 4 draft mission statements, and began strategy discussion.

Summer 2014

- June 11, 2014: Group decided on five elements of proposed mission and corresponding strategies.
- July 24, 2014: Group edited mission, strategy and indicators.

Fall 2014

- August 27, 2014: Group reviewed first draft, discussed key issues and agreed to edit sections. Initial operations discussion.
- September 10, 2014: Group approval of draft to go to Provost and campus leadership.
- October 2, 2014: Provost Presentation at Deans Council.
- October 2-19, 2014: Committee met with Deans and Directors on campus and solicited feedback for the draft.
- October 20, 2014: Committee reviewed feedback from campus leaders and agreed on edits and responses. Appendix G summarizes suggestions for next steps and outstanding issues. The committee also provided more complete documentation of feedback and our responses as a separate document to the Provost.
- November 3, 2014: Committee reviewed final draft and agreed to submit to Provost.

D.3 Decision-making approach

The Committee will base its decisions on consensus. We feel this is the most effective way to ensure that our work serves the best common interest of UVM; builds community within the group; and provides for a higher level of support as the institute takes shape.

We define consensus as seeking unanimity on all decisions, and settling for overwhelming agreement once all efforts have been made to address concerns among the committee.

When consensus is not possible the committee will make decisions based on a super majority vote (75%) with views of dissenting members documented as part of the record.

On issues where neither consensus nor super majority voting succeeds, we will outline the issues and options, and the Provost will make a final decision.

Appendix E. Strategies and Measures

Table E.1. Proposed activities for the institute, by strategy category.

Catalyze
Fund Research
Seed grant programs
Invest in proposal advisor/facilitator(s)
Dedicated SPA liaison(s)
Course buy-outs (research, grant writing, mentoring)
Support Research
Multiple dedicated rotating Research Faculty lines related to challenges work at 3 years each.
Multiple 2-year postdoc fellowships related to challenges work
GRA support related to challenges work (several prestigious 4-year fellowships per year, plus “top off” funds for other students)
Sabbatical programs for UVM scholars
Research connections (complement not compete) to existing UVM investments in food systems, complex systems, NBH, health/medicine, UVM Extension, SEMBA, Gund, TRC, Continuing & Distance Ed, STEM, Policy & Governance w/VLS, etc. / EPSCoR
Connect
Visiting Scholarship/Experts
Sabbatical programs for visiting scholars
Become a Fulbright destination
Writer in residence
Visiting Fellowships (faculty and students) for underrepresented groups from outside UVM
Seminar series to bring outside leaders
Communications / Outreach
Full-time communications lead (with funding for data visualization, translational science, web development, videos, etc.). They are responsible for a strong website with a “for the media” section, videos, social media, etc.
Full-time policy lead (state, regional, national, international)
Clearinghouse of environmental work at UVM – understanding the work of centers/institutes at UVM and facilitating connections among those units.
Community connection / outreach / adult ed / programs in high schools etc.
Partnership
2-5 core partnerships (local development groups – tetra tech, ISC, etc.) and international organizations (CATIE, international Universities etc.)
Institute is seen as a resource for pragmatic research and information within Vermont via non-profits, VT sustainable business leadership, BTV leadership, NE & Canadian interests, etc.
Incubator / Mentoring
Start-up incubator for local businesses
“Break through leaders program” Leadership programs and workshops for professional skills
Institute-sponsored student clubs
Solve
Focus the institute’s work on 2-3 real-world “critical challenges” for 3-5 years, and then spin those off within UVM. Align institutes’ activities around these themes.
Problem-based workshops – strong ties with non-profits and local organizations (internships, committees, etc)

Table E.2. Full list of potential impact measures

Catalyze
Seed grants (number and value of seed grants awarded, representation from across UVM)
Seed grants impact (number and value of resulting external grants, number and impact of resulting publications, number and reach of non-academic publications, courses offered, policy impacts)
Funding received (number of institute facilitated proposals, successful grants and \$ amount)
Increased faculty productivity (number of grants submitted/awarded/value, number of publications, number of citations, number of external relationships established) *** Note this needs to be tracked against a “normal” year for the same faculty member to show increased productivity as a result of buy-outs or paid sabbatical.
Graduate students (number of students involved, number of students funded, number of post-docs funded, alumni tracking)
Connect
Visiting Scholars/Experts (number of applications, number of visiting scholars/fellows, new joint projects/outputs)
Website and social media (page views, average time on page, referral pages, followers, number of campus-based subscribers)
Media (number of popular press articles, number of “high visibility” placements (NYT, NPR, BBC, etc.), Vermont-specific media)
Videos (number, views, minutes watched)
Connection tools (number of users of joint calendar, news feed, etc.)
Partnership (number of partnerships, diversity, number of joint projects, impacts – courses offered, grants obtained, joint research outcomes, student internships/visiting students)
Joint research (number of projects with other programs at UVM and resulting publications, leveraged funds, complementary projects)
Community connection (number of local partners, joint research projects, publications, outreach events, attendance, certificates/credits/etc awarded)
Wider student involvement (number of workshops/courses/seminars offered, attendance, number of internships, undergraduate theses, amount of funding for non-GA activities provided (conferences, research support, etc))
Solve
“Critical challenges” faculty teams (number, representation across UVM)
Outreach (number of publications, citations, impact factor, popular media hits, number of events held, attendance and reach)
Impact (number of new practices/policies adopted, number of joint projects with policy relevant organizations or individuals, conserved habitats/species, number of lives improved)
Board of Advisors (representation from private/public sector, regional/national/global reach)

Appendix F. Budgets from Comparable Institutes

Institute	Annual operating budget	Starting fund/endorowment
Graham Sustainability Institute University of Michigan	\$10 million	\$5.5 million
David Atkinson Center for a Sustainable Future Cornell	\$4.5 million	\$80 million
Institute on the Environment University of Minnesota	\$4.5 million, with an additional \$2-3 million in research expenses	
Nicholas Institute for Environmental Policy Solutions Duke University	\$5 million	
Institute for Sustainable Solutions Portland State University	\$2.5-5 million	\$25 million
Global Institute for Sustainability Arizona State University		\$15 million
Woods Institute for the Environment Stanford University	\$20 million	\$30 million
Energy and Resources Group University of California at Berkeley	\$2 million (not including salaries)	
The Earth Institute Columbia University	\$126 million	\$6 million

Appendix G. Proposed Next Steps and Outstanding Issues

The committee shared a draft of the Institute for Environment report with UVM Deans and environment-related Directors and solicited feedback, typically in person.

We incorporated many of the suggestions into the final draft, but several points relate to the next phase of development, and require decisions or leadership by UVM's President and Provost, or by the institute's future Director. We summarize this feedback on next steps and outstanding issues here. In a separate document to the Provost, we provide more complete documentation of feedback and our responses.

Next steps:

1. **Timeline for implementation:** Multiple people requested a clear and specific timeline that is shared with the UVM community. This would include details around securing adequate funding; inviting faculty senate review; hiring a director; hiring staff; identifying appropriate physical space; resolving outstanding issues (see below); selecting one or two inaugural challenges; and, launching.
2. **Fundraising plan:** Most people agreed that the budget was appropriate for such an endeavor and is critical to ensuring success. A fundraising plan is therefore a critical next step. The plan should be developed and implemented in conjunction with the UVM Foundation and other stakeholders, and should emphasize and clarify the institute's role within the imminent UVM capital campaign.

Outstanding issues:

1. **Funding:** While most agreed the budget was appropriate and essential, concern was expressed about UVM's ability to secure the needed funding, whether funding the institute will divert resources from other units or colleges, how the institute will operate under IBB, and how F&A will be negotiated. Several questioned whether it was strategic to invest in a new institute instead of increasing investments in other units that are already working on areas of the environment.
2. **Affiliation and Association:** the institute is designed to be a campus-wide resource that complements and adds value to existing environmental work at UVM. The future Director, Provost, and key stakeholders will need to determine: how a new institute affects existing units whose work relates to the environment, and how the institute can complement those units; how faculty and students are selected for formal affiliation, and what the benefits and responsibilities are.
3. **Space and Name:** There was resounding support that the institute have a physical space on campus but disagreement about location and whether affiliated faculty should sit there. Several people disliked the name "Institute for Environment" or felt that it was too similar to other institutions.