

HUMAN DIMENSIONS OF ECOSYSTEM MANAGEMENT

ENR 8400, Fall Semester 2019

Credits:	2 hours
Meeting times:	Monday: 12:10 – 2:00PM, Kottman Hall, Rm. 245
Instructor:	Adam Fix, PhD
Contact:	Phone: 716-510-2554 Email: ajfix2@gmail.com (preferred) / fix.46@osu.edu
Office Hours:	Week days, by appointment

COURSE DESCRIPTION

This course provides a broad, interdisciplinary overview of theories and frameworks for understanding and addressing environmental and natural resource management dilemmas. The course is divided into three parts:

Part I. Efforts to Understand and Treat Environmental Problems

This part of the course reviews early narratives, theories and ongoing debates concerning how human beings impact their environment and what can be done to alleviate these impacts. Many of the most contentious debates surround problems for which there is no objectively “right” answer. When one accepts the proposition there is no right way to manage ecosystems, it becomes clear that the primary point of contention is not *how* we should management ecosystems, but *for what purpose* should we manage ecosystems; thus, the need to find ways of addressing conflicts.

Part II. Disciplinary Perspectives on Environmental Problems

This part of the course consists primarily of a series of guest lectures from faculty across OSU who bring their expertise to help us understand and/or address various environment/ecological problems.

Part III. Toward a Systems Perspective and Integration of the Social and Ecological Sciences

In these discussions, students will be asked to integrate key concepts and ideas discussed in the beginning of the course with knowledge gained from other social and ecological sciences toward the ultimate goal of better understanding how to sustainably manage common pool resources. Throughout the latter half of the course, we discuss *socio-ecological systems*, as well as additional frameworks for understanding sustainable resource management that integrate knowledge across disciplines.

COURSE GOALS

This course will...

1. Describe early theories and historically-relevant debates concerning how human beings impact the natural environment.
2. Explore how theories and approaches from the social sciences can be used to assist us in understanding the causes and consequences of—and potentially the solutions to—environmental problems.
3. Explore the causes of environmental conflict and examine theories and frameworks for mitigating and managing conflicts.
4. Promote critical thinking concerning humankind's role as both the source of and solution to environmental problems.

Students will...

1. Develop familiarity with early theories and historically-relevant debates concerning how human beings interact with their biophysical environment.
2. Develop familiarity with theories and concepts employed in the conservation and management of natural resources.
3. Understand how theories and methods employed by social scientists can be used to assist researchers and practitioners in understanding the causes and consequences of environmental problems.
4. Understand the common causes of environmental conflict and examine theories and frameworks for mitigating and managing conflicts.
5. Think critically concerning humankind's role as both the source of and solution to environmental problems.

Format:

The course will be conducted in a discussion/seminar format with occasional lectures and group activities; students are expected to come to class prepared to actively participate in class discussions.

Readings:

There is no required textbook for this course. All readings will be made available online through Carmen/Canvas. The weekly readings are a critical part of this course.

Participation:

Participation scores will be based on participation in classroom discussions. Regular attendance is a necessary, but insufficient, condition for a passing grade in participation. Students will have opportunities to add to class discussions throughout the quarter; these opportunities include: answering questions, responding to other students' ideas, asking questions, as well as in-class group work. Note: Reading and thinking about the assigned reading before class are critical for classroom participation.

Absences:

Two unexcused absences will result in a dropped letter grade on the final course grade (e.g., from A- to B-). Three or more unexcused absences will result in a failing course grade.

Mid-term Take-home Exam:

An essay-based, mid-term examination will be distributed in class on October 7 and due 1-week later (in class on October 14).

Issue Analysis Paper:

The purpose of the issue analysis paper will be to analyze the human/ social dimensions of a specific natural resource management or environmental issue that was *not* discussed in class. The issue analysis paper provides students with an opportunity to apply concepts learned in class to an issue of their choice. The format for this paper is flexible, but generally the paper should contain the following components:

1. *Introduction*. A brief introduction that explains the issue, delineates stakeholders/interests and their positions, and explains why the issue is of importance to society. Note: The introduction is where biophysical research is most relevant.
2. *Analysis (Body)*. The purpose of the paper is to help students understand the root cause(s) of pressing environmental problems and apply theory and concepts introduced in the course to understanding these problems. In the body of the paper, students will describe the socio-cultural, economic, and political conditions that have given rise to the issue and/or prevent its meaningful resolution. In this section it is important to cite relevant research from the course and describe the theoretical “lens” (or lenses) through which the issue is being viewed.
3. *Solutions*. In the final section of the paper, students should offer ideas for how the problem/issue they have chosen might be solved, mitigated, or otherwise managed. If the problem is irreconcilable given prevailing social conditions, then you need to describe why this is the case (i.e., what barriers prevent or hamper resolution?), and describe whether and how you think prevailing social conditions can change

A minimum of **8 outside sources** (i.e., sources not discussed in class) are required for this paper; in addition, students must cite relevant course readings where appropriate (note: Wikipedia is not an acceptable source; students should only cite relevant, peer-referred literature). Initial draft papers should be limited to 1,500 words (not including title and reference list) and formatted to use 1” margins and 12-point *Times New Roman* font. Information must be properly attributed and cited; presenting information from other sources without proper attribution is not acceptable. You may use any standard citation style that uses a Name/Year (e.g. Smith & Smithers, 2000) format, such as APA or Chicago styles. Papers must be your original work. **Final papers are limited to 3,000 words. Additional guidance on papers will be provided in class and made available on Carmen/Canvas.**

Discussion Facilitation:

Each student will be responsible for assisting the instructor in facilitating discussion on 3 class dates. On your assigned days, you will work in tandem with the instructor to cultivate a lively and productive class discussion. Three days prior to class (i.e., by 12-noon, on the Friday preceding the class), you must submit the following two items to the instructor: **1. at least 2 discussion questions per reading/paper, and also 2. a brief synthesis of the assigned readings (What are the key concepts? How do they relate to each other?), no more than a page in length.** You will sign up for dates during the first class session.

Grading:

Assignment	Due	Points	Portion of Final Grade
Participation	NA	10	10%
Issue analysis paper (draft)	28 OCT	15	15%
Mid-term examination	07-14 OCT	20	20%
Discussion facilitation	NA	30	30%
Final issue analysis paper	9 DEC	25	25%
<i>Total</i>	<i>NA</i>	<i>100</i>	

Academic Misconduct:

Faculty Rule 3335-31-02 defines academic misconduct as any activity that tends to compromise the academic integrity of the institution or subvert the educational process. Academic misconduct (e.g. plagiarism, cheating, and other forms of misconduct) will not be tolerated in this course. Please see the Student Resource Guide or the instructor if you have questions about this policy.

Students with Disabilities:

Any student who feels s/he may need an accommodation based on the impact of a disability should contact the instructor as soon as possible to discuss potential accommodations for their specific needs. You might also wish to contact the Office for Disability Services (614-292-3307, in room 150 Pomerene Hall) who provide assistance coordinating reasonable accommodations for students with documented disabilities.

PART 1. EFFORTS TO UNDERSTAND AND TREAT ENVIRONMENTAL PROBLEMS

(26 AUG) Human Populations and Environmental Problems

Ehrlich, P. R., and A. H. Ehrlich. 1990. Why isn't everyone as scared as we are? Pages 13-23 in *The Population Explosion*. Simon & Schuster, Inc., New York, NY.

Simon, J. L. 1980. Resources, population, environment: An oversupply of false bad news. *Science* 208(27): 1431-1437.

Ehrlich, P. R., and D. Kennedy. 2005. Millennium Assessment of Human Behavior. *Science* 309:562-563.

Dunlap, R. E., and A. K. Jorgenson. 2012. Environmental Problems. *The Wiley-Blackwell Encyclopedia of Globalization*. John Wiley & Sons, Ltd.

(2 SEP) LABOR DAY – NO CLASS

(9 SEP) On Sustainability and Collapse

Read sections: *Summary, Introduction, Sustainability and International Studies, and Resources and International Studies* (pp. 1-4) in Manno, J.P. and A.J. Fix. 2019. *Environmental Sustainability and Sustainable Development. Oxford Research Encyclopedia of International Studies.*

Diamond, J.M. 2012. [What Makes Countries Rich or Poor?](#) Review of *Why Nations Fail: The Origins of Power, Prosperity and Poverty* by Acemoglu and Robinson. *The New York Times Review of Books* (June 2012).

Page, S. E. 2005. Are we collapsing? A review of Jared Diamond's *Collapse: How societies choose to fail or succeed*. *Journal of Economic Literature*, 43(4), 1049-1062.

O'Donnell, J. 15 Sep 2017. How vulnerable are we to collapse? *SAPIENS*.

(16 SEP) Social Traps and the Tragedy of the Commons

Read section: *Our Common Future and the Future of the Commons* (pp. 4-5) in Manno & Fix. 2019. *Environmental Sustainability and Sustainable Development.*

Hardin, G. 1968. The tragedy of the commons. *Science* 162:1243-1248.

Platt, J. 1973. Social traps. *American Psychologist* 28:641-651.

Burger, J., and M. Gochfeld. 1998. The tragedy of the commons 30 years later. *Environment* 40(10):4-13, 26.

Ostrom, E., Burger, J., Field, C. B., Norgaard, R. B. and D. Policansky. 1999. Revisiting the commons: Local lessons, global challenges. *Science* 284: 278-282.

(23 SEP) Environmental Problems and Social Conflict

Read sections: *Definitions and Logic of Sustainability* and *Critics of the Sustainable Development Paradigm* (pp. 5-9) in Manno & Fix. 2019. Environmental Sustainability and Sustainable Development.

Rittel, H. W. J., and M. M. Webber. 1973. Dilemmas in a general theory of planning. *Policy Sciences* 4:155-169.

Colvin, R. M., G. B. Witt, and J. Lacey. 2015. The social identity approach to understanding socio-political conflict in environmental and natural resources management. *Global Environmental Change* 34:237-246.

Sunderlin, W. 1995. Global Environmental Change, Sociology, and Paradigm Isolation. *Global Environmental Change*, 5 (3): 211-220.

PART 2. DISCIPLINARY PERSPECTIVES ON ENVIRONMENTAL PROBLEMS

(30 SEPT) Perspectives from Ecological Economics

Read section: *Sustainability and the Social and Environmental Sciences* (pp. 10-11) in Manno & Fix. 2019. Environmental Sustainability and Sustainable Development.

Costanza, R., et al. 1997. The Value of the World's Ecosystem Services and Natural Capital. *Science*, 387: 253-260.

Jax, K., et al. 2013. Ecosystem Services and Ethics. *Ecological Economics*, 93: 260-268.

Manno, J. 2002. Commoditization: Consumption Efficiency and an Economy of Care and Connection. In T. Princen, M. Maniates, and K. Conca (eds), *Confronting Consumption*, Cambridge, MA: MIT Press, pp. 67-100.

(07 OCT) Guest Lecture – Matthew Hamilton, Assistant Professor, SENR: Perspectives from Environmental Governance

Bodin, O. 2017. Collaborative Environmental Governance: Achieving Collective Action in Social-Ecological Systems. *Science* 357, no. 6352.

Morrison, T., et al. 2017. Mitigation and Adaptation in Polycentric Systems: Sources of Power in the Pursuit of Collective Goals. *Wiley Interdisciplinary Reviews: Climate Change* 8, no. 5 (September 1, 2017): e479.

Lubell, M. 2013. Governing Institutional Complexity: The Ecology of Games Framework. *Policy Studies Journal* 41, no. 3 (2013): 537–559.

Lemos, M.C., and A. Agrawal. Environmental Governance. *Annual Review of Environment and Resources* 31, no. 1 (2006): 297–325.

(14 OCT) Guest Lecture – Marti Chaatsmith, Interim Director, Newark Earthworks Center: Indigenous Perspectives of Ohio’s Lands and the Hopewell Ceremonial Earthworks

Chief Glenna Wallace. 2016. Foreword (pp. ix-xi). *The Newark Earthworks: Enduring Monuments, Contested Meanings*. Charlottesville, VA: University of Virginia Press.

Chaatsmith, M. 2016. Native (Re)Investments in Ohio: Evictions, Earthworks Preservation, and Tribal Stewardship. (pp. 215-229). *The Newark Earthworks: Enduring Monuments, Contested Meanings*.

Chaatsmith, M. 2013. Singing at the Center of the Indian World: The SAI and Ohio Earthworks. *The American Indian Quarterly*, 37, no. 3: 181-198.

Beacham, D. 2011. The Indigenous Cultural Landscape of the Eastern Woodlands: A Model for Conservation, Interpretation, and Tourism. *George Wright Society 2011 Conference Papers*.

Recommended: Robin Wall Kimmerer’s *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. (PDF excerpt available on Carmen/Canvas. Full book available through the Columbus Metropolitan Library.)

(21 OCT) Guest Lecture – Bart Elmore, Associate Professor, Department of History: Perspectives from Environmental History

Owen, D. 2010. The Efficiency Dilemma. *The New Yorker*.

Corkery, M. 2019. Beverage Companies Embrace Recycling, Until it Costs Them. *The New York Times*.

Elmore, B. 2012. The American Beverage Industry and the Development of Curbside Recycling Programs, 1950-2000. *Business History Review*, 86: 477-501.

(28 OCT) Guest Lecture – Alia Dietsch, Assistant Professor, SENR: Perspectives from Environmental Psychology

Readings TBA

(04 NOV) Perspectives from Sustainable Development and Post-Development Theory

Read from *Modern Origins of the International Movement for Sustainable Development until the end* (pp. 14-28) in Manno & Fix. 2019. Environmental Sustainability and Sustainable Development.

Hopwood, B., Mellor, M., and G. O’Brien. 2005. Sustainable Development: Mapping Different Approaches. *Sustainable Development*, 13: 38-52.

Sachs, Wolfgang. Introduction. In *The Development Dictionary: A Guide to Knowledge as Power*, 2nd Ed. London & New York: Zed Books, 2010: xv-xx.

Read through the UN Sustainable Development Goals at <https://sustainabledevelopment.un.org/sdgs>

(11 NOV) VETERANS DAY – NO CLASS

PART 3. TOWARD A SYSTEMS PERSPECTIVE AND INTEGRATION OF THE SOCIAL AND ECOLOGICAL SCIENCES

(18 NOV) Traditional Ecological Knowledge

Read: Sustainability and Indigenous Peoples (pp. 11-12) in Manno & Fix. 2019. Environmental Sustainability and Sustainable Development.

Zedler, J.B. 2016. Integrating traditional ecological knowledge with adaptive restoration. *Ecosystem Health and Sustainability* 2 (6): 1-2.

Davis, A. and Ruddle, K. 2010. Constructing confidence: rational skepticism and systematic enquiry in local ecological knowledge research. *Ecological Applications* 20 (3): 880-894.

Whyte, K.P. 2013. On the role of traditional ecological knowledge as a collaborative concept: A philosophical study. *Ecological Processes* 2 (7): 1-12.

(25 NOV) Adaptation, Vulnerability and Adaptive Capacity

Ostrom, E. 2007. A diagnostic approach for going beyond panaceas. *Proceedings of the National Academy of Sciences* 104 (39):15181.

Pahl-Wostl, C. 2009. A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes *Global Environmental Change*. 19: 354-365.

Smit, Barry, and Johanna Wandel. 2006. [Adaptation, adaptive capacity and vulnerability](#). *Global Environmental Change* 16 (3): 282-292.

(02 DEC) Barriers to an Interdisciplinary Understanding of Socio-Ecological Systems

Heberlein, T. A. 1988. Improving Interdisciplinary Research: Integrating the Social and Natural Sciences. *Society & Natural Resources* 1:5-16.

Phillipson, J., P. Lowe, and J. M. Bullock. 2009. Navigating the social sciences: interdisciplinarity and ecology. *Journal of Applied Ecology* 46:261-264.

MacMynowski, D. P. 2007. Pausing at the brink of interdisciplinarity: Power and knowledge at the meeting of social and biophysical science. *Ecology and Society* 12 (1): 20.