ANTH 300/ENV STDS 390
Human Dimensions of Biological Conservation
Spring 2009

Instructor:	**Dr. Stephanie Spehar**
Office:	Arts & Communication 311
Telephone:	424-7073
Email:	spehars@uwosh.edu

Course description
This course will focus on the most central issue in the conservation of biological diversity: people. Human beings are dependent on their natural environments, but they are also the major drivers of almost all threats to biological diversity. This class will examine how this "human dimension" integrates with the conservation of biological diversity. In particular, we will focus on the relationship between the culture of human populations and their interactions with the environment, and how these factors also influence the effectiveness and appropriateness of measures taken to preserve biodiversity. We will focus on international conservation issues, but I will also introduce issues or case studies from the United States to provide local parallels. Throughout, this course will integrate perspectives from conservation biology, which is the scientific study of the factors that affect the maintenance and loss of biological diversity, and environmental anthropology, which examines the interaction between human beings and their natural environments.

In the first part of the course, we will use these perspectives to closely examine the two largest human-generated threats to biodiversity: 1) habitat destruction, in the form of deforestation, fragmentation, and resource extraction; and 2) overexploitation, in the form of hunting and the wildlife trade. We will also touch on other issues related to biodiversity threats, such as population growth and the survival and well-being of indigenous peoples. For each threat, we will use both summaries and case studies to examine the conservation problem and how the culture and economy of people interact with these issues. Throughout we will examine how issues like globalization and power inequities play into the destruction and conservation of biological diversity.

In the second part of the course, we will examine possible solutions to these threats. These can be placed into three major categories: 1) community-based approaches, such as management by local communities and education programs; 2) economic approaches like ecotourism, and 3) the creation of protected areas like parks and reserves. We will closely examine hot-button issues such as the right to self-determination by local people, the effectiveness of ecotourism, and the "parks vs. people" debate. Finally, we will examine the role of global consumer culture in the loss of biological diversity.

The concept of sustainability
A major, overarching theme of this course is the concept of sustainability. Sustainability can be defined as "meeting the needs of the present without compromising the ability of

future generations to meet their own needs." Unless our interactions with the environment are sustainable, we have no hope of conserving biodiversity. As we move through the issues presented in this course, I will ask you to consider the sustainability of human interactions with the environment, and how these interactions could be made more sustainable. It is my hope that by examining the sustainability of human actions and attitudes through case studies, you will gain a deeper understanding of the meaning of sustainability, and will be able to apply this concept to your own lives and your own interactions with the environment.

Required texts:
Townsend, Patricia K. 2000. *Environmental Anthropology: From Pigs to Policies*. Waveland Press.

Other readings have been selected from a variety of sources, and will be available on electronic reserve.

Course goals
My goals regarding the subject matter of this class are threefold: 1) that students develop a deeper understanding of the complexities and challenges of biodiversity conservation, 2) that students understand how human culture and the natural environment interact, how this influences biodiversity conservation, and how to integrate the cultural practices and needs of people into conservation solutions; and 3) that through the examination of conservation issues on both an international and local scale, students will be better able to evaluate the sustainability of their own interactions with the environment.

An equally important goal of this class is to further your liberal arts education. The essence of a liberal arts education is the production of an informed citizen who is interested in growing and learning throughout life and is adept at critical thinking. Therefore, I do not want students to take what they hear or read at face value; you will be encouraged to thoughtfully consider many perspectives and draw your own conclusions.

Course requirements
<u>Attendance and participation</u>
Attendance in this class is required. More than one unexcused absence will affect your participation grade!

Participation in class will be an important part of your grade. Participation will be evaluated through your contribution to regular in-class discussion as well as in the scheduled class panel discussions or debates on selected issues. However, I understand that some people are more comfortable than others speaking in front of groups, and therefore your participation grade will also be evaluated through your participation in small group work and through a variety of other means (e.g., contribution of questions for class discussion or other materials or ideas that I ask you to bring to class, in-class work, and other assignments). I hope, however, that we can work together to create a class environment where everyone feels comfortable and safe participating in class discussions.

Homework assignments

I ask students to submit 9 out of 10 homework assignments. These assignments are designed to make sure you are keeping up with lectures and reading assignments, and will take a variety of formats; some will involve answering questions or enumerating on points raised in the week's readings or lectures, some will involve out-of-class work such as interviews, watching films, or visiting locations, and some will involve thinking of the connection between an international conservation issue and your own lives. The details of these assignments will be announced in class and their due dates are clearly marked on the syllabus.

Position papers

Students will be required to write 2 out of 3 possible short (2-3 pages) position papers based on issues and readings covered in class. These papers will require that you take a position on an issue and defend it. These papers will grow out of in-class panel discussions or debates that are scheduled through the semester.

Term paper and presentation

Each student will be required to write a 10-15 page research paper on an issue related to biodiversity conservation. I will not be assigning topics; you should choose a topic that interests you and that can be reasonably examined in 10-15 pages. I expect students to use at least 10 scholarly sources while writing this paper. I have devoted a class meeting to reviewing how to do research and write a research paper.

Students will also be required to give a 10 minute presentation based on their research paper at the end of the semester.

Grading

Attendance and participation: (includes class discussion, participation in class panels, and other assignments)	15%
Position papers (2) :	15%
Homework assignments (9):	15%
Term project: (includes presentation, term paper and bibliography)	25%
Exams (2):	30%

Changes to the syllabus and course schedule

I will do my very best to adhere to the syllabus and course schedule; however, I reserve the right to change topic, dates, readings, etc. due to unforeseen circumstances! You will always be notified of these changes in class, and changes will also be posted on D2L. You are responsible for any changes to the syllabus or course schedule that are announced in class and are posted on D2L

Course schedule

NOTE: PT= Patricia Townsend, *Environmental Anthropology: From Pigs to Policies*.

Week	Date	Topics and readings
		Part 1: Biodiversity, conservation, and the human dimension: An introduction to terms and theoretical concepts
1	2/2	Introduction to the course
	2/4	<u>What is biodiversity</u>? Readings: Groom, M. Meffe, G. & Carroll, C. 2006. "What Is Conservation Biology?" and "Global Biodiversity: Patterns and Processes." In *Principles of Conservation Biology*. Sinauer. Myers, N. et al. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403:853-858.
	2/6	<u>Why does biodiversity matter</u>? Readings: Kellert, S. 1996. Values. In *The Value of Life: Biological Diversity and Human Society*. Island Press. Ehrenfeld, D. 1988. Why put a value on biodiversity? In *Biodiversity*, E.O. Wilson (ed.). National Academy Press. Wilson, E.O. 2006. Why care? In *The Creation: An Appeal to Save Life on Earth*. W.W. Norton and Company. O'Riorden, T. 2002. Protecting beyond the protected. In *Biodiversity, Sustainability, and Human Communities*. Cambridge University Press.
2	2/9	<u>What is conservation? Contrasting views and attitudes about the value and practice of conservation</u> Readings: Callicott, J. 2006. Conservation values and ethics. In *Principles of Conservation Biology.* Sinauer. Salafsky, N., R. Margoluis, K.H. Redford and J.G. Robinson. 2002. Improving the practice of conservation: a conceptual framework and research agenda for conservation science. *Conservation Biology* 16(6):1469-1479. **DUE: Homework assignment #1**
	2/11	<u>What is conservation? cont.</u> Readings: Erlich, P. 2002. Human natures, nature conservation, and environmental ethics. BioScience 52: 31-43. Cohn, J.P. 1988. Culture and conservation. *BioScience* 38:450-453.

		Balmford, A. et al. 2002. Economic reasons for saving wild nature. *Science* 297: 950-953. Costanza, et al. 1997. The value of the world's ecosystem services and natural capital. *Nature* 387: 253-260. Review these websites: Society for Conservation Biology: https://www.conbio.org/AboutUs/ Foundation for Deep Ecology: http://www.deepecology.org/mission.htm **Class panel discussion: What should we conserve, and why?**
	2/13	The human dimension: An introduction to the study of human interactions with the environment Readings: PT, Chp 1-4 Steward, J. 1955. The concept and method of cultural ecology. In *Theory of Culture Change: The Methodology of Multilinear Evolution.* University of Illinois.
3	2/16	The human dimension cont. Readings: Excerpts from Nazarea, V.D. 1999. *Ethnoecology: Situation Knowledge/Local Lives*. University of Arizona Press. Moran, E. 1990. Ecosystem ecology in biology and anthropology. In *Ecosystem Approaches in Anthropology*. University of Michigan Press. Kottak, C.P. 1999. The new ecological anthropology. *American Anthropologist* 101: 23-55 **DUE: Homework assignment #2**
	2/18	An introduction to the concept of sustainability Readings: Fricker, A. 1998. Measuring up to sustainability. *Futures* 30. Callicott, J.B. and K Mumford. 1997. Ecological sustainability as a conservation concept. *Conservation Biology* 11: 32-40.
	2/20	How to write a research paper Visit to the library
		Part 2: Human-generated threats to biodiversity
4	2/23	An introduction to the major threats to biodiversity Readings: Lovejoy, T.E. 2002. Biodiversity: Threats and Challenges. In

		Biodiversity, Sustainability, and Human Communities. Cambridge University Press. Jenkins, M. 2003. Prospects for biodiversity. *Science* 302: 1175-1177. Wilson, E.O. 2006. The Pauperization of the Earth. In *The Creation: An Appeal to Save Life on Earth*. W.W. Norton and Company. **DUE: Position paper #1**
	2/25	<u>Introduction to habitat fragmentation and destruction</u> Readings: Moulton, M.P. & Sanderson, J. 1999. Evil quartet 2: Habitat fragmentation and destruction. In *Wildlife Issues in a Changing World*. Lewis Publishers. Laurance, W.F. 1999. Reflections on the tropical deforestation crisis. *Biological Conservation* 91:109-117. Achard, F., et al. 2002. Determination of deforestation rates of the world's humid tropical forests. *Science* 297:999-1002 Robinson, et al. 1995. Regional forest fragmentation and the nesting success of migratory birds. *Science* 267:1987-1990.
	2/27	<u>Habitat fragmentation and destruction I: Agriculture and ranching</u> Case study: Central and South America Readings: Moran, E.M. 1993. Deforestation and Land Use in the Brazilian Amazon. *Human Ecology* 21:1-21. Edelman, M. 1995. Rethinking the Hamburger Thesis: Deforestation and the Crisis of Central America's Beef Exports. In *The Social Causes of Environmental Destruction in Latin America*. Stonich, S.C. and DeWalt, B.R. 1996. The Political Ecology of Deforestation in Honduras. In *Tropical Deforestation: The Human Dimension*. Columbia University Press.
5	3/2	<u>Habitat fragmentation and destruction II: Logging</u> Case study: Indonesia Readings: Putz et al. 2001. Tropical forest management and conservation of biodiversity: an overview. *Conservation Biology* 15:7-20. Curran, L.M. et al. 2004. Lowland forest loss in protected areas of Indonesian Borneo. *Science* 303:1000-1003 Kinnaird et al. 2003. Deforestation trends in a tropical landscape and implications for endangered large mammals. *Conservation Biology* 17: 245-257. **DUE: Homework assignment #3**

	3/ 4	<u>Habitat fragmentation and destruction III: Sustainable logging and timber certification?</u> Readings: Meijaard, E. et al. 2006. Wildlife conservation in Bornean timber concessions. *Ecology and Society* 11. Marshall, A.J. et al. 2006. The blowgun is mightier than the chainsaw in determining population density of Bornean orangutans (*Pongo pygmaeus morio*) in the forests of East Kalimantan. *Biological Conservation* 129:566-578. Bennett, E.L. 2000. Timber certification: where is the voice of the biologist? *Conservation Biology* 14:921-933 **Class panel discussion: Do you think that logging can ever be compatible with preserving biodiversity? Why or why not?**
	3/ 6	<u>Introduction to overexploitation</u> Readings: Moulton, M.P. & Sanderson, J. 1999. Evil Quartet 1: Overexploitation. In *Wildlife Issues in a Changing World*. Lewis Publishers. Bennett, E.L. & Robinson, J.G. 2000. Hunting for the Snark. In *Hunting for Sustainability in Tropical Forests*. Columbia University Press. Milner-Gulland, E.J. & Bennett, E.L. 2003. Wild meat: the bigger picture. *Trends in Ecology & Evolution* 18: 351-357
6	3/9	<u>Overexploitation I: Subsistence hunting</u> Case study: The Amazon Readings: Peres, C. 2000. Effects of subsistence hunting on vertebrate community structure in Amazonian forests. *Conservation Biology* 14: 240-253. Mena, P. et al. 2000. The sustainability of current hunting practices by the Huaorani. In *Hunting for Sustainability in Tropical Forests*. Columbia University Press. Townsend, W. 2000. The sustainability of subsistence hunting by the Siriono Indians of Bolivia. In *Hunting for Sustainability in Tropical Forests*. Columbia University Press. **DUE: Homework assignment #4**
	3/11	<u>Overexploitation II: Commercial hunting and the bushmeat trade</u> Case study: West and Central Africa Readings: McRae, M. 1997. Road Kill in Cameroon. *Natural History*. Wilkie, D. et al. 2000. Roads, Development, and Conservation in the

		Congo Basin. *Conservation Biology* 14: 1614-1622. Eves, H. & Ruggiero, R. 2000. Socioeconomics and sustainability of hunting in the forests of Northern Congo (Brazzaville), In *Hunting for Sustainability in Tropical Forests*. Columbia University Press. Fa, J.E. et al. 2002. Bushmeat consumption and preferences of two ethnic groups in Bioko Island, West Africa. *Human Ecology* 30:397-416.
	3/13	<u>Overexploitation III: Solving the bushmeat crisis</u> Readings: Robinson, J.G. & Bennett, E.L. 2002. Will alleviating poverty solve the bushmeat crisis? *Oryx* 36: 332-332 Bodmer, R. & Puertas, P.E. 2000. Community-based comanagement of wildlife in the Peruvian Amazon. In *Hunting for Sustainability in Tropical Forests*. Columbia University Press. Anderson, W. 2000. *Tribal Whaling Poses a New Threat*. **Class panel discussion: Should hunting be allowed, and when? Who should decide? What are possible solutions?**
7	3/16	<u>Overexploitation IV: The wildlife trade</u> Readings: Webster, D. 1997. The looting and smuggling and fencing and hoarding of impossibly precious, feathered and scaly wild things. *The New York Times Magazine*, February 16, 1997. Moulton, M.P. & Sanderson, J. 1999. The harvesting of wildlife. In *Wildlife Issues in a Changing World*. Lewis Publishers. Thorbjarnarson, J. 1999. Crocodile tears and skins: international trade, economic constraints, and limits to sustainable use of crocodilians. *Conservation Biology* 13: 465-470. Ginsberg, J. 2002. CITES at 30 or 40. *Conservation Biology* 16: 1184-1191. **DUE: Homework assignment #5**
	3/18	<u>Overexploitation IV: The role of traditional medicine and beliefs</u> Case study: China and SE Asia Readings: Nowell, K 2000. *Far from a cure: The tiger trade revisited.* Meijaard, E. 1999. Human-imposed threats to sun bears in Borneo. *Ursus* 11: 185-193. Website to review: www.indotalisman.com/bezoarmustikapearls/monkey.html **Class panel discussion: What are possible solutions to the conflict**

		between traditional beliefs and wildlife conservation?
	3/20	Population growth: A threat to biodiversity? Readings: PT, Chp 9 Excerpts from Erlich, P. 1990. *The Population Explosion*. Simon & Schuster. Ethelson, S. 1994. Gender, Population, Environment. *Middle East Report*, 1-32. Cohen, J.E. 2003. Human population: the next half century. *Science* 302:1172-1175. Cincotta, R.P., J. Wisnewski, and R. Engelman. 2000. Human population in the biodiversity hotspots. *Nature* 404:990-992.
8	3/23-3/27	**SPRING BREAK**
9	3/30	Indigenous Communities and Biodiversity I: Health and Representations Readings: PT, Chp 7 & Chp 10 Brosius, J.P. 1997. Endangered Forest, Endangered People: Environmentalist Representations of Indigenous Knowledge. *Human Ecology*: 47-69. **DUE: Homework assignment #6**
	4/1	Indigenous Communities and Biodiversity II Case study: Petroleum in Ecuador Readings: Excerpts from Kane, J. 1996. *Savages*. Vintage. Excerpts from Sawyer, S. 2004. *Crude Chronicles: Indigenous Politics, Multinational Oil, and Neoliberalism in Ecuador.* Duke University Press.
	4/3	**EXAM 1**
		Part 3: The human-generated solutions
10	4/6	What do we mean by sustainability? Sustainable development vs. sustainable use. Readings: Oates, J.F. 1999. Conservation falls in love with economic development. In *Myth and Reality in the Rain Forest: How Conservation Strategies are Failing in West Africa*. University of California Press. Schaller, G.B. 2000. Foreword. In *Hunting for Sustainability in Tropical Forests*. Columbia University Press

		DUE: Position paper #2
	4/8	Community-based conservation I: Increasing social capital Readings: Pretty, J. & Smith, D. 2004. Social capital in biodiversity conservation and management. *Conservation Biology* 18: 631-638. Campbell, L.M. & Vainio-Mattila, A. 2003. Participatory development and community-based conservation: opportunities missed for lessons learned. *Human Ecology* 31: 417-437. Berkes, F. 2004. Rethinking community-based conservation. *Conservation Biology* 18(3): 621-630.
	4/10	Community-based conservation II: Community management Readings: Berkes et al. 1989. The benefits of the commons. *Nature*. 340: 91-93. S. Atran et al. 1999. Folkecology and commons management in the Maya Lowlands. *Proceedings of the National Academy of Sciences* 96: 7598-7603. Case study: The Ghana Hippo Initiative Adjewodah, P. & Beier, P. 2004. Working with traditional authorities to conserve nature in West Africa. Asase et al. 2006. Engaging people in the Wechiau Community Hippopotamus Sanctuary in Ghana. In *The Nature of Success: Success for Nature*. **DUE: Topic proposal for term paper**
11	4/13	Community-based conservation III: Challenges of community management Readings: Dietz, T., E. Ostrom and P.C. Stern. 2003. The struggle to govern the commons. *Science* 302: 1907-1912. Noss, A.J. 1997. Challenges to nature conservation with community development in central African forests. *Oryx* 31: 180-188 Haenn, N. 1999. Ethnoecology and environmental conflicts in Mexican conservation. *Human Ecology* 27:477-491. **DUE: Homework assignment #7**
	4/15	Community-based conservation IV: Education programs Readings: Jacobson, S.K. 1995. Introduction: Wildlife Conservation Through Education. In *Conserving Wildlife: International Education and Communication Approaches*. Columbia University Press. Weber, W. 1995. Monitoring Awareness and Attitude in Conservation

		Education: The Mountain Gorilla Project in Rwanda. In *Conserving Wildlife: International Education and Communication Approaches*. Columbia University Press.
	4/17	Ecotourism I: An introduction Readings: Weaver, D. 2001. Chp 1: Criteria and Context. In *Ecotourism*. Wiley. Honey, M. 1999. Ecotourism Today. In *Ecotourism and Sustainable Development: Who Owns Paradise?* Island Press.
12	4/20	Ecotourism II: Is it good for nature? Readings: Weaver, D. 2001. Chp 4: Environmental, Economic, and Socio-cultural Impacts. In *Ecotourism*. Wiley. Honey, M. 1999. Treading Lightly? Ecotourism's Impact on the Environment. *Environment*: 41. Sherman, P.B. and Dixon, J.A. 1991. The Economics of Nature Tourism: Determining If It Pays. In *Nature Tourism: Managing for the Environment*. Island Press. Isaacs, J.C. 2000. The limited potential of ecotourism to contribute to wildlife conservation. *Wildlife Society Bulletin* 28(1):61-69. **DUE: Homework assignment #8**
	4/22	Ecotourism III: Is it good for local people? Case study: Tanzania and Zanzibar Readings: Honey, M. 1999. Tanzania: Whose Eden Is It? In *Ecotourism and Sustainable Development: Who Owns Paradise?* Island Press. Honey, M. 1999. Zanzibar: Ecotourism on a Muslim Island. In *Ecotourism and Sustainable Development: Who Owns Paradise?* Island Press.
	4/24	Ecotourism IV: Can it work? Readings: Norris, R. 1992. Can ecotourism save natural areas? Natural Parks 66(1-2)30-34. **Class panel: Can ecotourism save biodiversity? Should it?**
13	4/27	Protected areas and reserves I: Effectiveness Readings: Ando, A. et al. 1998. Species distributions, land values, and efficient conservation. *Science* 279: 2126-2128. Bruner, A.G., R.E. Gullison, R.E. Rice and G.A.B. da Fonseca. 2001. Effectiveness of parks in protecting tropical biodiversity. *Science* 291:

		125-128. Rodrigues. A.S.L. et al. 2004. Effectiveness of global protected area networks in representing species diversity. *Nature* 428: 640-643. Polasky, S. et al. 2005. Conserving species in a working landscape: land use with biological and economic objectives. *Ecological Applications* 15: 1387-1401 **DUE: Homework assignment #9**
	4/29	<u>Protected areas II: Parks vs. people</u> Readings: Redford, K. et al. 1998. Holding Ground. In *Parks in Peril: People, Politics, and Protected Areas*. From Parks vs. People in *Conservation Biology* 14: 1351-1374, 2000: Schwartzman, S. et al. Rethinking tropical forest conservation: perils in parks, 1351-1357. Terborgh, J. The fate of tropical forests: a matter of stewardship. 1358-1361.
	5/1	<u>Protected areas III: Parks vs. people continued</u> Readings: Excerpts from Terborgh, J. 1999. *Requiem for Nature*. Island Press. From Parks vs. People in *Conservation Biology* 14: 1351-1374, 2000: Chiccon, A. Conservation theory meets practice, 1338-1369. Redford, K.H. & Sanderson, S.E. Extracting humans from nature, 1362-1364. Colchester, M. Self-determination or environmental determinism for indigenous peoples in tropical forest conservation, 1365-1367. Schwartzman, S. et al. Arguing tropical forest conservation: people versus parks, 1370-1374. **Class panel: Self-determination or enforced protection for biodiversity conservation?** **DUE: Preliminary bibliography for term paper**
14	5/4	<u>Consumer societies and globalization I</u> Readings: PT, Chp. 12 Wilk, R.R. 2006. The ecology of global consumer culture. In *The Environment in Anthropology*. New York University Press. **Due: Homework assignment #10**
	5/6	<u>Consumer societies and globalization II</u> Readings: Excerpts from Elgin, D. 1981. *Voluntary Simplicity*. HarperCollins.

		Arrow, K. et al. 2004. Are we consuming too much? *Journal of Economic Perspectives* 18: 147-172. **Class panel: How does our consumption affect the world? Is consumerism sustainable?**
	5/8	Student presentations
15	5/11	Student presentations **DUE: Position paper #3**
	5/13	Student presentations
	5/15	**EXAM 2** **DUE: Term paper**