

**POLICY & ECONOMICS OF NATURAL RESOURCES**  
Online and on demand via Canvas/e-Learning

**Course Syllabus**

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**Office hours:** By appointment

**Course Website:** <http://lss.at.ufl.edu>. We will actively use the UF e-Learning in Canvas website, through which you can send e-mails to classmates or to me, check your grades, check class announcements, access the syllabus, etc. *Check the Canvas website before every class meeting.*

**Course Communications:** The Canvas email system is the best way to get in touch with us about any class-related questions, concerns, etc. during the semester.

**Course Description:** Factors in evolution of forest, range, wildlife and related natural resources administration and policies in the United States. Course includes policy components, policy formation implementation, change processes and economic criteria for evaluating policy effectiveness.

**Student Learning Outcomes:**

Upon satisfactory completion of the course, you should be able to:

- Explain the key provisions of major natural resource policies and dynamics of natural resource policy development
- Identify factors that influence the success of resource policy implementation
- Critically evaluate natural resource policies using basic economic tools (e.g., graphical welfare analysis), and by applying ecological, social, and political criteria

Forests and other natural resources serve many economic, social, and environmental needs of people around the world. The patterns of use and management of natural resources can have a profound impact on the economy and the environment. However, public policies largely dictate the patterns of use and management of natural resources thereby influencing the lives of diverse stakeholders including future generations. Therefore, it is critical for resource professionals to understand concepts, administration, and economic and environmental impacts of resource policies.

The specific goals of *Natural Resource Policy & Economics* are to help you:

- Develop an understanding of concepts and theories of natural resource policy and economics,

- Further your knowledge of major natural resource policies and public policy processes,
- Advance your ability to critically evaluate natural resource policy issues from economic, policy, environmental, and social perspectives

### **Required Text and Additional Readings:**

#### *Required text:*

Rosenbaum, W.A. 2020. *Environmental Politics and Policy, 11th Edition*. CQ Press: Washington, DC.

#### *Additional readings (Available through Canvas):*

##### *Section I: Resource policy definition, process, and analytical framework*

1. Ellefson, P.V. 1992. Forest Resource Policies. In: *Forest Resource Policy: Process, Participants, and Programs*. McGraw-Hill, New York.
2. Peterson, F. 2001. Public Policy and the Problems of Collective Action. In: *The Political Economy of Agricultural, Natural Resource, and Environmental Policy Analysis*. Iowa State University Press, Ames, IA.
3. Ostrom, E. 2000. Collective action and the evolution of social norms. *The Journal of Economic Perspectives*, 137-158.
4. Stokey, E. and R. Zeckhauser, 1978. *A Primer for Policy Analysis*. W.W. Norton & Co: New York.
5. Cubbage, F.W, J. O'Laughlin, and C.S. Bullock III. 1993. Policy Analysis, Evaluation, and Implementation. In: *Forest Resource Policy*, John Wiley & Sons, New York.
6. Robbins, P. 2006. The Politics of Barstool Biology: Environmental Knowledge and Power in Greater Northern Yellowstone. *Geoforum* 37(2): 185-199.
7. Brody, S.D. 2008. Principles of effective ecosystem management and planning. In: *Ecosystem Planning in Florida: Solving Regional Problems through Local Decision Making*, Ashgate Publishing Ltd, Hampshire, England.
8. Hayes, T. and L. Persha. 2010. Nesting local forestry initiatives: Revisiting community forest management in a REDD+ world. *Forest Policy and Economics* 12: 545-553.

##### *Section II: Economics of natural resource policies*

9. Letson, D. 2002. Principles of Economic Valuation. In: Letson, D. and J.W. Milon (eds.), *Florida Coastal Environmental Resources: A Guide to Economic Valuation and Impact Analysis*, Florida Sea Grant College Program, Gainesville, FL.
10. Segerson, K. 2014. The Role of Economics in Interdisciplinary Environmental Policy Debates: Opportunities and Challenges. *Am. J. Agr. Econ.* 3: aau104v1-aau104.
11. De Groot, R.S., R. Alkemade, L. Braat, L. Hein, and L. Willemen. 2010. Challenges in integrating the concept of ecosystem services and values in landscape planning, management and decision making. *Ecological Complexity* 7: 260-272.
12. Costanza, Costanza, R., de Groot, R., Braat, L., Kubiszewski, I., Fioramonti, L., Sutton, P., Farber, S. and Grasso, M., 2017. Twenty years of ecosystem services: How far have we come and how far do we still need to go? *Ecosystem Services* 28: 1-16.
13. Daily, G.C., S. Polasky, J. Goldstein, P.M. Kareiva, H.A. Mooney, L. Pejchar, T.H. Ricketts, J. Salzman, and R. Shallenberger. 2009. *Front. Ecol. Environ.* 7(1): 21-28.

14. Tietenberg, T. and L. Lewis. 2011. The Economic Approach: Property Rights, Externalities, and Environmental Problems. In: *Environmental and Natural Resource Economics, 9<sup>th</sup> Ed.*, Pearson Education, Boston, MA.
15. Hanley, N., J.F. Shogren, and B. White. 2001. Valuing the Environment and Natural Resources. In: *Introduction to Environmental Economics*, Oxford University Press, Oxford.
16. Ferraro, P. J., Lawlor, K., Mullan, K. L., and Pattanayak, S. K. 2011. Forest figures: Ecosystem services valuation and policy evaluation in developing countries. *Review of Environmental Economics and Policy* rer019.
17. Kubiszewski, I., Costanza, R., Anderson, S., and Sutton, P. 2017. The future value of ecosystem services: Global scenarios and national implications. *Ecosystem Services* 26: 289-301.
18. Bowles, S. 2008. Policies Designed for Self-Interested Citizens May Undermine ‘The Moral Sentiments’: Evidence from Economic Experiments. *Science* 320:1605-1609.
19. Boardman, A.E., D.H. Greenberg, A.R. Vining, and D.L. Weimer. 2006. Introduction to Cost-Benefit Analysis. In: *Cost-Benefit Analysis: Concepts and Practice, 3<sup>rd</sup> Ed.*, Pearson Education, Upper Saddle River, NJ.
20. Schlager, E. and Ostrom, E. 1992. Property-rights regimes and natural resources: a conceptual analysis. *Land Economics* 249-262.
21. Dudley, S., Belzer, R., Blomquist, G., Brennan, T., Carrigan, C., Cordes, J., Cox, L.A., Fraas, A., Graham, J., Gray, G. and Hammitt, J., 2017. Consumer’s Guide to Regulatory Impact Analysis: Ten Tips for Being an Informed Policymaker. *Journal of Benefit-Cost Analysis* 8(2): 187-204.
22. VanDeVeer, D., and C. Pierce. 1994. An Introduction to Ethical Theory. In: *The Environmental Ethics and Policy Book: Philosophy, Ecology, Economics*, Wadsworth Publishing Co., Belmont, CA.
23. Jordan, Carl F. 1995. Ecological Economics. In: *Conservation*, John Wiley & Sons, New York.
24. Chee, Yung En, 2004. An Ecological Perspective on the Valuation of Ecosystem Services. *Biological Conservation*, 120: 549-565.
25. Liu, J., Dietz, T., Carpenter, S. R., Alberti, M., Folke, C., Moran, et al. (2007). Complexity of coupled human and natural systems. *Science* 317: 1513-1516.

### Section III: Review of specific policies

26. Weyerhaeuser, R. and J.W. Giltmier. 1997. Forest Management and Policy in the U.S.: A Historical Perspective. In: Sample, V.A. et al. *Evolving Toward Sustainable Forestry: Assessing Change in U.S. Forestry Organizations*. Pinchot Institute for Conservation, Washington, D.C.
27. Banerjee, O., Macpherson, A. J., and Alavalapati, J. 2009. Toward a Policy of Sustainable Forest Management in Brazil A Historical Analysis. *The Journal of Environment & Development* 18(2): 130-153.
28. Tol, R.S. 2009. The economic effects of climate change. *Journal of Economic Perspectives* 29-51.
29. Fisher, A.C. and Le, P.V. 2014. Climate Policy: Science, Economics, and Extremes. *Review of Environmental Economics and Policy* 8(2): 307-327.
30. Greenstone, M., Kopits, E., and Wolverton, A. 2013. Developing a social cost of carbon for US regulatory analysis: A methodology and interpretation. *Review of Environmental Economics and Policy* 7(1): 23-46.
31. Anderson, S.H. 1998. The Evolution of the Endangered Species Act. In: Shogren, J.F. *Private Property and the Endangered Species Act*. University of Texas Press, Austin.

32. Feldman, M.D. and M.J. Brennan 1998. Judicial Application of the Endangered Species Act and the Implications for Takings of Protected Species and Private Property. In: Shogren, J.F. *Private Property and the Endangered Species Act*. University of Texas Press, Austin.
33. Edwards, S.B. 2001. Legal Trade in African Elephant Ivory: Buy Ivory to Save the Elephant. 7 *Animal L.* 119-139.
34. Winfree, R., B.J. Gross, and C. Kremen. 2011. "Valuing pollination services to agriculture." *Ecological Economics*, 71:80-88.
35. Christmann, S. 2019. "Under which conditions would a wide support be likely for a Multilateral Environmental Agreement for pollinator protection?" *Environmental Science and Policy*, 91:1-5.
36. Hall, Damon M., and Rebecca Steiner. "Insect pollinator conservation policy innovations at subnational levels: Lessons for lawmakers." *Environmental science & policy* 93 (2019): 118-128.
37. Jenkins, P.T. 2013. Invasive animals and wildlife pathogens in the United States: the economic case for more risk assessments and regulation. *Biological invasions*, 15(2), 243-248.
38. Keller, R.P., and C. Perrings. 2011. International policy options for reducing the environmental impacts of invasive species. *BioScience* 61(12): 1005-1012.
39. Weber, M.L. 2002. Conclusion. In: *From Abundance to Scarcity: A History of U.S. Marine Fisheries Policy*. Island Press, Washington, DC.
40. Yandle, T. and C. Dewees. 2003. Privatizing the Commons...Twelve Years Later: Fisher's Experiences with the New Zealand's Market-Based Fisheries Management. In: *The Commons in the New Millennium: Challenges and Adaptations* MIT Press: Cambridge, MA, pp. 103-127.

### **Class Format:**

Lectures covering the assigned readings will be posted on the Canvas website and will be accessible throughout the semester. Typically, the lectures for the week will be available on the date listed in the syllabus. Please be patient if technical difficulties arise, and let me know as soon as possible if you cannot access lectures or other course materials.

- Reading reviews: To facilitate critical analysis and thoughtful comments on assigned readings, we will ask you to submit reviews of the readings throughout the semester (*starting with the 2<sup>nd</sup> week of class*). Reviews should be 1-3 pages, single spaced, and provide a very brief summary and then offer a critical synthesis of the readings assigned that week. Generally, reviews should identify key points and *critically assess the work* (and make relevant connections to other readings and concepts discussed in class). Reviews are due in Canvas by 11:59PM on the dates listed in the syllabus. Collectively, your readings reviews will be worth 20% of your final grade.
- Online discussions: To encourage broad discussion of the course readings and concepts, we will ask each student to participate in online discussions each week (in a Canvas discussion forum). At a minimum, students should post at least two comments and/or responses to comments related to the readings each week. Your participation in online discussions is worth 15% of your final grade.
- Application assignments: To provide an opportunity to apply concepts learned in class and via readings, we will ask you to complete three application assignments (together worth 35% of your final grade) that function as analytic exercises. For these assignments, you will be asked to: engage in and describe the public policy process using a specific public meeting as a context; assess a specific public policy issue using economic principles; and create an argumentative position paper on a specific issue.

- **Exams:** In addition to the readings reviews, online discussions, and application assignments, you will also be assessed via two take home exams (a midterm and a final exam), which will be open-notes/open-book. These are meant to test your knowledge and understanding of the key concepts covered in the class. Together, these exams are worth 30% of your final grade.

### **Course Policies:**

*Participation:* You are expected to fully engage all lectures in a timely way, stay current with all assigned readings, and actively participate in online discussion. Participation helps synthesize material, improves critical social skills (important regardless of career path), and allows you to draw from other people's diverse experiences, backgrounds, and insights. Active participation includes sharing thoughts, asking relevant questions, summarizing information in a way that informs discussion, and engaging in a professional manner.

*Late submissions:* Unless otherwise agreed, late submissions will be penalized as follows:

- 10% if between 1 minute and 24 hours late
- 20% if 24 to 48 hours late
- 30% if 48 to 72 hours late
- Not accepted if more than 72 hours late

## **Policies and Requirements**

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

### **Late Submissions and Make-up Requests**

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues **MUST** be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You **MUST** e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

### **Communication Courtesy and Professionalism**

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view.

**Respect for individual differences and alternative viewpoints will be maintained in this class at all times.** All members of the class are expected to follow rules of common courtesy, decency, and civility

in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

### **Semester Evaluation Process**

Student assessment of instruction is an important part of efforts to improve teaching and learning.

**At approximately the mid-point of the semester**, the School of Forest, Fisheries, and Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

**At the end of the semester**, students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### **Academic Honesty Policy**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct or appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated.

Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

### **Inclusive Learning Environment**

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

*The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and*

*expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: <http://multicultural.ufl.edu>.

### **Services for Students with Disabilities:**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

### **Software Use**

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

### **Campus Helping Resources**

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu) | (352) 392-HELP - select option 2 | <http://elearning.ufl.edu>
- Library Help Desk support <http://cms.uflib.ufl.edu/ask>
- FFGS Academic Hub <https://ufl.instructure.com/courses/303721>

### **Student Life, Wellness, and Counseling Help**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- Counseling and Wellness resources <http://www.counseling.ufl.edu/cwc/>
- U Matter, We Care <http://www.umatter.ufl.edu/>
- Career Connections Center <http://career.ufl.edu/>
- Other resources are available at <http://www.distance.ufl.edu/getting-help> for online students.

### **Student Complaint Process**

The School of Forest, Fisheries, and Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that all of our online students complete a course

satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the FFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- Students in online courses: <http://www.distance.ufl.edu/student-complaint-process>
- Students in face-to-face courses: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>



**Evaluation of Student Learning (Grades):**

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20%	Reading reviews (best 8), due each week
15%	Online discussions (best 8)
35%	Application assignments* <ul style="list-style-type: none"><li>• A1: Public policy process description (5%), due 2/6</li><li>• A2: Economic assessment of a policy issue (15%), due 3/27</li><li>• A3: Policy analysis and argumentation (15%), due 4/24</li></ul>
30%	Exams (taken in Canvas) <ul style="list-style-type: none"><li>• E1: Midterm exam (15%), on 2/20</li><li>• E2: Final exam (15%), on 4/29</li></ul>
100%	Total

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\* Details of each assignment can be found on the Canvas website under the Assignments tab. All assignments are due online *by midnight* of the due date.

*Grading Scale* (NOTE: minus grades are not assigned):

90-100%: A	87-89.9%: B+	77-79.9%: C+	67-69.9%: D+	0-59.9%: E
	80-86.9%: B	70-76.9%: C	60-66.9%: D	

**Course Schedule:**

Date	Topic	Readings	Assign. Due
<b>Section I: Resource Policy Process and Analytical Framework</b>			
1/5	1 - Course Introduction	--	
1/12	2 - Overview of Natural Resource Policy; Social Welfare; Collective Action	Ellefson (1 <sup>st</sup> half); Peterson; Stokey and Zeckhauser; Rosenbaum ch. 1; Ostrom	
1/19	3 - The Study of Policy; Policy Issues and Formation; Policy Implementation, Evaluation, and Analysis	Ellefson (2 <sup>nd</sup> half); Cabbage et al.; Rosenbaum ch. 2 and ch. 3	
1/26	4 - Local Government and the Policy Process; Public Support and Policy Pragmatism	Robbins; Brody; Hayes and Persha	
<b>Section II: Economics of Natural Resource Policies</b>			
2/2	5 - Valuing and Categorizing Goods and Services; Welfare Economics and Policy Evaluation	Letson; Segerson; de Groot et al.; Costanza et al.; Daily et al.	A1
2/9	6 - Economics of Ecosystem Services; Valuation Methods	Tietenberg and Lewis; Hanley et al.; Ferraro et al.; Kubiszewski et al.	
2/16	7 - Midterm Exam	--	E1
2/23	8 - Policy design and Economic Incentives	Bowles; Boardman et al.; Rosenbaum ch. 5; Schlager and Ostrom; Dudley et al.	
3/2	9 - Ethical Considerations in Public Policy; Environmental Justice	VanDeVeer and Pierce; Rosenbaum ch. 4	
3/9	<b>Spring Break 3/5-3/12</b>	--	
3/16	10 - Ecological Economics and System Complexity	Jordan; Chee; Lui et al.	
<b>Section III: Review of Example Natural Resource Policies</b>			
3/23	11 - Forest Management and Policies in the US and Beyond	Weyerhauser and Giltmier; Rosenbaum ch. 9; Banerjee et al.	A2
3/30	12 - Climate Change Policies	Rosenbaum ch. 6 (pp. 198-219); Rosenbaum ch. 10; Tol; Fisher and Le; Greenstone et al.	
4/6	13 - Invasive Species and Endangered Species Policies	Anderson; Feldman and Brennan; Jenkins; Edwards; Keller and Perrings	
4/13	14 - Fisheries Management Policies	Weber; Yandle and Dewees	
4/20	15 - Pollination Services and Policies	Winfree; Christmann; Hall	A3
4/27	16 - Final Exam	--	E2

**Disclaimer:** The syllabus represents current plans and objectives, which may change to enhance learning opportunities. Such changes, communicated clearly, are not unusual and should be expected.