ECON 483: Resource Economics
Spring 2023
Instructor: Dr. Zoë Plakias (link to my website)
Schedule: T/Th 2-3:50 PM
Location: Arntzen Hall 030
Modality: Face-to-face

Student drop-in hours in 313 Parks Hall: F 9-10:30 AM (no RSVP needed!)
One-on-one meetings: By appointment (schedule at: www.calendly.com/plakiaz)

Official Course Description

Principles of efficient resource allocation over time, distributional equity and cost/benefit analysis. Examines minerals and other exhaustible resources; forests, fisheries and other renewable resources; and public goods such as water and wilderness.

Prerequisites: ECON 306 or ECON 309
Credits: 4
Grade Mode: Letter
Designation: Writing Proficiency (WP) 1

Learning Goals

Upon completion of this course, students will be able to:

- *Recognize* and *employ* multiple methods for valuing natural resources;
- *Understand* standard economic theories of exhaustible and renewable resources;
- *Identify* trade-offs inherent in natural resource management;
- *Perform* basic benefit-cost analyses;
- *Interpret* and *generate* economic information using quantitative data;
- *Analyze* and *evaluate* policy instruments using evidenced-based reasoning;
- *Recognize* the equity implications of natural resource allocations and policies;
- *Describe* contemporary natural resource issues;
- *Locate* and *evaluate* peer-reviewed literature in natural resource economics; and
- *Communicate* clearly about economic concepts and natural resource issues.

Grading

Reading log - 25% total
Problem sets (x3) - 36% total
In-class exercises - 14% total
Policy brief - 25% total

Grading Scale

A	93-100%	C	73-76.99%
A-	90-92.99%	C-	70-72.99%
B+	87-89.99%	D+	67-69.99%
B	83-86.99%	D	63-66.99%
B-	80-82.99%	D-	60-62.99%
C+	77-79.99%	F	0-59.99%

Course materials

All required course materials will be posted on Canvas or linked to from Canvas. We will not use a textbook in this course because they are expensive, and I don't want you to have to pay for one. That said, there are several good natural resource economics texts out there. I have put three different textbooks on reserve in the library for you if you find this kind of reading and studying helpful. Two of these are physical books and one is an ebook that's accessible through the Library Resources link on Canvas.

Note-taking

I will not use or provide lecture slides. I find class is more fun and lively if I don't use slides, and there's lots of evidence that you'll learn better if you take notes. If that's not something you're used to, here's a nice overview of some different ways to take notes and key things to think about. I'll also take volunteers in each class period to serve as class note taker—their notes for that class will be posted on Canvas for anyone who misses class that day. Volunteer note takers will receive extra credit points and anyone who wants to will have the opportunity to serve as a note taker and earn these points.

Assignments

Reading log (contributes to WP1 designation)

This course will involve a lot of discussion! To have good discussions, you will need to do the reading. In the first week of class, we'll discuss how to read an economic paper hopefully make reading them less scary. I will assign no more than one paper to read per class period. To ensure enough folks have done the reading so we can have a vibrant discussion, I will ask you to keep a reading log (short summaries of each paper you read, due before the class in which we discuss them). We'll read 14 papers in the class, and you'll have to read at least 10 for full credit for the reading log. That means you can skip 4. Why? Because we're all human and have rough weeks. There's no need to tell me when you'll skip a reading—we'll just hope not everyone chooses the same day to skip the reading and I'll count up at the end of the term to make sure you have met

the requirement! I do encourage you not to use up all these "free days" in the beginning of the term, though, as you might regret it later. See details of the reading log assignment requirements in the Reading Log discussion board on Canvas.

Problem sets
I will assign three problem sets throughout the term. These problem sets will consist of math problems, graphing, short answer questions, and data analysis exercises (in Excel) relevant to class topics. In-class and/or video tutorials will be provided for the Excel material for those not familiar with Excel. Details of each problem set will be provided on Canvas.

Washington State policy brief (contributes to WP1 designation)
To learn about issues in natural resource management in Washington State and practice using economic reasoning to analyze natural resource management issues, you'll be required to write a 2-3 page policy brief about an issue of current importance in Washington State. You will have opportunities to (and will be expected to!) work on this policy brief throughout the quarter. Details of the assignment can be found here.

Other in-class exercises
Throughout the term I will offer short in-class exercises. I will generally grade these for completion (whether you did or didn't do it) as opposed to whether it's correct or not. While I do not take attendance and don't believe in policing students (we're all humans with needs and adults who can make our own decisions), you will miss out on 14% of your grade if you regularly do not come to class. For medical situations or other necessary absences, please check in with me about any opportunities for in-class credit you may have missed so I can ensure you have an opportunity to make it up. Also, I ask you to please not take advantage of this policy, as it creates more work for me and decreases the quality of our class engagement if we have a lot of absences.

Use of ChatGPT and other AI Chatbots
Per our class discussion on the first day, use of AI chatbots, including but not limited to ChatGPT, is *allowed in this course as a study tool*. For example, looking up terms and concepts that you are confused about or asking about coding issues you are facing is an acceptable use of AI chatbots in this course. Use of AI chatbots, including but not limited to ChatGPT, is *not allowed in this course to solve or prepare homework answers*. For example, asking an AI chatbot to summarize an article for which you are preparing a reading log entry, answer a question on a problem set, or write parts of your policy brief are not acceptable. If you are ever in doubt about whether or not use of an AI chatbot is

acceptable, please ask! Also, if you have suggestions for changes to this policy as we all figure out how AI chatbots can be used in our work, please let me know.

Course policies

I will follow all of the standard WWU policies listed at Syllabi@WWU. This website covers policies on COVID-19 safety; academic honesty; accommodations; ethical conduct with WWU resources; equity, equal opportunity, and civil rights; finals week; medical excuse policies; and the student code of conduct. In addition, I have adopted Lauren's Promise. I promise to: (1) Listen and believe you if someone is threatening you, (2) Represent a safe haven for sharing incidents of sexual assault, domestic violence, or stalking, and (3) Change campus culture that responds poorly to dating violence and stalking.

Your well-being

Your well-being is very important to me. I am in therapy and take medication for depression and anxiety, and this is something I struggled with in college. I am constantly working (it's not easy!) to get enough sleep and exercise and to eat well, and to manage my time well. COVID-19 continues to affect all of us as well, and I know that transitioning back from online has been challenging. I encourage you to reach out to me if you are struggling with coursework or other things in your life that are affecting your ability to engage in class so that we can discuss strategies that might help and I can direct you to relevant resources at Western. The sooner you talk to me about issues that are affecting your class participation and performance, the better!

E-mail

I will do my best to respond to e-mail in a timely manner. You can message me through Canvas or e-mail me at plakiaz@wwu.edu. I try to answer within 24 hours on weekdays, and usually a weekend as well (if the request is urgent—e.g., for an assignment due on Sunday). Please do not expect an immediate response to e-mails, although I will provide these occasionally if I'm online when I receive your message.

Student Drop-in Hours and One-on-One Meetings

Student drop-in hours are times I promise to be in my office (Parks Hall 313) and available for you to drop-in and chat. You do not need to RSVP or tell me you're coming. We can talk about a question related to class (takes priority), further discuss a topic from class, or chat about whatever. For those wishing to chat one-on-one (not assured for drop-in hours, since multiple people might drop-in), I am available for one-on-one chats in person or via Zoom. You can schedule with me at: www.calendly.com/plakiaz.

Plan for the Term (subject to change)

Section 0 - Introduction

Class 1: Tuesday, March 28
Topics: Introductions, syllabus and Canvas site, road map for the course, the three aspects of the course (valuation, extraction, allocation)
Reading: Syllabus

Class 2: Thursday, March 30
Finding + reading economic papers, the reading log assignment, the policy brief assignment
Reading: None

Section 1 - Valuation and non-extractive use of resources

Getting to know you survey - due Sunday, April 2 @ 11:59 PM

Class 3: Tuesday, April 4
Topics: Valuation of natural resources, guest speaker
Reading: Banzhaf (2019): The Environmental Turn in Natural Resource Economics: John Krutilla and "Conservation Reconsidered"

Class 4: Thursday, April 6
Topics: Cost-benefit analysis and evaluating trade-offs, nonmarket valuation, stated vs. revealed preference methods, regression analysis, stated preference methods (contingent valuation methods, choice experiments) introduced
Reading: None

Policy Brief Assignment Part 1 - due Sunday, April 9 @ 11:59 PM

Class 5: Tuesday, April 11
Topics: Stated preference methods (contingent valuation methods, choice experiments) continued, revealed preference methods (travel cost models, hedonic models) introduced
Reading: He et al. (2017): The Value of Wetlands in Quebec: A Comparison Between Contingent Valuation and Choice Experiment

Class 6: Thursday, April 13

Topics: Revealed preference methods continued, cost-benefit analysis introduced
Reading: Cho et al. (2014): Effects of travel cost and participation in recreational activities on national forest visits

Class 7: Tuesday, April 18
Topics: Cost-benefit analysis continued, discounting
Reading: Bellas and Kosnik (2020): A Retrospective Benefit-Cost Analysis on the Elwha River Restoration Project

Class 8: Thursday, April 20
Topics: Paper discussion + lab day (bring a laptop to work on problem set in class)
Reading: Pick a paper! Read a paper of your choice that uses contingent valuation, choice experiment, travel cost, or hedonic regression methodology to estimate the value of a natural resource, complete a reading log entry for the paper, and prepare to share a 3-minute summary of the paper with your peers in class.

Problem Set 1 - due Sunday, April 23 @ 11:59 PM

Section 2 - Extractive use of resources

Class 9: Tuesday, April 25
Topics: Efficient use of resources, sustainability, optimization
Reading: Heal (2012): Reflections—Defining and Measuring Sustainability

Policy Brief Assignment Part 2 - due Thursday, April 27 @ 2 PM (class time!)

Class 10: Thursday, April 27
Topics: Static and dynamic optimization, theory of nonrenewable resources (oil, minerals), Hotelling rule, Hartwick rule
Reading: None

Class 11: Tuesday, May 2
Topics: Minerals continued, recycling
Reading: Rosendahl and Rubiano (2019): How Effective is Lithium Recycling as a Remedy for Resource Scarcity?

Class 12: Thursday, May 4
Topic: Theory of renewable resource use, forests

Reading: Garcia et al. (2018): How Does Economic Research Contribute to the Management of Forest Ecosystem Services?

Class 13: Tuesday, May 9
Topic: Forests continued, fishing introduced, common pool resources vs. private resources
Reading: None

Class 14: Thursday, May 11
Topics: Fishing continued
Reading: Smith (2012): The New Fisheries Economics: Incentives Across Many Margins

Class 15: Tuesday, May 16
Topics: Paper discussion + lab day (bring a laptop to work on problem set in class)
Reading: Pick a paper! Read a paper of your choice related to natural resource extraction (including recycling and resource management/policy related to extraction), complete a reading log entry for the paper, and prepare to share a 3-minute summary of the paper with your peers in class.

Section 3 - Allocation of resources

Policy Brief Assignment Part 3 - due Thursday, May 18 @ 2 PM (class time!)

Class 16: Thursday, May 18
Topic: Property rights, public and private ownership and management of natural resources, policy brief peer-review
Reading: Schlager and Ostrom (1992): Property-Rights Regimes and Natural Resources: A Conceptual Analysis

Problem Set 2 - due Sunday, May 21 @ 11:59 PM

Class 17: Tuesday, May 23
Topic: Resources and economic development
Reading: Venables (2016): Using Natural Resources for Development: Why Has it Proven So Difficult?

Class 18: Thursday, May 25
Topic: Inequity in access to natural resources

Reading: Rowland-Shea et al. (2020): The Nature Gap: Confronting Racial and Economic Disparities in the Destruction and Protection of Nature in America

Policy Brief Assignment Part 4 - due Friday, May 26 @ 11:59 PM

Class 19: Tuesday, May 30
Canceled due to my travel!
Reading: Pick a paper! Read a paper of your choice related to the allocation of natural resources, property rights for natural resources, or inequity in natural resource policy and management; complete a reading log entry for the paper; and prepare to share a 3-minute *video* summary with me and your classmates!

Class 20: Thursday, June 1
Canceled due to my travel! Work on Problem Set 3, policy brief, and/or policy slam!

Problem Set 3 - due Sunday, June 4 @ 11:59 PM

Section 4 - Wrap-up

Policy Brief Assignment Part 5 - due Wednesday, June 7 @ 11:59 PM

Final Exam period: Thursday, June 8 (1-3 PM)
Policy slam (*Policy Brief Assignment Part 6)* - present your policy brief + class wrap-up!