Instructor:
Dominic Parker
Department of Agricultural and Applied Economics
Taylor Hall, Room 413
dparker5@wisc.edu

Class Meetings:
Tuesday and Thursday, 1:00 – 2:15 p.m., Taylor Hall B30

Office Hours:
Wednesday 2 to 3 pm, or by appointment.

Class Website:
We will use Learn@UW. Check regularly for announcements, readings, assignments, etc.

Course Description:
This course examines the operation of markets for natural resources, including fish, wildlife, water, minerals, land and fossil fuels. Special emphasis will be given to the role that resource governance and regulation plays in affecting resource use. The course is slightly multi-disciplinary because a basic understanding of natural science processes and property law are necessary for economic analysis. For this reason, the readings present simple biological models for studying fisheries, wildlife, and forests and incorporate geological and hydrologic concepts in examining minerals and water. The readings also describe ownership rights to resources, which often are not clearly defined. In these cases the interests of some potential resource users will not be reflected in market outcomes and the scramble or “race” to acquire un-owned resources is often wasteful. Because the use of some natural resources is ultimately linked to the release of waste into the environment, there are also considerations of environmental degradation that result from incomplete ownership. We will encounter these themes throughout the course.

The readings and lectures will introduce the tools of resource economics, which differ from standard microeconomics because of the stronger emphasis on dynamic optimization. Important concepts include open access, commons, anticommons, steady state, maximum sustained yield, and discounting. Important tools include analytical models of optimal control and numerical simulation.

Even though the reading list is comprehensive, it naturally omits some important articles, volumes, or reports. As you note these omissions, please let me know. Some of the material on the list is required reading while other articles are supplemental. This does not imply that the latter is less critical, but only that we have just one semester and a LOT to cover.
Textbooks


The Conrad and Clark book focuses on modelling methods, and spends relatively little time with institutional details or discussion of resource industries and policy issues. These topics will be treated in readings from journals and other books. The Conrad *Resource Economics* book is similar to Conrad and Clark, but a bit less technical in terms of modeling. It allocates more of the book to discussing resource industries and policies and a fair amount of attention is given to simulation exercises.

Grading and Course Structure:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Reading and participation</td>
<td>40%</td>
</tr>
<tr>
<td>Occasional problem sets</td>
<td>30%</td>
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<tr>
<td>Research paper</td>
<td>30%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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Reading and Participation

Each student will periodically present and discuss a journal article in class. The presentations should span 15 minutes and address the following items. 1) What research question(s) is addressed and why is this question important? 2) What is the main theoretical approach (if not purely an empirical paper) and what are the important assumptions? 3) If the paper is empirical, what is the data set and empirical estimation strategy? 4) What are the key results? 5) What did you like best about the paper? 6) What was confusing or not convincing? 7) What follow up research questions does the article motivate?

Students who are not assigned to present a particular paper are still expected to read it thoroughly and to join in the class discussions. To provide you with incentives to read the papers, I will sometimes ask all students to bring brief, written responses to discussion questions that I will send out before class. In these cases, I will distribute the discussion questions via email a day or two before our class meeting.

The ‘reading and participation’ component of your grade will be based on the quality of your in-class presentations, written responses to discussion questions, and general contributions in class.

Occasional Problem Sets:

I will lecture from textbooks and related materials during some weeks and will occasionally assign problem sets based on the lecture material. The problem sets may require you to solve analytical models or perform numerical simulations. The problem set portion of your grade will be determined by the quality (and timeliness) of your answer sets.

Research Paper:

Each student will develop (or advance) an original research paper that is due on May 8. I’ll require you to provide a 1-2 page document early in the semester that summarizes your research plan. I’ll also require a 1-2 page progress report later in the semester. Ideally, student papers will build on themes discussed in the class.
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<th>Topic</th>
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<td>Syllabus, course organization</td>
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<td>Jan. 19</td>
<td>Tragedy of the commons</td>
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<td>Jan. 24</td>
<td>Are all commons tragedies?</td>
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<td>Jan. 26</td>
<td>Excluding users from the commons</td>
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<td>Jan. 31</td>
<td>Tragedy of the anti-commons: theory</td>
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<td>Feb. 2</td>
<td>Tragedy of the anti-commons: application</td>
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<td>Feb. 7</td>
<td>Scope of regulation &amp; federalism: theory</td>
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<td>Feb. 9</td>
<td>Scope of regulation &amp; federalism: applications</td>
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<td>Feb. 14, 16</td>
<td>Overview of fishery economics</td>
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<td>Feb. 21</td>
<td>Regulated open access</td>
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<td>Feb. 23</td>
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<td>ITQs - continued</td>
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<td>Mar. 2</td>
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<td>Mar. 7</td>
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<td>Mar. 9</td>
<td>Deforestation determinants</td>
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<td>Mar. 14</td>
<td>Payments for ecosystem services &amp; deforestation</td>
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<td>Mar. 16</td>
<td>Conservation easements</td>
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<td>Mar. 28</td>
<td>U.S. Endangered species protection</td>
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<td>Mar. 30</td>
<td>Trade of wildlife products</td>
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<td>Apr. 4</td>
<td>Intro to non-renewable resource econ</td>
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<td>Apr. 6</td>
<td>Optimal time to drill</td>
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<td>Apr. 11</td>
<td>Fossil fuel externalities</td>
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<td>Apr. 18</td>
<td>Local resource curse abroad</td>
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<td>Apr. 20</td>
<td>Local resource curse in U.S.</td>
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<td>Apr. 25, 27</td>
<td>Resource certification</td>
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<td>May 2, 4</td>
<td>Student Research Projects</td>
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Natural Resource Scarcity


Tragedy of the Commons and Anti-Commons

Baland, Jean-Marie and Jean-Philippe Platteau. 1996. Halting the Degradation of Natural Resources: Is there a Role for Rural Communities? *Food and Agriculture Organization of the United Nations.*


Fehr, Ernst, and Andreas Leibbrandt, 2010. A Field Study on Cooperativeness and Impatience in the Tragedy of the Commons”. Unpublished manuscript: Department of Economics, University of Chicago.


**Wildlife and Biodiversity**


Ferraro, P.J., C. McIntosh, and M. Ospina. 2007. The Effectiveness of the U.S. Endangered


**Fisheries**


Squires, Dale and Niels Vestergaard. 2013. Technical Change and the Commons. *Review of*


Forest Resources


Amacher, Gregory S., Markku Ollikainen, and Erkki Koskela. 2009. Economics of Forest Resources. MIT Press. Cambridge MA.


**Non-Renewable Resources – Minerals and Oil**


The Natural Resource Curse


Land and Water Use


Scope of Regulation and Federalism


