

BIODIVERSITY PLANNING AND CORRIDORS

Design campus to increase local biodiversity.

Use university natural areas to help develop a regional and state wide corridor of reserves.

Plan pockets of different habitats that accommodate a variety of native species across the campus, including birds mammals and herps. Incorporate the concept of wildlife habitat planning into landscape planning around campus. (Migratory birds don't require complete connectivity between these areas, but a place to stop and refuel can help them on their way.)

Connect as many of these habitats as possible:

- Wide hedgerows

- Canopy trees and cover-can include orchard and other important tree species.

- Commuting corridors (bikepath, walking path) for those going carbon free

Focus long-term biodiversity research on university and natural areas, adjacent areas in the community and region.

Inform the university community on the benefits of natural areas (decreasing obesity, watershed and other ecosystem services such as carbon sequestration) and encourage their use.

Control invasive species and restore native species (ie Harvard yard). This should be campus wide.

UVM should partner with other colleges, agencies, and institutions to help develop a statewide corridor system linking reserves and research initiatives.

Laura Farrell – Biology Department (Please email a copy to laura.farrell@uvm.edu)

Joe Roman – Gund Institute

Noah Pollock – UVM

Carbon Neutrality [17 attendees (including students from Vermont Commons)]

Define: No net CO₂ to atmosphere.

Should we include such things as the companies that UVM buys from?
(carbon price included with purchased goods?) (part of electronic tagging? barcodes)
Only use carbon neutral certified companies and products? (use as incentive to develop these companies and this process of certification?)

Carbon offsets. UVM could spend ~300K and buy offsets from the Chicago market. But not a popular option. Create our own program?

What if we produced all our own energy and food here? Generate all our own electricity.

For 2020, we should do it without buying offsets.

Fencing the greens and allowing sheep to graze.

Fuel cells should be part of the picture.

Also need to look at conservation and efficiency.

Green buildings and retrofits. LEED EB

For admissions—connection with campus and local surroundings is important. But campus visits are C wasteful. Can we demonstrate our surroundings electronically? Use Google sketch-up? Virtual visits.

Should we provide offsets for campus visits from prospective students? Admissions should have a solar cell powered dirigible to pick up visiting students in NYC for visits.

New technology companies in our area—partner with them and use them as a resource and vice versa.

The State will soon be in an energy crunch with the expiration of the HydroQuebec program. UVM should work with the State and be more of a resource. Small hydro could be a small part.

Staff are integral to the success.

First step might be an inventory. What's possible? What could our farm and forest lands contribute?

Cogeneration? Use waste heat from McNeil?

Use our resources of students to examine these issues. Service learning, honors courses, credit bearing opportunity.

We need more engineering students involved.

Curriculum, Open Architecture Learning, Faculty Structure and Incentives, Online and Other Alternative Delivery Methods

The following pages were grouped together for this discussion:

Interdisciplinary Curriculum

Open Learning Architecture

Faculty Structure and Incentives

Online and Other Alternative Delivery Methods

UVM in 2020:

The university has an integrated, unified curriculum that provides choice, and in a variety of delivery methods, and solves real world problems in sustainability.

- The University allows for more flexible interdisciplinary learning. Requirements of depth and breadth are set by students. This allows more opportunities for service-based learning.
- Loosened requirements. Students are allowed to determine what they learn. We are not put off by fear that student learning won't be rigorous enough. Those students who take the initiative to do service-based or experiential learning will be successful. Experiential and service-based learning courses constitute up to 50% of a student's experience.
- We have broken down the boundaries to transdisciplinary studies and created some process of self-design in each of the majors. The integrative curriculum in the COM has served as a model for some of these changes.
- Base requirements are modified and motivated students are given more responsibility to skip early pre-requisites. Students can substitute any higher-level course in their field for a base required course. (Too often the basic course didn't offer enough information or challenge to be useful, and students who are excelling now have the opportunity to substitute one from a higher level.)
- Most generic base courses are offered online and we are using online education in a deliberate and concerted way. We have implemented a rigorous on-line environment on campus. On line education is taught by the best professors from anywhere in the world...not just UVM.
- Our UVM web site has an entirely new architecture replacing the old one that was hard to use if you were not intimately familiar with it. Information on the web site is also integrated with learning opportunities.
- We have redefined faculty. Our experiential learning utilizes community and world experts and we have developed open learning architecture that allows/encourages outside experts to participate with students. Students are enriching their education with real problem solving. We have redefined service-based learning so that everyone understands and utilizes it....not just CUPPS.
- We have addressed the real structural issues in the academy:

- We are reexamining the 4 year requirement to see if it should look different. Four years is a very short time to learn what you want to do, especially if you enter college undecided as to major. We are working on the traditional time and space paradigm to find creative alternatives.
- Students are rewarded for using University breaks to work for innovative companies. Students want the security of knowing they are receiving applicable knowledge and getting out into the world early through experiential learning is confirming to them they are learning what they really need.
- Our faculty support alternatives and allow students to map out their own ideas. Our emphasis is on self-designed majors, including requirements to ensure a solid education.
- We are building focused projects for students related to sustainability, using goal-oriented problem solving approaches that seek to solve priority sustainability issues within our community, the state, and the world (such as the reduction of carbon emissions via the use of alternative energy and application of innovative energy production and distribution techniques.)
- Projects related to sustainability for university focus are set via a “brain trust” of faculty, community experts, and state leadership.
- Everyone at UVM has a class in thermodynamics. Our core curriculum includes physics and complex systems. Because all the environmental problems we face are complex and require interdisciplinary solutions, we are teaching to develop those understandings. Sustainability issues are addressed in *all* teaching—every discipline. Outside experts are involved. For example, in art, Jackie Brookner, Betsy Damon and Patricia Johannson, who will be exhibiting in Stowe this Fall, work in the field of Ecoventions (see www.greenmuseum.org) -- art that remediates and restores damaged ecosystems, in their case water restoration..
- Faculty barriers have been removed and incentives developed to encourage team teaching and interdisciplinary teaching. Students are no longer hampered by difficulties in taking courses in other disciplines.
- University-wide, rotating topics on different areas of sustainability become the focus each year. Each year has a different theme/focus, egEnergy. We have found a way for the university to focus on critical topics without fracturing into a million disciplines.

Non- traditional students are truly addressed as non-traditional, and receive credit for important experience.

Participants:

Joe Hardie	jhardie@uvm.edu
Zack Ahrens	zahrens@uvm.edu
Cynthia Belliveau	cynthia.belliveau@uvm.edu
Elizabeth (Ibit) Getchell	egetchel@uvm.edu
Sarah Kariko	sjkariko@gmail.com
Megan Epler Wood	megan@eplerwood.com

Bob Herendeen
Kate Turcotte
Chrysanne Chotas
Charles Hulse
Cami Davis

rherende@uvm.edu
kturcott@uvm.edu
cchotas@uvm.edu
charles.hulse@uvm.edu
cdavis@uvm.edu

Diversity and Social Justice in Issues of Sustainability: A Dialogue

What are the issues?

- How do you provide access to sustainability and break the privilege that exist?
- Why is the campus body not very diverse?
- Focus on ways to recruit/retain people of color
- Incorporate everyone's thoughts
- Classism
- How do we consider folks who have multiple jobs and lack the resources to be sustainable?
- Partnerships with programs in Burlington- Sustainability in schools program (teaming with the Intervale to provide local and organic foods)
- Does the capitalistic system feed into the problems?

Thoughts:

- University generating money can increase the access to education: explore mechanisms to level the playing field to give free education
- Courses can be given online to alleviate issues of access

-How can we keep our designs more environmentally-friendly, to prevent health issues?

- Sustainable designs
- Zero emissions of greenhouse gases
- Cut down pollution

-University can become more involved in the K-12 education process to ensure accessibility to resources

-Be aware of how the University is playing into global oppression (where do our clothes, food, building materials, etc. come from?)

Goals:

- *Every UVM student in 2020 will be here for their merit and compensated accordingly
- *UVM will take responsibility and possess a conscious awareness for their purchases
- *Zero emissions of greenhouse gases, which generally impact low-income areas more so than others
- *UVM will actively contribute to the K-12 process in Vermont
- *Open geo-political diversity- partnering with Montreal and Quebec
- *Develop partnerships to make local/organic foods more accessible

Participants: Hayden Boska, Ryan Salmon, Vincent Brennan, Ashley Fowler

Energy Use in Vermont

- Electrical
- Heat

Two main loses in Vermont, economically

- Food
- Energy
 - VT Yankee
 - Hydro Quebec
- Vermont
 - BED creates energy from local sources – McNeil
 - Economically, VT can control the forestry industry
- UVM Energy Issues
 - Cooling, not as big an issue
 - Heating, natural gas from Canada, economic loss for Vermont
- McNeil
 - District heating: Thermo generation of steam that redistributes steam to make heating “locally grown”
 - Renewable Energy Source
 - “We want our heat to come from high quality steam from McNeil” – this perspective drives up the profit of McNeil and keep it online longer throughout the year
 - UVM should take the initiative to make this purchase?
 - Catalysts
 - State
 - Federal
- Student fee
- Steam Problems
 - There are numerous ways that a steam system could collapse at any point – engineering standpoint
 - Can’t be down for any short period of time
- Alternatives
 - Small demonstration projects
 - Reduce the amount needed – more efficient piping, insulation of buildings (demand side management)
 - Biogas - cow manure, food waste

Integration of people and institutions Across the Community:

- Having community thinking/brainstorming events be the norm, the mode of governance and decide the direction on an ongoing basis
- Expanding the role of the university beyond just education
 - have the classes actually perform the functions they are teaching rather than reading about them
- Redefine the roles of students and faculty so that the dynamic is more fluid
- Bring people together in terms of institutions (have government offices in the same area as the constituents they serve and in the same place as the classes learning about this facet)
- Social integration of students, faculty, administrators, and professionals (food, workplace, play, etc..)
- Accessibility / Restructuring the system of what is looked at favorably (ie: tenure track professors / student projects that directly benefit the community, increase quality of life or move the vision of the community forward are weighted more favorably in evaluating performance)

Matt Beam
Jimena Haza
Samir Doshi
Bob Vaughn
Adrian Ivakhiv

Local food at UVM

Components of the vision

- Values: social justice, invest in the local economy, decrease fossil fuels
- Make all UVM food produced locally
- Use technologies that have been developed to use limited energy in food production, develop new technologies
- Educate students and others about the need to change our food system
- Put waste back into the food system
- Create an edible landscape
- Use UVM as a model of organic agriculture and permaculture
- Incorporate all students, including those with limited resources
- Create a political constituency with a will to change
- Build an infrastructure at UVM around food
- All food consumed at UVM grown locally, all food grown at UVM consumed locally
- Create an edible and educational landscape through permaculture and organic farming on the UVM campus and UVM property.
- Zero net waste in food system – all waste put back into food production
- Education an integral part of all food production and consumption
- UVM as an organizational center for the local foods movement

Sophie Quest

Sara Farnsworth

Jason Dudley

Sarah Kugel

Johannes Griesshammer

Linda Berlin (sp?)

Ben Walsh

Nancy Todd

Rich Downing

Michael ?

Some other guy (sorry!)

Open Architecture Learning, Faculty Flexibility, Course Requirements, Curriculum and Majors

We would like to see an integrated curriculum that provides choice in a variety of deliver methods that solve real world problems in the context of sustainability.

Group: Expanded graduate research programs and internal funding

- Two visions we've heard thrown around
 - "Becoming the premiere small public research university"
 - "Becoming the premiere environmental university"
- We need to provide the environment for innovative ideas for sustainable living and also innovative research ideas

To achieve "Becoming the premiere small public research university"

- Increased graduate education/ research programs
 - Why do we not have a PhD. Program in Physics?
 - Graduate degrees in economics?
 - Humanities graduate programs?
- Provide internal funding awards for graduate students
- Increased stipends
- Increased collaborate work with undergraduate students
- Joint projects with the community
- Increasing research will increase UVM rankings
- Encourage non-traditional external funding sources
- Increase research, service and teaching and potential for alternative assistantships

To achieve "Becoming the premiere environmental university"

- Allow research and development
- Increase community involvement and awareness
- Allow new and innovative ideas to be developed on campus
- Provide the funding to accomplish those objectives

Written up by:

Robin Collins (robin.collins@uvm.edu)

Plant Biology Department

Group Members:

- Tom Visser (Historic Preservation Program)
- Hans Manske (High School Teacher, South Burlington)
- John Keyes (Undergraduate Student, Biochemistry/ Environmental Science)

Supporting and integrating campus community

Creating community:

RA not an authorities but a facilitator of community. More action, more input from the residents/students. Providing feedback for the dorm leaders, faculty, administration.

Faculty Mentor: Develop with students, their personal development and academic goals over 4 years. Building relationships and feedback, structured relationship.

Every dorm becoming a communal living space. Community stewardship, accountability and promotion of a sense of ownership of "home".

Shared responsibilities for bettering the UVM community. Every dorm is a micro community of the larger college community and Burlington community. Provide forums for communities to share ideas, generate efficiencies.

Take responsibility for taking care/ownership and understanding of the larger community.

Required Eco-literacy and/or Environmental stewardship courses for all students. Ex. Permaculture, community designs and ecological engineering, ect.

Reflection: Allow reflection, meditation, in the classroom and among community members. Provide forums to discuss community issues and broader issues.

Transportation

- bicycles – lots of them – how do we make UVM more bike friendly
- zero parking on campus - with some exceptions for H/C, service visitors
- bike streets
- Main street and Colchester divide campus – traffic calming
- bike lanes
- connection to Winooksi
- public transit to campus
- grow intercept parking lots
- regional transit
- improving frequency of services – density of routes, good shelters
- connector routes with small busses – like Isreal “sheroot” flexible minivans close to routes
- on-demand taxis
- light rail on main route connecting – downtown, campus, airport, retail areas – existing feasibility study??
- coordinated state-wide transportation and funding mechanism
- stay on campus with new facilities – dense compact land use on Main campus
- task force should review campus master plan – www.uvm.edu/~plan
- use 20 or 40 or 70 year timeline for cost and benefit analysis planning for transportation and land use planning
- how to get people to change transportation mode –
- balancing the interests of commuters to campus (faculty, staff, some students) and internal circulation and people who live on campus
- alternative fuels
- free shared bike fleet
- flex car – sharing
- hybrids, carpools and other like cars get free or cheaper parking
- creating habits, transportation values and knowledge among students
- CATMA cubed – on and off campus
- stronger disincentives to using a car on/near campus
- increased parking costs
- walking with ease, plowing, ice, covered walkways
- smaller cars

Move Yourself:

UVM is filled with people walking, bikes, and buses. Main Street and Colchester have bike lanes, buses and taxis, and the odd car paying a high toll but running on alternative fuel. Parking lots have been replaced with high density clustered development and car share stations. The entire university is located on campus, within a highly landscaped, beautiful campus with high density buildings. It is easy to get around from building to building in weather-protected walkways.

The easiest way to get to Burlington from anywhere in the state is by public transit: bus, train, light rail and local bus.

Everyone understands that it’s definitely not healthy to take your car anywhere when you could, instead, get a totally free workout by walking or biking.

Lani Ravin

Susan Crockenberg
Frank Zelko
Lisa Aultman-Hall
Bill Ballard

University Housing with Students and community

How do we integrate students and community together creating an educational and civic experience?

- Connecting students with families, seniors etc...
- Involving students in local government, wards or neighborhood planning assemblies
- University sponsored housing themed around intentional communities and eco-villages

Theme Ideas:

- Jericho forest- forestry
- Wheelock farm – agricultural
- Downtown housing – urban sustainability, off-campus co-op models
 - health and well-being

How would the houses look?

- self-governed houses, adaptable management practices
- adapting existing downtown housing to create new housing, maybe student/community participation in re-design
- changing campus policy so 1st and 2nd year students would be eligible to live in these communities
- live in house for ore than one year to create continuity and build community

University and city partnering to create communities
a ward for the university so they had a voice in the city government

benefits

- less community/university tension
- breaks down barriers
- more engaged students
- less noise violations
- mentors for students
- children in families gain mentors from students
- neighborhoods that are well cared for, less trash
- live in help for seniors
- learn how to live sustainability!! A skill that needs practice

NOTES FROM THE ZERO WASTE WORKGROUP **UVM 2020 FORUM, APRIL 30, 2007**

by Daniel Hecht, executive director , Vermont Environmental Consortium

In 2020, UVM has:

1. Adopted a Zero Waste commitment and has developed organizational alliances and contracts to support Zero Waste policy with the City of Burlington, Chittenden Solid Waste Management District, and UVM's waste haulers.
2. Implemented Zero Waste guidelines systemically throughout its operations, including academic class scheduling that encourages "slow food" meals that cut paper and plastic waste.
3. Developed a source-separated clean food waste stream from kitchens and cafeterias that is used in campus-based biodigesters to create a substantial proportion of UVM's electricity.
4. Created programs that discourage students from using disposables and importing them to campus.
5. Instituted purchasing policies that exert its major consumer pressure "upstream" to product and service providers. These policies include explicit preference for low-waste products that are 1) organic in origin, 2) remanufactured or remanufacturable, 3) recycled or recyclable, 4) derived from certified sustainable processes, 5) provided by suppliers with commitments to low-waste manufacturing and shipping.
6. Engaged in discussion and crafted agreements with Chittenden SWMD and waste haulers to reduce volume and avoid undesirable end fates of renovation and construction debris, equipment, furniture, etc.
7. Created incentives for students, faculty, and staff to bring durable eating vessels and utensils – bowls, plates, cups, forks, spoons – to use instead of disposable wrappers.
8. Eliminated vending machines that dispense bottled water (and, ultimately, discarded bottles) by having great-tasting, clean drinking water available in drinking fountains.
9. Fostered an institutional culture of nonuse and re-use so that all students graduate from UVM with an awareness of waste and a stronger sense of personal responsibility for avoiding wasting.
10. Developed a culture and policies of repair and continuing use, avoiding discarding of furniture, equipment, renovation debris, etc.
11. Created an on-line central information resource to help people manage their waste.