

Sierra magazine'S 2011 "coolest Schools" questionnaire

Explore, Enjoy, and Protect the Planet

10 COOLEST SCHOOLS College students amp up the fight against climate change

2010

We at Sierra, the award-winning magazine of the Sierra Club, are compiling information for our fifth annual "Coolest Schools" issue, which will rate American colleges and universities according to their environmental practices, green initiatives, and caliber of sustainability-oriented education. Schools that score highly in these realms may be contacted for further discussion and will receive recognition in the magazine's September/October issue. Please download this interactive PDF and fill it out as thoroughly as possible. Save it with your responses as 2011_coolschools_your school's name and email it to cool.schools@sierraclub.org no later than April 20, 2011.

Note that this questionnaire will become a public document and that we will not be altering your responses before publishing them online. Questions left blank will receive no credit, and if a question requests a percentage, you must provide a number to receive a score. If you need more space to answer a question, you may attach pages. The scoring key will be available online once the issue is published. As the magazine of the nation's oldest and largest environmental nonprofit, Sierra has a readership of more than 1 million engaged and educated citizens. Many thanks for your participation.

School name: **Warren Wilson College**

Contact name and title: **Stan Cross, Environmental Leadership Center Education Director**

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School city and state: **Asheville, NC**

Number of students: **940 undergraduates**

HONOR PLEDGE: By completing and submitting this questionnaire, you are certifying that all statements in this document are true to the best of your knowledge.

INITIAL: **__SC** DATE: **__April 27, 2011**

Category 1: Energy Supply

1. Please break down the energy types that your campus uses for electricity by percentage. If your school purchases its electricity from a utility company, this information should be available from that company. If you insert a number into the “other” category, specify the energy source.

47% Coal 1% Natural gas 43% Nuclear
100% Wind 4% Solar 1% Hydro
0% Biomass 0% Geothermal 8% Other : 2% oil and 6% undisclosed

2. What type(s) of energy does your campus use for heating buildings? If you insert a number into the “other” category, specify the energy source.

0% Coal 0% Biomass 68% Electricity 24.3% Natural gas 6.2% Geothermal
0 % Fuel oil 1.5% Other: solar thermal which provides radiant floor heating in the EcoDorm.
Note that WWC purchases Renewable Energy Credits each year of wind power to offset 100% of its electric use annually.

If cogeneration, please explain.

Warren Wilson was distinguished with the inaugural national award for a private baccalaureate college from Second Nature for Institutional Excellence in Climate Leadership at the 2010 summit of the American College & University Presidents’ Climate Commitment (ACUPCC). We do not have the financial resources of large or more heavily endowed institutions to currently afford large renewable energy installations or cogeneration facilities. Our energy reduction progress is campus-wide, through behavior change, carefully planned building retrofits, and fundraising to install the renewable energy that will be required for us to reach our ultimate goal of carbon neutral. We are determined NOT to achieve this goal through offsets but by becoming resilient through using less energy and generating our energy. This aspect of our plan will happen over time, as we are able to fund. See our overall goals here: [own.http://www.warren-wilson.edu/~ELC/New_ELC_Website_/ClimateActionPlan.php](http://www.warren-wilson.edu/~ELC/New_ELC_Website_/ClimateActionPlan.php)

Category 2: Efficiency

1. What percentage of campus buildings completed within the past five years have a LEED certification of at least silver, or an equivalent rating from another certifier? (If an equivalent rating, please specify which rating and certifier.)

100%: Three buildings are LEED-Gold, one is LEED-EB Platinum (the first residence hall to receive this certification on a college campus in the nation) and one classroom building is in LEED gold application process now. The campus has a policy that all new construction or retrofits will be at a minimum LEED-Silver designed.

2. What percentage of water used for campus landscaping is from recovered, reclaimed, or untreated sources?

80%

3. What percentage of campus lighting fixtures, including indoor and outdoor, are energy efficient (e.g., compact fluorescent, LED, or equipped with motion sensors, automatic daylight shutoff, or other energy-conserving features)?

90%: We are currently in the midst of a light bulb replacement drive campus wide. Our utility provider, Progress Energy, provides rebates for each bulb we replace with cfl. These rebates are used for energy retrofits campus wide.

4. What percentage of campus appliances are Energy Star-rated?

50% WWC has a purchasing policy that all campus appliances must be Energy Star rated. Each time one is replaced, it is replaced with Energy Star.

5. Does your school have in place energy-efficiency retrofitting programs, such as improving building insulation or sealing ducts? If yes, by what percentage have these programs reduced (or will they reduce) consumption over a three-year period?

No Yes x **30% The College 's Energy Services Student crew has drafted a SEMP - a Strategic Energy Management Plan that will be approved and in place by fall 2011. This supports the Climate Action Plan with strategic and specific plans to retrofit aging campus buildings over time, and to monitor and reduce water usage.**

6. Does your school have a program to monitor, record, and assess patterns of electricity and water consumption as a means of regularly evaluating and improving buildings' environmental performance? If yes, provide the percentage of buildings monitored for each and describe the program.

Electricity: Yes: 100%. All of our campus buildings are individually monitored. Only two buildings share a monitor. The student Energy Services Crew enters usage data for each meter monthly into Energy Star software. The Campus Greening crew uses this data to generate quarterly energy usage reports that compare the past quarter's usage to the same period last year. These reports are distributed to all building managers. The reports include the following: electric use, natural gas use.

All Warren Wilson students work 15 hours a week on crews that run the campus. For crews that have vehicles - whether electric carts or farm trucks, these crews receive a quarterly fuel use report to note trends from the previous year. See examples of these reports here: http://www.warren-wilson.edu/~ELC/New_ELC_Website/ClimateActionPlan.php

Water: Yes. Campus-wide plans. The Strategic Energy Management Plan to be approved this month and in place by next fall includes plans to phase in water monitoring by building to begin to strategically reduce water usage and monitor usage so that if a situation arises like a leak or other breakage, it can quickly be noticed and addressed.

Category 3: Food

1. What percentage (in dollars) of food served at cafeterias is grown or raised within 100 miles of campus?

23%. We have a new Sustainable Food Policy that directs us to a higher percentage in the coming year.

2. What percentage (in dollars) of food served at campus cafeterias is USDA-certified organic?

5%

3. Do campus cafeterias source seafood that is deemed sustainable by the Marine Stewardship Council, the Monterey Bay Aquarium's Seafood Watch Program, or a similar program?

Yes

4. What is the dollar amount spent on all cafeteria meat purchases per year? What is the total number of cafeteria meals served? If the meat is produced sustainably (for example, free-range or grass-fed), please explain.

(meat= meat, fish, poultry) \$90,000.00 is spent annually on meat, some of which is paid to the College Farm for beef and pork; 348,000 meals are served each year; 50% of the total meat served in the cafeteria is produced in a manner that is verifiably sustainable; 92% of all beef and 50% of all pork served is produced by the college's award winning sustainable Farm located on campus and recognized as a state-wide model for pasture raised beef and pork.

6. Are nutritionally complete vegetarian and/or vegan options available at every meal?

Yes. Warren Wilson College has the nation's first vegan/vegetarian café, the CowPie Café, that serves over 250 students/meal breakfast, lunch and dinner that is nutritionally dense and sustainably produced. The CowPie was student conceived and currently ranks as the highest food service operation in the Sodexo higher education food service system for customer satisfaction. Sodexo is currently looking for opportunities to replicate the CowPie concept nationally. At the regular cafeteria, 50% of the meal choices are vegetarian.

6. Is bottled water sold or distributed on campus?

No bottled water is sold or distributed on campus.

7. Does your school maintain a campus farm or garden on which students can work?

Yes, both. All students at WWC work 15 hours a week. The College Garden, run by the student Garden Crew, is 6 acres of intensive vegetable production that provides produce for the college cafeteria, local farmers markets, a Warren Wilson CSA Program (Community Supported

Agriculture), and food banks. There are two hoophouses and one heated greenhouse that provide produce year round to the cafeteria. One was built with support from Sodexo. There is also a community garden space within the garden that students can use to grow their own food. The 250 acre College Farm, run by the student Farm Crew, produces beef, pork, poultry and eggs for campus consumption and to sell to the community as sustainable, locally raised meat products. Students learn all aspects of Farm operations from animal husbandry to sustainable grazing and feeding protocols. The College Herb Crew grows herbs and produces herbal products like teas, salves and lip balm for sale.

Category 4: Academics

1. Does your school offer environment- and/or sustainability-related majors, such as environmental studies, ecology, or sustainable agriculture? If so, list up to six.

Yes. In environmental studies, one may major in conservation biology, sustainable agriculture, environmental chemistry, sustainable forestry, and environmental education; in global studies, intercultural studies and Appalachian. Many students develop integrative studies majors with environmental or sustainability emphases.

2. Does your school offer classes about clean technologies, including topics such as energy efficiency and solar-wind engineering? If so, list up to five.

Intro to Environmental Studies; ENS 396 Energy and Climate; ENS 377 Discovery thru Wilderness Scandanavian Energy Trip (not annual); Inorganic Chemistry; Intro to Environmental Chemistry; General Chemistry; Organic Chemistry; Advanced Environ. Chemistry

3. Does your school provide students with a list of environmental and/or sustainability classes to make such courses easy to identify? Please provide a link, if available.

Some of these courses have an ENS prefix and can be seen here: http://www.warren-wilson.edu/academics/catalog/catalog2.php?name=environmental_courses.

4. Please provide names of up to four standout professors who work on environmental and/ or sustainability issues. List their primary accomplishments, including awards, honors, and noteworthy publications.

David Abernathy chairs Warren Wilson College's interdisciplinary Global Studies program, where he teaches courses on geography, globalization and geographic information systems. His current research focuses on central Panama, where he studies both the political ecology of rainforest destruction and the use of geospatial technology for assisting in biodiversity conservation efforts. He received a 3-year, \$100,000 research grant funded by the Panamanian Secretaria Nacional de Ciencia, Tecnologia e Innovacion (SENACYT). The grant will be used by the college and the organization Conservation through Research, Education and Action (CREA) to research and implement a geographic information system (GIS) and wireless sensor network on the 1,000-acre Cocobolo Nature Reserve in Panama. He also earned a Conservation GIS grant from ESRI in conjunction with CREA, and was awarded funding from the Appalachian College Association to pursue sabbatical research on the nature reserve. His recent publications:

Abernathy, D. (Forthcoming). "Hand-Held Devices." Encyclopedia of Global Studies.

Abernathy, D. 2011. "Teaching the geoweb: interdisciplinary undergraduate research in wireless sensor networks, web mapping and geospatial data management." Journal of Geography 110(1):

27-31.

Abernathy, D. 2010. Global studies abroad: toward a more integrated and meaningful study abroad experience. *global-e journal*, vol.4(2). Accessible at <http://global-ejournal.org>.

Thomas, R.N., Dobson, G., Dezendorf, P., Cantrell, M. and Abernathy, D. (2009). Development of a parcel-based density analysis tool to evaluate growth patterns in Western North Carolina. *Journal of Conservation Planning*, Vol.5, 38-53.

Environmental Studies professor Mallory McDuff is the author of the book, "Natural Saints: How People of Faith are Working to Save God's Earth," published by Oxford University Press (2010). Her current research focuses on how faith communities are integrating the environment into their ministries. Currently, she is editing a book entitled, "Conversion: The Sacred Acts of Churches to Protect God's Climate," which will be published by New Society Publishers. She is the co-author of the book "Conservation Education and Outreach Techniques," by Oxford University Press (2006). She has participated in the GreenFaith Fellowship Program to train religious-environmental leaders in the U.S., as well as the National Council of Churches Eco-Justice program on faith and climate activism. Her classes at Warren Wilson College focus on community-based projects around issues such as food justice, climate action, and nutrition in the schools.

John Brock, professor of chemistry and environmental studies and interim division chair for the natural sciences, was recognized in 2005 with the College's Teaching Excellence Award. Before coming to Warren Wilson, he worked for the Centers for Disease Control and Prevention (CDC) where he studied the impacts of pollution on human health, received several research awards, and published more than 60 research articles, including some of the early work on the human health impacts of phthalates. Brock's current research includes a collaborative project studying the human health impacts of climate change with the CDC and the National Climatic Data Center, a sabbatical project, which will investigate the human health impacts of climate change. This project is funded by the U.S. Centers for Disease Control and Prevention (CDC) and involves two collaborators, Dr. George Luber (CDC) and Dr. David Easterling at the National Climatic Data Center (NCDC). Both collaborators are members of the International Panel on Climate Change and have served as senior authors on Assessment Reports. The goal of this project is to combine climate data at NCDC and human public health data at CDC to develop early indicators to allow state and local public health departments to focus their amelioration efforts. .

Environmental studies and biology professor Paul Bartels has published extensively on the micro-invertebrate tardigrada. He has been awarded funding from the NC Biotechnology Grant program and the Appalachian College Association to pursue this research. For the past ten years, along with more than 50 Warren Wilson students, he has participated in the Great Smoky Mountains All Taxa Biodiversity Inventory (ATBI) - the largest scale biological inventory of any national park. The objective of the ATBI is to help us understand the importance of biodiversity to the health of complex ecosystems. At the start of the inventory there were less than 10 records of tardigrada in the park. Along with his student researchers and colleague Diane Nelson from the ETSU, they have identified more than 70 species for the Park, and identified 21 species NEW to science, which they are in the process of naming. Their inventory is now complete and they have prepared an on-line key to tardigrada, fondly dubbed "water bears," for the great Smoky Mountains. It may be found here: http://www.warren-wilson.edu/~pbartels/E-Guide/Read_First!.html

5. Is your school associated with any environment- and/or sustainability-related centers, programs, or research institutions? If so, please provide their names and a description.

Warren Wilson has its own Environmental Leadership Center, established in 1996 - http://www.warren-wilson.edu/~elc/New_ELC_Website_/Main.php - with many outreach programs. It also has a Sustainability Official who oversees many campus initiatives and off-campus partnerships - <http://www.warren-wilson.edu/~elc/sustainability/index.php>. In addition, the official science advisor to the College's Greenhouse Gas Emissions Inventory and Climate Action Plan is one of the IPCC scientists at Asheville's National Climatic Data Center. The Environmental Leadership Center has a summer Sustainability Internship Program for up to 25 WWC students with 23 partner organizations who provide the mentored work, ranging from the Smithsonian Environmental Research Center to the City of Asheville Office of Sustainability.

6. Is an environment-themed class a core curriculum requirement? If yes, please provide the name(s) of the course(s).

**Yes. First-year orientation week includes a unit on sustainability and on environmental responsibility. All new Warren Wilson students are required to attend sessions that include workshops, skits, and an in-depth Green Walkabout tour of the College's sustainability initiatives--
http://www.warren-wilson.edu/~ELC/New_ELC_Website_/Green_Walkabout.php.**

7. What percentage of academic departments offer environment- or sustainability-related classes?

75%

Category 5: Purchasing

1. Does your school have a university-wide sustainable-purchasing policy? If yes, briefly explain.

The College has extensive policies that guide sustainable campus decisions which can be found here: <http://www.warren-wilson.edu/~elc/sustainability/policies.php>. They include the Purchasing Pattern Language (2001) which follows:

Warren Wilson College as an educational institution has a moral obligation to set a clear example for current and future generations. The College should demonstrate that the social and environmental Commitment evidenced in its Mission Statement and its Environmental Commitment Statement are carried out in its purchasing policies. This portion of the Pattern Language document builds upon those commitments and provides a guide for responsible purchasing of goods and services. Purchasing decisions are made by many individuals, all of whom must take into account the impact on the environment as well as the economic impact when making buying choices. The purchasers should have an understanding of the advantages of environmentally friendly and socially sound purchasing practices. Socially and environmentally conscious purchasing practices take research and reflection, so it is also necessary to encourage purchasers to seek new and better materials and business relationships. Bringing the impact on the environment into purchasing decisions must become an attitude used by all those making these decisions.

The College is interested in buying materials that promote the health and sustainability of our biosphere. When making purchasing decisions the following principles should be incorporated:

- * Reuse existing materials**
- * Purchase recycled or remanufactured materials that have lower impact on the environment in their production, packaging, use, and, ultimately, their disposal than new materials**
- * Purchase locally provided materials and services where available, with preference given to locally owned and operated businesses**
- * Purchase long lived products made from renewable resources**
- * Avoid toxic materials where choices are available, e.g.; inks, paints high in volatile compounds, carpets high in noxious odors and chemicals, cleaning solutions containing hazardous or environmentally harmful components**
- * It is College policy that ENERGY STAR products will be purchased wherever the choice exists.**

Preference should be given to resource-efficient products, i.e., products that use the least or conserve the most energy, water, gas, and other nonrenewable or environmentally costly resources. Gifts and donations should be subject to the same standards as purchased products.

Warren Wilson College understands the impact of doing business with companies with socially unethical business practices. Therefore, Warren Wilson College will seek to avoid purchasing from companies that have a history of discrimination based upon race, age, gender, sexual orientation, religion or physical handicap or who have demonstrated unfair labor practices. Warren Wilson College will also seek to avoid purchases with companies that use child labor or do not provide a living wage. All persons charged with making purchasing decisions should keep these principles in mind and seek assistance in choosing vendors who meet them.

2. What percentage of paper used on campus is made from at least 30% postconsumer recycled content?

100%: Additionally 100% of publications are printed on certified 100% post consumer recycled paper, and 100% post consumer recycled paper is used on campus whenever available in the marketplace. The College's Campus Greening Crew is currently supporting a Paper REduction Initiative on campus. This project has just been recognized with Warren Wilson's inaugural Sustainability Recognition Award. You can find the research to support this project on-line . Visit http://www.warren-wilson.edu/~elc/New_ELC_Website_/The_Life_Cycle_of_Paper/main.php to see the life cycle of paper at WWC.

3. Does your school purchase paper that is Forest Stewardship Council–certified?

Yes, almost all the external publications of the College are printed on FSC paper and, the College's Sustainable Practices Guide - <http://www.warren-wilson.edu/~elc/sustainability/Sustainable%20Practices%20Guide%201%2020%2011.pdf> recommends this practice.

4. Does your school have a policy to purchase electronics that have Electronic Product Environmental Assessment Tool (EPEAT) certification (or similar)? If yes, please describe.

No, but all electronics must meet Energy Star certification to comply with the College's Energy Star purchase policy: <http://www.warren-wilson.edu/~elc/sustainability/policies.php>

5. Does your school have packaging agreements with suppliers that minimize waste? If yes, please describe.

No, but our purchasing pattern language urges minimal waste by sourcing materials that come without packaging or with easily recycled packaging. Our nationally acclaimed recycling program works to educate the campus about wise purchasing choices; they recycle everything from granola bar wrappers to cardboard.

6. Does your school specify in its purchasing contracts that products with energy-saving features be installed or delivered with these features enabled?

The College takes responsibility for enabling energy-saving features. All purchases or energy consuming products must meet Energy Star certification if applicable. Computing Services sets all computers to energy saving modes before they are delivered to staff or labs, and all students are educated about energy saving settings via the electronically distributed Green Living Guide (http://www.warren-wilson.edu/environmental/green_living_guide.pdf) and are to set personal computers accordingly.

Category 6: Transportation

1. Does your school provide a free shuttle service around campus and town? If yes, briefly explain.

WWC provides all employees and students free travel to and from campus on the Asheville City Transit system. Details at <http://www.warren-wilson.edu/~bus/ashevilletransit.php>.

2. What percentage of your school's vehicle fleet is hybrid or electric or uses sustainable biofuels?

29.4%

--119 vehicles total, 2 hybrid cars, 20 golfcarts, 4 on road B20 Biofuel (ULSD), 3 off road B20 Biofuel (ULSD), 6 farm tractors B20-in keeping with the College's Sustainable Vehicle Policy: <http://www.warren-wilson.edu/~ELC/sustainability/vehicle.php>

3. List specific steps your school has taken to promote walking and bicycling as transportation methods.

All Campus roads and pathways are open to walking and biking, first-year students are not allowed to have a car, no students are allowed to park cars on core campus, bike sheds and racks have been added to store and park bicycles at residence hall and classroom buildings, one of the College's student work crews runs the Community Bike Program. They maintain bikes for the campus community and only charge for parts. The College is currently working on one of the goals of its "One Mission, One Land" long term land use plan to transition core campus into pedestrian-only.

4. Does your school offer its students and employees incentives to carpool, take public transit, or use some other form of communal transportation? If yes, please describe.

WWC subsidizes transit fees on the Asheville Bus system for all employees and students. We also partner with UNC-Asheville and pay for a Zimride facebook-based carpooling system that provides a platform for making carpool arrangements; there is one parking space for alternative fuel vehicles in core campus and the Building and Grounds Committee is currently reviewing an appeal for carpool-only designated spaces in core campus.

5. Approximately what percentage of students commute to school in a car?

5%, the other 95% live on campus

6. Approximately what percentage of faculty and staff commute to work in a car?

50%, the other 50% live on campus. We measure emissions each year from faculty, staff and student commuting as part of our greenhouse gas emissions inventory. This past year, we measured an 11% reduction in our commuting footprint.

Category 7: Waste Management

1. What is your campus's current waste-diversion rate (i.e., percentage of campus waste being diverted from landfills)?

40.09% for the 2009/10 fiscal year. This includes all landfilled materials (including non-recyclable construction waste) but does not include re-used construction items or surplus items that are diverted from the landfill. We educate our campus to reduce before recycling and therefore encourage the campus to reduce the amounts of materials recycled each year.

2. Are recycling receptacles readily available throughout campus? If yes, please describe.

We recycle over 25 different types of items. Visit our website to see more. <http://www.warren-wilson.edu/~recycle/> Throughout the campus, multi-stream recycling receptacles are available for paper, bottles and cans, and cardboard. Recycling centers are located on each floor of all buildings and outside at various gathering areas. Dorms and high traffic areas also have bins for batteries, CFLs, DCs, tapes printer cartridges, and other e-waste. The student Recycling Crew maintains, inventories and cleans these bins.

3. Are recycling bins readily available at large events such as football games?

Although our school does not have a football team, during all school events such as homecoming, the MFA program, sports events, etc. recycling receptacles are ALWAYS present. Event banquets have compost bins, too.

4. Does your school compost? If yes, are compost receptacles available at all or most on-campus dining locations? Are compost receptacles available at all or most food-preparation facilities (i.e., cafeteria and restaurant kitchens)?

Warren Wilson has been composting food residuals since 1990. Currently we compost food residuals from the two cafeterias, in all student dorms, and on-campus faculty and staff housing. In the coming months we plan to offer compost bins in all office and classroom buildings and at main collection centers. We do not have the capacity yet to compost all food residuals generated by the school, so the excess is outsourced to a local commercial composter. We recently bought and refurbished a second Green Drum in-vessel compost drum which will help to ease our strained compost capacity once brought on line.

5. Does your school have a stated commitment to waste-reduction goals, such as zero waste? If applicable, briefly explain the plan of action.

Our school strives to attain and maintain an overall diversion rate of 50%. Main areas in which we can improve include construction waste and composting. Our annual goals and objectives can be found in the College's Climate Action Plan http://www.warren-wilson.edu/~ELC/New_ELC_Website_/ClimateActionPlan.php in the Recycling section. We are working to improve the tracking of some of our waste streams, such as school surplus items and reused wood. Better tracking would provide a more comprehensive idea of our waste stream. Our junk mail program seeks to stop unnecessary paper mailings by calling companies and requesting individuals to be taken off the list.

6. Does your school administer a donation program for clothing and other used goods when students are

moving out of campus housing? If so, are bins placed in every dormitory?

We maintain a year-round FreeStore on campus in which unwanted, gently used items are sorted, tested, and organized in a warehouse that is open to the general school population. Excess items are taken to local shelters or thrift stores. During Move-Out, we place collection centers in all dorms. All these items are sorted and distributed to the community during our yearly Free Giveaway. Last year we distributed almost 4,000 pounds of free clothing and shoes to the greater community in just one day. Non-clothing items go to the FreeStore or to our local Goodwill.

Category 8: Administration

1. Is environmental sustainability part of your institution's mission statement or guiding

principles? If so, please provide the text or a link.

Environmental responsibility is in WWC's mission statement - www.warren-wilson.edu/~assessment/mission.php - and it is found in many other commitment statements voted on through shared governance at WWC since the 1970's -www.warren-wilson.edu/environmental/sustainability/main.php. Here is a timeline of WWC's commitments: www.warren-wilson.edu/~elc/sustainability/history.php. In 2007, the WWC President's leadership team formalized a commitment to Sustainable Decision Making for all institutional planning: www.warren-wilson.edu/~ELC/sustainability/sustainable_decision_making.php and this distinguishes Warren Wilson from most other institutions. the College's new strategic plan, approved in April 2010, includes Sustainability as a Core Value of WWC. For a general understanding of WWC's sustainability commitment visit www.warren-wilson.edu/~elc/sustainability/index.php. To learn about its environmental sustainability commitment visit <http://www.warren-wilson.edu/~elc/sustainability/index.php>; and to understand the Strategic Plan commitment to sustainability and environmental responsibility visit www.warren-wilson.edu/info/plan/WWCStrategicPlan.pdf

2. Does your school employ at least one person dedicated to overseeing campus environmental initiatives, such as a sustainability coordinator, or have a sustainability task force or committee? Is the coordinator position part-time or full-time?

We have a designated Chief Sustainability Official who also is the College's finance officer. We also have the Executive Director of the Environmental Leadership Center - devoted to environmental sustainability - which is a full time position that oversees three full time staff and a student crew of 17. The Chief Sustainability Official chairs the Sustainability Working Group - a cross sector campus group that establishes goals and encourages deeper practice of sustainable decision making campus wide. The Environmental Leadership Center director chairs the College's Climate Action Plan and supports multiple environmentally sustainable initiatives throughout the College's Triad of academics, work and service.

3. Does your school have a formal policy to integrate life-cycle cost analysis into plans for constructing or renovating buildings? If yes, please explain.

Yes, the College's new Strategic Energy Management Plan (SEMP) will require life cycle cost analysis of new or existing building retrofits. In addition, the College is reviewing a student-developed proposal to establish a fund for retrofits, using savings from ongoing retrofits (budgeted energy dollars not spent) as its continued revenue stream, to fund new projects. One of the criteria for this fund is a life-cycle cost analysis of all buildings.

4. Has your school made an official commitment to reducing its impact on climate change by setting goals of emissions reductions by a certain date? If yes, does your school have a plan for achieving these reductions? If so, briefly explain the plan.

We are ACUPCC signatories (the first in NC), committed to reducing our GHGs 80% by 2020; we have a detailed Climate Action Plan found at www.warren-wilson.edu/~elc/sustainability/index.php; for the next five years we have set a goal to reduce our electricity by 25%, our natural gas use by 20% and our transportation footprint by 20%; we have action plans that engage the whole campus in this commitment, with a focus on behavior change

and retrofits to the built environment; we provide quarterly reports for the whole community on progress; have dorm energy challenges; a student Energy Services Crew who audits building efficiency; and two Campus Seed Grants programs to incentive student innovation. Details of the plan are here: http://www.warren-wilson.edu/~ELC/New_ELC_Website_/ClimateActionPlan.php. In 2011, WWC received the first annual national award from Second Nature for our Climate Action work and sustainability education as best in the private baccalaureate college category (an award we shared with Dickinson College).

5. Has your school conducted a complete greenhouse-gas-emissions audit of its campus?

We have just completed our 6th annual greenhouse gas emissions inventory of all of campus operations. Our Campus Greening Crew, with staff oversight, a faculty advisor, and an Asheville based IPCC scientist who serves as official science advisor to our inventory and our Climate Action Plan work together to verify accurate data and track our progress.

6. Has your school achieved a reduction in total annual carbon emissions? If yes, please explain and provide the benchmark year and percentage.

The benchmark year for our climate action goals is 2007/2008 because that's the year most of our measurement systems were standardized and it's also the year we began to use Clean Air Cool Planet. 2009/2010 was the first year of our official work on our Climate Action Plan, which we registered with ACUPCC in September 2009. Our target goal was that from 2009-2014/15, we would reduce our greenhouse gas emissions by 25%, from our benchmark year, toward our goal of 80% in 2020. Last year, we reduced our overall greenhouse gas emissions by 16.5% but not in the areas we hoped to effect the most change - electricity and natural gas. We are giving more attention to these areas now and hope that with the sequential approach detailed in the Strategic Energy Management Plan we will be more successful.

Category 9: Financial Investments

1. Is all information about your school's endowment fund publicly available? Briefly explain.

Our endowment fund is managed by the College's Vice President for Finance and Administration (VPAF) along with the WWC Trustees Investment Committee. General information about our endowment is available, but not the specifics of how our funds are invested.

2. Does your school have an investment-responsibility committee that considers and acts on environmental issues? If so, provide key examples of actions it has taken.

No

3. Does your school have, or is it planning to implement, a formal policy that restricts or prohibits investments in fossil fuels? If yes, briefly explain.

This is not under consideration at this time.

4. What percentage of your school's overall endowment is invested in companies or funds that further renewable energy and clean technology?

_____ % **This is not disclosed.**

Category 10: Other Initiatives

1. Have any of your school's students effected positive environmental change on a campus, state, or national level? If so, please describe. (To nominate a specific student for greater attention in our coverage, please email cool.schools@sierraclub.org with his or her name, accomplishments, and contact information. For privacy reasons, please do not include students' contact information here).

Since last year, our students received Campus Greening Seed Grants and designed and installed water cachment systems for the Environmental Studies building and the Garden greenhouses to ensure watering with rain water. They built a prototype work tricycle capable of transporting 2 people and their tools to be used in place of on-campus work vehicles. They built a large hoop house in the Garden to extend the growing season to supplement the cafeteria with produce. Some students were HERS certified on campus and they performed building energy audits to prioritize campus retrofit plans. They successfully petitioned the College administration for the creation of a renewable energy fund. They helped write a campus Sustainable Food Policy. They planted a 5-acre native grass and wildflower nursery to grow plants for the North Carolina Forest Service's remediation efforts. They refurbished a GREENDUM in-vessel composter to increase campus composting capability. They conducted a life-cycle analysis of paper use on campus to promote paper use reductions. They authored the 2010 WWC greenhouse gas emissions inventory. They are supporting our Nebraska Books campus store to make more sustainable purchases by analyzing the life cycle cost of apparel sold in the store. They provided the research for the College's new Sustainable Practices Guide: www.warren-wilson.edu/~elc/sustainability/Sustainable%20Practices%20Guide%201%2020%2011.pdf Warren Wilson College has a formal climate action and sustainability partnership with the City of Asheville, signatories of the Mayoral Climate Agreement. Warren Wilson students have served as interns in the City's Sustainability Office and the Transportation Office this past year, helping to develop plans for the City to advance it's sustainable practices.

2. Have students participated in regional or national environmental challenges or events such as the Solar Decathlon or environmental design contests? If so, which events and how did they do?

Seven Warren Wilson College students who presented their research at the annual meeting of the N.C. Academy of Science in March have been awarded Derieux Prizes for Excellence in Undergraduate Research: Taija Ventrella, second place, chemistry and biochemistry; Amy Wagner, first place, and Octavia Sola, third place, zoology; Jesse Rickard, first place, and Linden Blasius, second place, environmental science; and Laurel Thwing, second place, botany. Over the years Warren Wilson students have won more N.C. Academy of Science awards for papers on their research than students from any other college or university in the state. Many of the research topics are environment-related. Here is Blaisus' project:

“My research focuses on the growth response of *Rosa multiflora* (multiflora rose) to increased CO₂ (carbon dioxide) in the atmosphere. I also wanted to find out whether increased CO₂ affects *Rosa multiflora*'s shade tolerance, because shade tolerance is the main factor preventing *Rosa multiflora* from invading intact ecosystems. If *Rosa multiflora* gained the ability to grow in heavily shaded environments, it would become a much greater invasive threat to future forest management. To conduct my study I constructed a small microcosm in the Warren Wilson science greenhouse and pumped in CO₂. Inside the microcosm I grew *Rosa multiflora* cuttings for a semester, then harvested them, and carefully weighed each rose's stem, leaves, and roots to see how much each rose grew. The results of my study indicate that, in the short term, CO₂ does not affect *Rosa multiflora*'s shade tolerance or growth.”

The College participated in Recyclemania this year. We came in 35th out of more than 230

institutions, by their measure.

One student was awarded a fellowship from the National Wildlife Federation to attend a recent meeting where students from institutions around the nation helped the NWF review its programs.

3. Has your school set aside part of its campus as natural habitat, stipulated limited campus development, or enacted programs preserving its land? If so, please explain.

Yes. WWC's 1,100 acres is a working landscape. The Forest Management Plan, Land Use Pattern Language, Landscaping Pattern Language and Wildlife and Biodiversity Pattern Language all stipulate that diverse habitat preservation and restoration is an essential conservation goal and minimal impact campus development is necessary to ensure plant, animal, and water-way health. See these pattern language campus principles here: www.warren-wilson.edu/environmental/sustainability/patternlanguage.php. The Land Managers for Forest, Farm and Garden have implementation plans that honor College Land Use principles including preserving the rural character of the land and making land use decisions that prioritize the educational value of the land and its rich biodiversity above all other uses. Campus development is planned carefully. In addition, approximately 6 miles of riparian buffers are set aside, approximately 70 acres of forest (one tenth total) are designated as wilderness, approximately 6 areas of green space are designated as part of LEED green building certifications. The College's new "One Mission...One Land" land use plan carefully sets describes conservation and limited, prescribed development for the campus.

4. Does your school adhere to an indoor air-quality policy (e.g., the mandated use of nontoxic cleaning supplies or paints)? If yes, describe the policy.

All paints and sealers are low to zero VOC content, We are Green Seal certified and only use those products, with the exception of a small percentage of use of mildew retardants on an as-needed basis; we prohibit the use of tobacco in any building and within 25 ft of any building; use HEPA vacuum cleaners; follow an Indoor Air Quality Protocol and Safety Program; follow procedures for maintenance of air quality prescribed by LEED EB 10.3 for all buildings; have an air quality protocol to remediate, if necessary. All new and retrofitted buildings in the past 10 years are equipped with energy recovery ventilators.

5. Does your school offer outdoor- or field-based classes or academic programs? If so, please list and describe up to three. (To nominate a specific program for greater attention in our coverage, please email cool.schools@sierraclub.org with a detailed description and the program coordinator's contact information.)

Yes: 1) Outdoor Leadership Studies Department: The mission of the Outdoor Leadership Studies Program is to prepare graduates who will have the academic background, skills, and experience necessary to analyze, plan, implement, administer, and supervise outdoor adventure education programs.

The goals of the Outdoor Leadership program are the following:

- **To develop leaders who understand the moral responsibilities of leadership and are prepared to exercise leadership in service to the world.**
- **To prepare leaders who understand their relationship to the natural world and the responsibility that entails and who are prepared to exercise environmental stewardship.**

- To provide students with experiences and skills that will enable them to gain meaningful employment or enter graduate schools.

2) Outdoor Programs: Outdoor Programs provides outdoor trips, activities and technical skills workshops for the college community. A variety of programs are offered, such as backpacking, day hiking, cycling, running, rock climbing, bouldering, caving, surfing, snowboarding, skiing, canoeing, kayaking, and rafting. A majority of the programs are organized and facilitated by student trip leaders who are trained and certified as Wilderness First Responders, as well as having a background in leading and teaching groups in an outdoor setting. Many Trip Leaders are seeking their major in Outdoor Leadership and instruct with the program to further their level of technical skills as well as gaining greater competence in working as group facilitators. Weekend programs and weekly activities are usually free to students, staff, faculty and volunteers at the college. Extended programs over break periods are offered at an inexpensive cost to students. One credit classes are offered in canoeing, kayaking, rock climbing, top rope site management, backpacking, orienteering, outdoor recreation and winter camping. Outdoor Programs provides gear rental to the college community. Tents, tarps, backpacks, sleeping pads and rain gear are available at little or no cost. White Gas, parachute cord, and various camping essentials are also available for purchase. The Community Bicycle Shop is also part of Outdoor Programs. Community Cycles provides bicycles for general use on campus, conducts bicycle maintenance workshops, and services bicycles for members of the college community. The mission of the Community Bicycle Program is to encourage the use of bicycles as an alternative means of transportation that promotes physical well-being and environmental stewardship. Bryson Gym (the oldest gymnasium in Western North Carolina) houses the climbing wall and the community bicycle shop.

3) Environmental Studies Department: The mission of the Environmental Studies Department is to provide an understanding of the applications of theory to problem solving through first-hand knowledge and field experience. We seek to help students learn not only the what and the how, but the why. Graduates are prepared for advanced study or to enter various job markets after completing their Bachelors Degrees.

The goals of the Environmental Studies Program are the following:

1. To offer the environmental studies major within the context of Warren Wilson College's Triad of the liberal arts, work, and service.
2. To provide students with opportunities to develop a broad understanding of environmental studies.
3. To provide students with opportunities to concentrate study in a particular area of interest within environmental studies.
4. To provide students with opportunities to improve their abilities to think critically, apply theoretical knowledge to real-world problems, and communicate ideas.
5. To provide preparation and guidance for students who wish to pursue graduate or professional study or directly enter environmental studies careers.

6. Does your school offer campus-sponsored, nature-based extracurricular activities to students and/or faculty? If yes, please list and describe up to three.

Yes. And all of these activities are open to the entire community. 1) Our Outdoor Program- www.warren-wilson.edu/~outdoors/- offers hiking, climbing, paddling, biking for the community. 2) The Wellness program -www.warren-wilson.edu/~wellness_office/index.php- offers programming from yoga, to wildflower/mushroom identification programs for the community. 3) Our Outdoor

Leadership dept (one of the biggest majors on campus) offers classes in every aspect of outdoor programming. 4) Our Environmental Leadership Center and Alumni Office offer periodic expeditions to wild and beautiful places. 5) Our Athletics Dept has intramural teams in Ultimate Frisbee/Mtn. Biking/Swimming, etc. many of which provide outdoor activity; our rural campus is rich. 6) And our Spiritual Life Office leads meditation and reflection groups at our beautiful campus locales.

7. What specific actions, if any, has your school taken to improve its environmental sustainability since spring 2010? Please list and describe.

The College's new strategic plan (May 2010) declares Sustainability a Core Value and its 5-year action plan that targets 8 strategic objectives includes environment and sustainability as one objective. There are numerous action items that will fulfill the College's 5 year goals for increased environmental sustainability and these may be viewed here: <http://www.warren-wilson.edu/info/plan/WWCStrategicPlan.pdf>. A College-wide campaign has formed - the Paper Reduction initiative- to reduce paper use and increase paperless teaching practices campus-wide. . See http://www.warren-wilson.edu/~elc/New_ELC_Website_/The_Life_Cycle_of_Paper/main.php. The Service Learning Program has agreed to serve as the campus case study for transformation to sustainable practices in behavior and the built environment. They will use the College's new Sustainable Practices Guide as one basis for transformation- <http://www.warren-wilson.edu/~elc/sustainability/Sustainable%20Practices%20Guide%201%2020%2011.pdf>. The College has initiated a Sustainability Recognition Program - <http://www.warren-wilson.edu/~elc/sustainability/Sustainability%20Recognition%20Program%201%2024%2011.pdf>. The Fiber Arts Crew is assisting with recycling clothes in the FreeStore by making rag rugs that they sell to the public. The student Energy Services Crew has conducted energy audits of several buildings on campus and have begun retrofits on targeted aging buildings. Several students on the Plumbing Services Crew are being certified Green Plumbers. They will ensure that campus-wide, plumbing practices are more environmentally sustainable. Sodexo Dining Services is working with the College team that developed the Sustainable Foods Policy to increase purchase of local foods, including funding the construction of a new 3000 sq ft hoop house to extend the growing season in the WWC Garden.

8. Use this space to address any other unique or interesting sustainability initiatives at your school that have not already been mentioned:

USA Today featured WWC on 4/20/2011 in an article announcing the Princeton Review's Green School Listing. WWC achieved the Green Honor Roll for the REview and the USA Today article said that you can see, smell, and feel sustainability on the campus. USA Today's new "Your Life/Guide to Green Living" gives Warren Wilson almost half the copy space in its article on higher education. This will be on the stands by June 1. The College maintains a Green Calendar for the public, linked from media outlets and nonprofits, of regional environmental and sustainability events: http://www.warren-wilson.edu/~elc/New_ELC_Website_/Green_Calendar.php. The Swannanoa Journal -www.warren-wilson.edu/~ELC/New_ELC_Website_/Swannanoa_Journal.php- is WWC's weekly public radio program airing in a 5-state region with environmental sustainability essays written and recorded by WWC students; WWC students teach EcoTeam environmental education curriculum to more than 80% of the county's third graders including 2 new lessons funded by Progress Energy on Energy and Climate -www.warren-wilson.edu/~elc/ecoteam/; WWC has a formal climate action

partnership with the City of Asheville and engages in many activities such as weatherization skills workshops, internships, exchange of best climate action practices, etc.-
www.warren-wilson.edu/~ELC/New_ELC_Website_/ashevillespartnership.php; WWC's Green Walkabout introduces more than 400 visitors a year to its sustainable practices including many other higher ed institutions - www.warren-wilson.edu/~ELC/New_ELC_Website_/Green_Walkabout.php; WWC's Sustainability Speakers Series is free and open to the public and the WWC community and from 3/10 to 3/11 hosted these speakers on campus: Anita Brown Graham of NC's Institute for Emerging Issues, Bill McKibben, Lester Brown, Mallory McDuff, and Jeff Biggers; Commencement speaker this year is Sylvia Earle; fall 2011 Sustainability Speakers confirmed thus far are cutting edge architect Neil Chambers, Cornell's Dr. David Pimentel, and renowned botanist Peter Raven; WWC holds an annual Mountain Green conference each summer to promote sustainable development of our mountain region for hundreds of builders, architects, engineers, green business vendors, realtors, energy experts, and policymakers. Last summer's conference focused on aging in place and the keynote was well-known green gerontologist Dr. Bill Thomas. This June we are partnering with MAHEC health systems to focus on healthy, sustainable communities and build sustainability bridges to the medical community: <http://warren-wilson.edu/blogs/mtnngreen/about/>; WWC's Sustainability Internship Program--www.warren-wilson.edu/~ELC/New_ELC_Website_/internship.php- offers WWC students paid, mentored summer work with some of the finest environmental sustainability organizations in the Americas; WWC students started the INSULATE! program in 2007 to work with community partners to weatherize homes and 16 faculty led their classes this academic year on weekend trips to weatherize the homes of families living below the poverty level- see www.warren-wilson.edu/~ELC/New_ELC_Website_/insulate/home.php; WWC's Fiber Arts Crew is making Plarn bags for sale out of recycled grocery bags; WWC students received Campus Greening Seed Grants to install a living vegetative roof on a new student-built cob building and to make bird reflectors out of used CDs to put on the large windows to help migrating birds avoid them; the College has received two generous grants to fund interdisciplinary sustainability curriculum, with one in spring 2010 - a collaborative grant with Furman University. The theme for the grant funded curriculum this year is Energy and two courses this semester - "Coal" and Re-Envisioning the City are supplemented by "energy-related" Sustainability Internships offered to students this summer. WWC has been selected as the only private liberal arts college in the US to have a chapter about its sustainability education in a UNESCO - inspired book to be printed in fall 2011. WWC writing professor Catherine Reid is writing this chapter.