

# ENVIRONMENTAL CONSERVATION

Geography/EnvSt 339

FALL 2015

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**Course Description.** In this course we study environmental conservation from a geographical perspective reviewing the biophysical, institutional, and socioeconomic dimensions of environmental problems in order to develop more effective conservation solutions. Environmental conservation is itself a social process. Thus we pay careful attention to how changes in values, scientific understandings of nature, economy and politics affect conservation practice. Not only will we trace the major debates in environmental conservation but will also explore how differences in people's biophysical, economic and political surroundings have led to different perceptions of environmental problems and their solutions.

Through this class, you will develop an understanding of the major approaches to environmental conservation, their relative strengths and weaknesses, and how they developed historically. Case material will come from around the world with a historical overview of environmental conservation thought and action in the United States.

We will touch upon a range of environmental issues in this course including: toxic waste, soil erosion, air/water pollution, mining impacts, grazing impacts, wilderness protection, and wetland mitigation but focus on two large and cross-cutting environmental challenges: biodiversity loss and climate change. Aspects of biodiversity protection will be covered in the U.S. context by first covering different ideas and understandings of the need to protect wilderness followed by arguably one of the strongest rule-based conservation policies: the Endangered Species Act. Biodiversity conservation in all its forms (national parks to community-based approaches) in a developing world context will be the focus of weeks 7-10. During this section of the class are closely linked to a role-playing exercise you will participate in within discussion section based on community-based conservation efforts in Tambopata, Peru. Climate change will be the second major focus with differential vulnerability and responsibilities covered in week 6 and various approaches to reduce GHG emissions and vulnerabilities (in WI and elsewhere) in weeks 13-15. A major international climate conference (COP 21) will be held November 30-December 11<sup>th</sup> in Paris, France. We will be following developments at this very important conference and you will be completing a short assignment on what develops at the end of the semester.

**Learning Materials.** Learning materials for this course include readings, on-line modules, and streaming videos. The required materials assigned for each week and unless otherwise stated, you should complete them prior to your discussion section meeting each week. All materials are available through the course's moodle website (<https://ay15-16.moodle.wisc.edu/prod/course/view.php?id=274>). Recommended materials are also listed for some weeks. These materials are only recommended for those of you that wish read further on a particular topic covered in lectures. We have developed on-line modules covering conservation issues related to climate change. These modules are accessible through the course webpage. Following each module, you are expected to take a short 5-question quiz to assess your learning (maximum time allocation being 10 minutes). You will be expected to complete the module (and associated quiz) by the lecture period to which the module is tied.

This is because we build from what you have learned in these modules to do group-based problem solving during lecture periods.

Videos will also be used in this class. Some videos will be shown in lecture and others will be assigned as required viewing (see weeks 3 and 11). These can be accessed through links from our course webpage but please note that these videos can only be streamed on campus through a wired connection. They cannot be viewed off campus, nor can they be viewed with a wireless connection on campus. They CAN be viewed in any campus Computer Labs (also called 'Infolabs', for locations, see <http://www.doit.wisc.edu/computerlabs/labs.aspx>). BRING YOUR EARBUDS for the audio. Access to reserve videos is restricted to students in this course. Students may not copy, share, distribute or otherwise allow or facilitate any unauthorized access to the content or the passwords issued. Individuals who violate this provision will be subject to disciplinary action under the UW-Madison Academic and/or Non-Academic Misconduct Codes. Videos assigned as required reading will have study guides.

You will be tested on the material presented in lectures, videos, required readings and learning modules in exams. In your reading, focus on the author's main arguments and the evidence s/he uses to support his/her arguments. Environmental issues are often controversial, so read critically.

**Grading.** Grades will be determined on the basis of a total of 300 points:

**EXAMS:** 150 points for three exams held during the lecture period: exam 1 on Oct 12<sup>th</sup> covering weeks 1-6; exam 2 on November 16<sup>th</sup> covering weeks 7-10; and exam 3 on December 14<sup>th</sup> covering weeks 11-15. Exams will consist of multiple-choice, T/F and short answer questions. Students must take the exams at the scheduled dates/times. Make-up exams can only be arranged if Prof. Turner is notified in person in advance. *All make-up exams will be composed primarily of essay questions.*

**ASSIGNMENTS AND PARTICIPATION:** 150 points. Discussion section activities are critical parts of this course. There will be one major assignment out of section (Tambopata role play) along with a number of smaller assignments. In addition, your attendance and active participation in discussion and lecture are important. *Your grade will depend partly on how much you enhance the learning experience of your fellow students in discussion section and in lecture.* Therefore attendance is **mandatory**. A syllabus for your discussion section will be given to you at your first section meeting (week 2).

Letter grades for the course will be assigned based on the cumulative percentages of all work (e.g. out of 300 points) using a standard curve (see table to right). The distribution of cumulative scores vary from year to year and therefore in determining grades at the end of the semester, the cumulative score breaks between certain letter grades may be lower than those listed here (e.g. one may receive a higher letter grade than would be expected from the standard curve).

**Graduate students:** Graduate students who take this course will be assessed separately from other students in the course (exams and common work). In addition, extra work will be required. See Professor Turner for details.

Letter Grade	Cumulative %
A	>92
AB	>88
B	>82
BC	>78
C	>69
D	>60
F	≤60

## COURSE OUTLINE AND READINGS

**REQ** = Required materials, content included on exams.

**REC** = Recommended materials offering greater depth on topic but not included on exams.

### WEEK ONE

Sep 2 W – Course Introduction: Population and Institutions

### WEEK TWO

Sep 7 M – NO CLASS

Sep 9 W Values and uncertainty: case of climate change (debating climate change)

**REQ:** Cohen, J. 1998. "How many people can the earth support?" *New York Review of Books* 10/8/98

**REQ:** World Resources Institute. 2003. Environmental governance. Whose voice? Whose choice? in *Decisions for the Earth* pp. 1-12. WRI: Washington, D.C.

### WEEK THREE

Sep 14 M – European conquest and changing nature-society relations in North America

Sep 16 W – Manifest destiny, environmental transformation, and the early roots of conservation thought

**REQ:** Worster, D. 1993. The nature we have lost. pp 3-15 in *The Wealth of Nature*. New York: Oxford Univ. Press.

**REQ:** Thoreau, H.D. 1990. The value of wildness. pgs 36-39 In *American Environmentalism: Readings in Conservation History*, ed. R.F. Nash., New York: McGraw-Hill.

**REQ:** VIDEO: The Wilderness Idea. 1992. (see Video Viewing Instructions)

### WEEK FOUR

Sep 21– Progressive Era conservation

Sept 23 Our public lands

**REQ:** Leopold, A. 1998. Wilderness as a form of land use. In *The Great New Wilderness Debate*, eds. J. B. Callicott and M. P. Nelson, 75-84. Athens: University of Georgia Press.

**REQ:** Pollan, M. 1991. The idea of a garden. In *Second Nature*, pp. 209-238. New York: Dell Publishing

**REQ:** Foreman, D. 2004. Rewilding North America. pp. 128-143 in Foreman, D. *Rewilding North America: A Vision for Conservation in the 21<sup>st</sup> century*. Washington, D.C.: Island Press.

**REC:** Gottlieb, R. 1993. Reconstructing environmentalism: Complex movements, diverse roots. *Environmental History Review*, 17, 1-19

### WEEK FIVE

Sep 28 M – Environmentalism and the 1970s dawn of the environmental movement

Sep 30 W – Environmental justice

**REQ:** Albrecht, V. S., & Christman, J. N. The Endangered Species Act. Retrieved from <http://library.findlaw.com/1999/Jan/1/241467.html> on August 15, 2011. (4 pages)

- REQ:** DuHamel, J. 2010. Repeal the Endangered Species Act. *Tucson Citizen*. October 8, 2010. Retrieved from <http://tucsoncitizen.com/wryheat/tag/esa/page/2/> on August 15, 2011. (3 pages)
- REQ:** The Wildlife Society. 2006. *Final TWS Position Statement: The Endangered Species Act*. Bethesda, MD: The Wildlife Society. (3 pages)
- REQ:** Kay, J. and C. Katz. 2012. Pollution, poverty, people of color: The factory on the hill. *Environmental Health News*, June 4, 2012. <http://www.environmentalhealthnews.org/ehs/news/2012/pollution-poverty-and-people-of-color-richmond-day-1>
- REQ:** Katz, C. and J. Kay 2012. 'We are Richmond.' A beleaguered community earns multicultural clout. *Environmental Health News*, June 5, 2012. <http://www.environmentalhealthnews.org/ehs/news/2012/pollution-poverty-and-people-of-color-richmond-day-2>
- REC:** Hays, S. P. 1990. From conservation to environmentalism. pp 144-152 In *American Environmentalism: Readings in Conservation History*. Edited by R. F. Nash. New York, McGraw-Hill.
- REC:** Andrews, R.N.L. 1999. Chapter 12: Nationalizing pollution control pgs 227-254 In *Managing the Environment, Managing Ourselves: A History of American Environmental Policy*. New Haven: Yale University Press.

## WEEK SIX

Oct5 – Analyzing climate impacts in rich and poor countries

**REQ:** Online module. Climate justice: Climate impacts in developing countries

Oct 7 Determining responsibilities for reducing greenhouse gas emission reductions

**REQ:** Online module. Debating greenhouse gas emission responsibilities

**REQ:** Online module. International climate mitigation history: Kyoto's fate

## WEEK SEVEN

Oct 12 – Exam 1 (Weeks 1-6)

Oct 14 –Biodiversity overview

**REQ:** Tilman, D. 2000. Causes, consequences and ethics of biodiversity. *Nature* 405:208-211.

**REQ:** Vandermeer, J. & I. Perfecto. 2005. Chapters 1-2 Breakfast of Biodiversity. IFDP, Oakland, CA.

**REC:** Kolbert, E. "The Sixth Extinction?," *The New Yorker*, May 25, 2009. pp. 53-59.

## WEEK EIGHT

Oct 19– From slash-and-burn to industrial agriculture - the quest for sustainability.

Oct 21– Sustainable logging in tropical forests – Reforming institutions and norms

**REQ:** Vandermeer, J. & I. Perfecto. 2005. Chapt 3 Breakfast of Biodiversity. IFDP, Oakland, CA.

**REQ:** The Economist. 2010. Aug 26<sup>th</sup>. "The Miracle of the Cerrado. Brazil has revolutionised its own farms". 7 pp. <http://www.economist.com/node/16886442>

**REQ:** Smith, J. et al. 2006. "Why policy reforms fail to improve logging practices" Forest Policy & Economics. 8: 458-469

## WEEK NINE

Oct 26 – Is the Amazon like ‘Avatar’? Indigenous rights and gold mining

Oct 28 – National parks and community-based conservation.

**REQ:** Nepstad et al 2004 “Inhibition of Amazon deforestation and fire by parks and indigenous lands” Cons Bio. 20:66-73

**REQ:** Kayapó People's Manifesto June 2013. Downloaded 1/11/14 from <http://raoni.com/news.php>

**REQ:** Western, D. and R. Wright. 1994. Background to Community-Based Conservation. pp. 1-14 in Western, D. and R.M. Wright. *Natural Connections*. Island Press: Washington, D.C.

**REQ:** Peres, C. 2005. Why we need megareserves in Amazonia. *Cons Biology*. 19: 728-733.

## WEEK TEN

Nov 2 – Economic growth/urbanization and prospects of environmental conservation (Env Kuznets, poverty-environment)

Nov 4 – Sustainable Development

**REQ:** East is grey from *The Economist*.

**REQ:** Davis, M. 2006, *Slum Ecology*. Inequity intensifies Earth's natural forces 6 pp. in *Orion*. March/April.

**REQ:** 1 page handout with Kuznet curves from World Resources Institute 1996-7. Washington. D.C.

**REC:** World Commission on Environment and Development. 2010. *Towards sustainable development*. pp 207-217 In: Conca K and Dabelko GD (eds) *Green Planet Blues*, Westview Press, Boulder, CO.

**REC:** Lele, S. 2004. *Sustainable Development – A Critical Review*. pp. 252-264. In: Conca K and Dabelko GD (eds) *Green Planet Blues*, Westview Press, Boulder, CO.

## WEEK ELEVEN

Nov 9 – Incentive-based conservation

Nov 11 – Direct payments for conservation

**REQ:** Video: *Milking the Rhino*. (First 41 minutes required)

**REQ:** Ellison, K. and G. C. Daily 2003. Making conservation profitable. *Conservation in Practice* 4(2):13-19.

**REQ:** Ferraro, P.J. & A. Kiss. 2002. "Direct Payments for Biodiversity Conservation." Science 298: 1718-1719

**REC:** Putz, F.E. and K.H. Redford (2009). Dangers of carbon-based conservation. *Global Environmental Change* doi:10.1016/j.gloenvcha.2009.07.005

**REC:** Phelps, J., E.L. Webb and A. Agrawal (2010). Does REDD+ threaten to recentralize forest governance? *Science* 328: 312-313.

## WEEK TWELVE

Nov 16 Exam 2 (covers weeks 7-10)

Nov 18 – Market-based approaches to climate mitigation

**REQ:** Online module. Flexibility mechanisms of Kyoto

### WEEK THIRTEEN

Nov 23 –Climate change mitigation in the United States

**REQ:** Online module: Divergent National Energy Policies: the U.S. vs Germany

### WEEK FOURTEEN

Dec 2 – Energy technologies 101

Dec 4 – Choosing alternative energies for now and the future

**REQ:** Online module. Assessing alternatives to fossil fuels

**REQ:** Schrag, D.P. (2012). Is shale gas good for climate change? *Daedalus* 141: 72-80.

### WEEK FIFTEEN

Dec 7– Climate change adaptation: Planning for climate change in Wisconsin

**REQ:** Online module. Wisconsin climate impacts

Dec 9 – Climate adaptation in Madison

**REQ:** Online module: Dane County seeks ways to adapt to climate change

### WEEK SIXTEEN

Dec 14—Exam 3 (Weeks 11-15)