

## **ES 241: Natural Resource Management (Fall 2018)**

Meeting time: Tuesdays 1:30-4:20

Location: Glacier Point 155

Instructor: Prof. Jeffrey Jenkins

Contact: jeff.jenkins@ucmerced.edu

Office hours: Thursdays 4-5 pm or by appt., SSM 202B

### **Course Description**

This course examines environmental planning and natural resource management from multiple perspectives. We will focus on the historical, geographical, and political-legal factors that have shaped the policy and governance of public and privately held lands in the American West. The course will utilize case studies from the California's Sierra Nevada and Central Valley, however we will also scale up and out to understand how geopolitical forces, market interests, technological innovations, and competing knowledge claims have transformed rural and regional landscapes. Through discussion, presentations, and textual analysis we will cover a wide range of frameworks and topics throughout the semester, some of which include: complexity of socio-ecological systems, political ecology and power, biocentrism and anthropocentrism, the "trouble" with wilderness, recreation and visitor use management, exurbia and amenity migrants, conservation ecology, the commons and contested landscapes, climate change and the media, adaptive management, conservation easements, extractive industries, federal lands agencies and competing mandates, and ecosystem services and human well-being.

### **Course Goals and Learning Outcomes**

The goals and learning outcomes of this course are tied to the program learning outcomes of the Environmental Systems graduate program at University of California, Merced.

#### **A. Course Goals**

- Describe the advantages and disadvantages of different types of resource governance.
- Understand the different policy mandates and economic interests shaping decision-making between lands management agencies, civil society, and the private sectors.
- Conceptualize complex environmental problems as coupled socio-ecological systems with adaptation, intervention, non-linear states, and uncertain outcomes.
- Communicate conservation and development alternatives in environmental planning to a diverse set of stakeholders.
- Explain present day land use conflict as historically contingent and shaped by competing knowledge and values where multiple uses vie for control and access to resources.
- Apply natural resource management approaches to student research projects in the interdisciplinary environmental sciences to better inform policy and decision-making.

#### **B. Course Learning Outcomes**

The first course learning outcome is to enhance student's core knowledge about natural resources and lands management issues as complex socio-ecological systems where human and

environmental needs are connected. Students will learn about governance, collaboration, and conflict between stakeholders from lands management agencies, non-governmental organizations, and market-based interests. The second learning outcome is to enhance student's communication skills for conveying planning, science, and public opinion to decision-makers to inform management outcomes. Students will develop and improve critical thinking and writing skills through in-class discussions and critical review of academic papers. The third learning outcome is to instill an ethical, community-based, and life-long framework for students to understand and address natural resource management challenges. Students will accomplish this through a better understanding of how policies, values, and history shape different environmental planning and management outcomes.

## **Grading and Class Requirements**

Your final grade will be based on the following percentage point break down. Class participation includes attendance at each meeting and a willingness to participate in discussion or ask questions (20%). This will include a handful of impromptu group activities in class. You will also be expected to lead one weekly discussion on the readings (10%). Make sure you prepare brief synopses and generate questions about the readings for the class to help guide the discussion. It's to your benefit to attend as we will fit in a lot each week and build on that in subsequent weeks. Of course, one week if you have a competing academic commitment (e.g. conference, unavoidable fieldwork) then do let me know ahead of time, and I understand opportunities and urgent needs may come up unexpectedly. If you are unable to make a meeting then please still do the reading and coordinate with other students on what material was covered. The final research paper will consist of an in-depth case study relevant to natural resource management, environmental planning, conservation science, politics and policy, or similar topics. You'll also be asked to submit a draft manuscript with abstract (200-word limit), paper outline, and initial sources on your chosen topic by week 7 (10%) and a draft of the paper (approx. 10 pages) with topic background and literature review by week 13 (10%). Weeks 14 and 15 you'll give a presentation to the class (15 minutes + time for questions) on your natural resource management paper topic (20%). You will be expected to apply theoretical frameworks covered in the course to your topic. The product should be useful to you as an interdisciplinary applied management thesis/dissertation chapter or publishable article draft (30%). The final manuscript should be approximately 20 double-spaced pages, or 7,500 words.

## **Course Policies**

- *Classroom interaction.* I encourage personal views and critical inquiry based on the material and topics at hand. Equally, I expect that the viewpoints of others will be respected. Consider this course to be valuable practice to engage with your peers through professional communication and scholarly discourse.
- *Special accommodations.* Students who need special accommodations are required to submit the appropriate form to me in person, preferably within the first two to three weeks of the quarter and outside of class. If you will be requesting academic accommodations, you must first contact the Disability Services (<http://disabilityservices.ucmerced.edu/>).

- *Academic integrity.* The University has established codes concerning proper academic conduct and the consequences resulting from improper behavior. Please be aware of these policies (<http://studentlife.ucmerced.edu/content/uc-conduct-standards>).
- *Life as a UC-Merced Student.* Your course facilitators are aware of the many pressures we all face. There are many campus services specifically suited to help you throughout your university career, please take advantage of your resources, including: Academic Advising (<http://advising.ucmerced.edu/>), Health Services (<http://health.ucmerced.edu/>), and Counseling and Psychological Services (<http://counseling.ucmerced.edu/>).

## **Class Schedule and Readings**

\*All readings and assignments are subject to revision

### **Introduction**

#### **Week 1 (August 28<sup>th</sup>): Course overview and introductory discussion**

- Medeiros, J. (2000). Rewilding the Valley. *Fremontia*, 27(4), pp. 3-9.

### **Theme 1: Natural resource governance**

#### **Week 2 (September 4<sup>th</sup>): Governing the commons**

- Dietz, T., Ostrom, E., & Stern, P. C. (2003). The struggle to govern the commons. *Science*, 302(5652), 1907-1912.
- Hardin, G. (2009). The Tragedy of the Commons\*. *Journal of Natural Resources Policy Research*, 1(3), 243-253.
- Rudestam, K., Langridge, R., & Brown, A. (2015). "The commons" as a dynamic variable in understanding strategic alliances of scale: A groundwater case study in Pajaro Valley, California. *Environmental Science & Policy*, 52, 33-40.

*Further reading:*

- Ostrom, E. (2015). *Governing the commons: The evolution of institutions for collective action*. Cambridge university press.

#### **Week 3 (September 11<sup>th</sup>): The Anthropocene and the "new" conservation debate**

- Kareiva, P., Marvier, M., & Lalasz, R. (2012). Conservation in the Anthropocene: Beyond solitude and fragility. *Breakthrough Journal* (Winter 2012).
- Kareiva, P., & Marvier, M. (2012). What is conservation science?. *BioScience*, 62(11), 962-969.
- Miller, B., Soulé, M. E., & Terborgh, J. (2014). 'New conservation' or surrender to development?. *Animal Conservation*, 17(6), 509-515.
- Smith, B. D., & Zeder, M. A. (2013). The onset of the Anthropocene. *Anthropocene*, 4, 8-13.
- Soulé, M. (2014). The "new conservation". In *Keeping the wild* (pp. 66-80). Island Press, Washington, DC.

*Further reading:*

- Marris, E. (2013). *Rambunctious garden: saving nature in a post-wild world*. Bloomsbury Publishing USA.
- Wuerthner, G., Crist, E., and T. Butler. (2014). *Keeping the wild: Against the domestication of earth*. Island Press.

#### **Week 4 (September 18<sup>th</sup>): Political ecology: knowledge and power in discourse**

- Jenkins, J. (2018). A 'deep' aesthetics of contested landscapes: Visions of land use as competing temporalities. *Geoforum*, 95, 35-45.
- Leslie-Bole, H., & Perramond, E. P. (2017). Oyster feuds: conflicting discourses and outcomes in Point Reyes, California. *Journal of Political Ecology*, 24(1), 144-166.
- Robbins, P. (2006). The politics of barstool biology: environmental knowledge and power in greater Northern Yellowstone. *Geoforum*, 37(2), 185-199.

#### ***Further reading:***

- Robbins, P. (2011). *Political ecology: A critical introduction* (2<sup>nd</sup> Edition). John Wiley & Sons.
- Van Assche, K., Beunen, R., Duineveld, M., & Gruezmacher, M. (2017). Power/knowledge and natural resource management: Foucaultian foundations in the analysis of adaptive governance. *Journal of environmental policy & planning*, 19(3), 308-322.

#### **Week 5 (September 25<sup>th</sup>): Historical baselines in ecological restoration**

- Balaguer, L., Escudero, A., Martin-Duque, J. F., Mola, I., & Aronson, J. (2014). The historical reference in restoration ecology: re-defining a cornerstone concept. *Biological Conservation*, 176, 12-20.
- Rikoon, J. S. (2006). Wild horses and the political ecology of nature restoration in the Missouri Ozarks. *Geoforum*, 37(2), 200-211.
- Vayda, A., & Walters, B. (1999). Against political ecology. *Human ecology*, 27(1), 167-179.

#### ***Further reading:***

- Alagona, P. S., Sandlos, J., & Wiersma, Y. F. (2012). Past imperfect: using historical ecology and baseline data for conservation and restoration projects in North America. *Environmental Philosophy*, 9(1), 49-70.
- Russell, E. W. B. (1998). *People and the land through time: linking ecology and history*. Yale University Press.

### **Theme 2: Land use, amenity migrants, and recreational management**

#### **Week 6 (October 2<sup>nd</sup>): The New West and planning exurbia**

- Chase, J. (2015). Bending the rules in the foothills—County general planning in exurban northern California. *Society & Natural Resources*, 28(8), 857-872.
- Robbins, P., Meehan, K., Gosnell, H., & Gilbertz, S. J. (2009). Writing the new west: a critical review. *Rural Sociology*, 74(3), 356-382.
- Walker, P., & Fortmann, L. (2003). Whose landscape? A political ecology of the 'exurban' Sierra. *Cultural geographies*, 10(4), 469-491.

*Further reading:*

- Duane, T. P. (1999). *Shaping the Sierra: Nature, culture, and conflict in the changing West*. University of California Press.

### **Week 7 (October 9<sup>th</sup>): Recreation management: political-legal rationale and limits on visitor use**

*\*SUBMIT draft abstract, outline, and references*

- Cathcart-Rake, J. (2009). Friends of Yosemite Valley saga: The Challenge of Addressing the Merced River's User Capacities. *Envtl. L.*, 39, 833.
- Olson, B. A. (2010). Paper trails: The Outdoor Recreation Resource Review Commission and the rationalization of recreational resources. *Geoforum*, 41(3), 447-456.
- Pettebone, D., Meldrum, B., Leslie, C., Lawson, S. R., Newman, P., Reigner, N., & Gibson, A. (2013). A visitor use monitoring approach on the Half Dome cables to reduce crowding and inform park planning decisions in Yosemite National Park. *Landscape and Urban Planning*, 118, 1-9

*Further reading:*

- Abbey, E. (1968). "Polemic: Industrial tourism and the National Parks" in *Desert Solitaire*.
- Manning, R. E., Anderson, L. E., & Pettengill, P. (2017). *Managing outdoor recreation: case studies in the national parks*. CABI.

### **Week 8 (October 16<sup>th</sup>): Wilderness: Social construction, enclosure and consumption**

- Cronon, W. (1996). The trouble with wilderness: or, getting back to the wrong nature. *Environmental History*, 1(1), 7-28.
- Neumann, R. P. (1996). Dukes, earls, and ersatz Edens: aristocratic nature preservationists in colonial Africa. *Environment and Planning D: Society and Space*, 14(1), 79-98.
- Simon, G. L., & Alagona, P. S. (2013). Contradictions at the confluence of commerce, consumption and conservation; or, an REI shopper camps in the forest, does anyone notice? *Geoforum*, 45, 325-336.

*Further reading:*

- Nash, R. (2014). *Wilderness and the American mind*. Yale University Press.

### **Week 9 (October 23<sup>rd</sup>): Neoliberalism as market-based environmental management**

- Morris, A. W. (2008). Easing conservation? Conservation easements, public accountability and neoliberalism. *Geoforum* 39(3):1215-1227.
- Ojeda, D. (2012). Green pretexts: Ecotourism, neoliberal conservation and land grabbing in Tayrona National Natural Park, Colombia. *Journal of Peasant Studies*, 39(2), 357-375.
- Robertson, M. M. (2006). The nature that capital can see: science, state, and market in the commodification of ecosystem services. *Environment and Planning D: society and space*, 24(3), 367-387.

*Further reading:*

- Harvey, D. (2007). *A brief history of neoliberalism*. Oxford University Press, USA.

- Heynen, N., McCarthy, J., Prudham, S., & Robbins, P. (Eds.). (2007). *Neoliberal environments: false promises and unnatural consequences*. Routledge.

### Theme 3: Complex systems, adaptation, and resilience

#### **Week 10 (October 30<sup>th</sup>): Socio-ecological systems and cross-scale interactions**

- Cumming, G. S., Cumming, D. H., & Redman, C. L. (2006). Scale mismatches in social-ecological systems: causes, consequences, and solutions. *Ecology and society*, 11(1).
- Holling, C. S. (2001). Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4(5), 390-405.
- Peterson, G. (2000). Political ecology and ecological resilience: An integration of human and ecological dynamics. *Ecological economics*, 35(3), 323-336.

#### *Further reading:*

- Gunderson, L. H. (2001). *Panarchy: understanding transformations in human and natural systems*. Island press.
- Walker, B. H., L. H. Gunderson, A. P. Kinzig, C. Folke, S. R. Carpenter, and L. Schultz. (2006). A handful of heuristics and some propositions for understanding resilience in social-ecological systems. *Ecology and Society* 11(1): 13.

#### **Week 11 (November 6<sup>th</sup>): Institutionalizing resilience in forest management**

- Higgins, T. L., & Duane, T. P. (2008). Incorporating complex adaptive systems theory into strategic planning: The Sierra Nevada Conservancy. *Journal of Environmental Planning and Management*, 51(1), 141-162.
- Johnstone, J. F., Allen, C. D., Franklin, J. F., Frelich, L. E., Harvey, B. J., Higuera, P. E., ... & Schoennagel, T. (2016). Changing disturbance regimes, ecological memory, and forest resilience. *Frontiers in Ecology and the Environment*, 14(7), 369-378.
- Millar, C. I., Stephenson, N. L., & Stephens, S. L. (2007). Climate change and forests of the future: managing in the face of uncertainty. *Ecological applications*, 17(8), 2145-2151.

#### *Further reading:*

- Benson, M. H., & Garmestani, A. S. (2011). Can we manage for resilience? The integration of resilience thinking into natural resource management in the United States. *Environmental Management*, 48(3), 392-399.
- Littell, J. S., Peterson, D. L., Millar, C. I., & O'Halloran, K. A. (2012). US National Forests adapt to climate change through Science–Management partnerships. *Climatic Change*, 110(1), 269-296.

#### **Week 12 (November 13<sup>th</sup>): Protected areas: global change, naturalness, and intervention**

- Hansen, A. J., Piekielek, N., Davis, C., Haas, J., Theobald, D. M., Gross, J. E., ... & Running, S. W. (2014). Exposure of US National Parks to land use and climate change 1900–2100. *Ecological Applications*, 24(3), 484-502.

- Hobbs, R., Cole, D., Yung, L., Zavaleta, E., Aplet, G., Chapin, F., ... & Graber, D. (2010). Guiding concepts for park and wilderness stewardship in an era of global environmental change. *Frontiers in Ecology and the Environment*, 8(9), 483-90.
- Stephenson, N. L. (2014, January). Making the transition to the third era of natural resources management. *The George Wright Forum* 31(3), pp. 227-235. George Wright Society.

*Further reading:*

- Cole, D. N., & Yung, L. (Eds.). (2012). *Beyond naturalness: rethinking park and wilderness stewardship in an era of rapid change*. Island Press.
- Leopold, A. S. (1963). *Wildlife management in the national parks*. US National Park Service.
- Smith, J. F. (2016). *Engineering Eden: The True Story of a Violent Death, a Trial, and the Fight Over Controlling Nature*. Crown.

### **Week 13 (November 20<sup>th</sup>): Connection with nature and critical ecopsychology**

*\*SUBMIT draft version of term paper*

- Dickinson, E. (2013). The misdiagnosis: Rethinking “nature-deficit disorder”. *Environmental Communication: A Journal of Nature and Culture*, 7(3), 315-335.
- Fletcher, R. (2017). Connection with nature is an oxymoron: A political ecology of “nature-deficit disorder”. *The Journal of Environmental Education*, 48(4), 226-233.
- Robbins, P., & Moore, S. A. (2013). Ecological anxiety disorder: diagnosing the politics of the Anthropocene. *cultural geographies*, 20(1), 3-19.

*Further reading:*

- Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder*. Algonquin books.
- Russell, R., Guerry, A. D., Balvanera, P., Gould, R. K., Basurto, X., Chan, K. M., ... & Tam, J. (2013). Humans and nature: how knowing and experiencing nature affect well-being. *Annual Review of Environment and Resources*, 38, 473-502

## **Research Presentations and Writing**

### **Week 14 (November 27<sup>th</sup>): Presentations**

*\*PRESENT on research topic*

### **Week 15 (December 4<sup>th</sup>): Presentations**

*\*PRESENT on research topic for 15 minutes*

### **Week 16 (Finals week):**

*\*SUBMIT term paper by December 11<sup>th</sup>*