**Environmental Sustainability:**  
*Academic resources, degrees, courses, research, and service*

**Library**

[WSU Vancouver's library](http://directory.vancouver.wsu.edu/people/steve-fountain) has more than 800 journals in hardcopy; over 9,000 fulltext online journals and newspapers; a more than 20,000 books; access to more than 100 major bibliographic databases; and knowledgeable research support. It also houses the [Environmental Information Cooperative Library](http://directory.vancouver.wsu.edu/people/daniel-jaffee).

**College of Liberal Arts**

**Courses**

**History 409, American Environmental History**  
A history of environmental changes, ideas of nature, natural resource development, conservation politics, science and environmental policy.

**History 494, Global Environmental History**  
Historical dynamics of human communities and their ecological settings.

**Sociology 375, Aspects of Sustainable Development**  
Ecological, economical, and sociological aspects of sustainable development.

**Sociology 391, Special Topics: Food and Society**  
This course focuses on the relationship between food systems, agriculture, and environmental sustainability.

**Faculty**

Steven Fountain, Ph.D., Visiting Assistant Professor of History,  
[http://directory.vancouver.wsu.edu/people/steve-fountain](http://directory.vancouver.wsu.edu/people/steve-fountain)

Daniel Jaffee, Ph.D., Assistant Professor of Sociology,  
[http://directory.vancouver.wsu.edu/people/daniel-jaffee](http://directory.vancouver.wsu.edu/people/daniel-jaffee)

**Faculty service projects**

Dr. Fountain is on the Board of the Salmon Creek Watershed Council and is their stream clean-up coordinator.

**College of Science/School of Environment and Earth Sciences**

**Degrees**
Bachelor of Science in Biology

Bachelor of Science in Environmental Science

Master of Science in Environmental Science

Courses (examples)

**Biol 106, Introductory Organismal Biology**
The course is oriented around the Campus Theme of “Global Change in a Local Context” by using relevant local/regional examples for discussion of important concepts in organismal biology.

**Biol 308, Marine Biology**
This course focuses on the ways humans are impacting marine biologic resources, such as fish populations.

**ES/RP 101, Environment and Human Life**
The course covers global climate change & carbon budgets and storm water management, as examples.

**ES/RP 410, Global Biogeochemistry**
Cycles of biogeochemically important elements and anthropogenic changes to those cycles in terrestrial and aquatic environments on a global scale.

**ES/RP 444/544, Environmental Assessment**
The course focuses on environmental protection as implemented through the National Environmental Policy Act (NEPA) of 1969, and on sustainability through various lectures and real-world exercises on environmental policy, public meetings, conflict resolution, and environmental justice.

**ES/RP 490, Introduction to Earth Systems Science**
Explores case studies highlighting principles from Earth system science and application of these principles to current environmental problems.

**ES/RP 490/592, Human Health and the Environment**
The course addresses biomes and ecosystems, human populations, environmental degradation, food security and foodborne illnesses, environmental and emerging disease, toxicity, toxins and pests, air and water pollution, waste management and environmental laws.

**ES/RP 492/592-04, Watershed Biochemistry**
Presents biogeochemical concepts followed by application of these concepts to solve environmental problems.
Geol 230, Introduction to Ocean Science
This is an interdisciplinary course focused on the ocean and its ecosystems, and includes discussions and inquiry into human impacts on the marine environment.

Sci 220, DNA Today
This course includes discussions of the need to preserve species because of their DNA, and how DNA can be used to determine how much genetic diversity is present in a population which correlates with the number of living individuals.

Faculty research laboratories

Aquatic Ecology (Coastal & Estuarine Ecology Lab and Microbial Aquatic Ecology Lab)
Steve Bollens and Gretchen Rollwagen-Bollens Research Laboratories
http://research.vancouver.wsu.edu/aquatic-ecology-lab

Agroecology and Urban Ecosystems
M. Jahi Chappell Research Laboratory
http://directory.vancouver.wsu.edu/people/michael-chappell

Benthic Ecology
Brian Tissot Research Laboratory
http://research.vancouver.wsu.edu/benthic-ecology-laboratory

Conservation Biology
Cheryl Schultz Research Laboratory
http://research.vancouver.wsu.edu/cheryl-schultz

Global Change and Watershed Biogeochemistry
John Harrison Research Laboratory
http://research.vancouver.wsu.edu/gcwblab

Lepinus lepidus on Mt. St. Helens (Ecological Research at Mount St. Helens)
John Bishop Research Laboratory
http://research.vancouver.wsu.edu/lupinus-lepidus

Reproductive Molecular Biosciences
Steve Sylvester Research Laboratory
http://directory.vancouver.wsu.edu/people/steve-sylvester
Salmonid Genetics
Ruth Phillips Research Laboratory
http://directory.vancouver.wsu.edu/people/ruth-phillips

Waves, Currents, and Sediment Transport in the Coastal Waters/Ocean
(Geophysics Research at WSU Vancouver)
Steve Henderson Research Laboratory
http://research.vancouver.wsu.edu/stephen-henderson

Faculty service projects

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<th>Faculty member</th>
<th>Service project or activity with a focus on sustainability</th>
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| John Harrison, Ph.D. Assistant Professor, SEES, COS | “North American Chair of the UNESCO/IOC Nutrient from Watersheds 2 User Scenario Evaluation (NEWS2USE)  
“Earth Systems Modeling (EaSM) project focused on Pacific NW region  
“EPA Ecosystem Services Research Program (nitrogen focus)  
“Lacamas Lake Research Project”                                                                 |
| Steve Sylvester, Ph.D. Associate Professor, SMB, CVM | “Observing the decline of science, math and engineering in the United States is very disturbing to me, thus I contribute to sustaining the country’s position as a world leader by speaking in junior and senior high classrooms about careers in science. I have been a foster-mentor to two high school teachers in the Murdock "Partners in Science" program over the past three summers and work with a few other regional teachers. One high school student that worked in my lab last winter submitted his science project to State level competition while another submitted at the national level (Siemens/Westinghouse). Further I am a member of the Evergreen School District's committee on facilities and equipment to create a new Health and Biosciences magnet so as to increase the pipeline to related careers.”                                                                 |
| Gretchen Rollwagen-Bollens Clinical Associate Professor SBS/SEES, COS | ‘Partners in Discovery of the Columbia River Watershed GK-12 Project: I am Project Director and lead-PI for this 5-year $2.7 million project funded by the National Science Foundation, which partners WSUV Environmental Science graduate students with 6th-9th grade science teachers in local school districts for full year, one-on-one partnerships in the teachers’ classrooms. The graduate student GK-12 Fellows bring their research and their science expertise into the classroom and the teachers bring their pedagogic expertise, and together they adapt the curriculum to engage middle school kids in authentic...”                                                                 |
scientific inquiry about the natural world right outside their school. Each Fellow-teacher pair (there are 10 pairs this year, with two more years to go) brings their students to a location near the school to conduct water quality research projects, and the kids learn inquiry skills and how their own actions at school may be impacting the environment both locally and further “downstream.”