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| ECON 260 CEnvironmental and Natural Resource Economics: Collective Action and Open AccessWinter 2017MW, 2:00-3:15North Hall 2212January 17, 2017Professor: Gary LibecapOffice: 4412 Bren HallPhone: 520-444-1695Email: glibecap@bren.ucsb.eduOffice hours: M 1-2 or by appointment**Course Objective**The objective is to understand if, when, and how the losses of open access or common pool resource (CPR) resource problems are addressed via cooperation and collective action via state, group or individual property rights and how transaction costs and distributional issues shape outcomes. Options for controlling the losses of open access include regulation, informal/formal property rights and social norms. We will examine a variety of cases, groundwater, oil and gas reservoirs, fisheries and explore the underlying conditions that affect the transaction costs of different forms of collective action. Underlying conditions include background legal rules and social norms; user characteristics and numbers of users; resource characteristics; and external resource values as well as entry costs. Transaction costs include information costs and the costs of defining, enforcing, and exchanging property rights of some type—private, group, government.The motivation is that many CPR problems persist, despite general agreement that something should be done—many groundwater basins in California have been and remain critically overdrawn; many ocean fisheries have long been overharvested, driving down stocks; there is little real movement to address climate change. Moreover, the institutions or remedies adopted often are not those predicted or fit stylized models. Effort controls are used in fisheries when most economists argue that they are ineffective relative to output controls and tradable quotas. Rents appear to be left on the table and the question arises, what transaction costs block mutually-beneficial agreement and what are the sources of those transaction costs? What might be done to reduce them? The process requires greater analysis. In the class we will examine when cooperation occurs and when it breaks down—by focusing on local and broader, international environmental externalities. For example, there are over 700 international environmental agreements, IEAs, many of which are routine, but others involving climate change and wild ocean fisheries seem intractable. What are the determinants of cooperation to confront local CPR problems and can those lessons be scaled up? We will begin with an article published in the *Journal of Economic Literature* “Addressing Global Environmental Externalities: Transaction Costs Considerations,” to outline some of the general issue at hand. Then we will turn to specific topics. During the term, each student will lead the discussion of the readings and all will turn in reviews of the relevant reading. In addition, each student will give a short overview of how the course material blends or informs their research interests. These will be 10 minutes each. Associated with this is a paper that due at the end of the term as described below. **Course Administration and Student Assignments.** Each student is responsible for the readings. The class will be conducted by student led overviews of the problems and reviews/critiques of the readings. Although individual students will lead the discussion, all must turn in summaries/critiques of the literature being discussed. These are to be 1-2 pages total and are due **8 am day of class.**  In addition, as noted above you will give 1 presentation on how the subject material blends with or informs your research. The final project is a paper (maximum of 20 pages with references and footnotes) that takes some aspect of the course material—approach, topic, issue and applies it to your proposed (or possible) dissertation topic. Those papers will be due **March 12, 2017 by 8 am** by email to me. **Grades.** Student grades will be based on class written summaries/reviews/critiques (30%); formal class presentation and discussion leadership (30%); and the final paper (40%). Presentations for each class will be randomly assigned. Any student missing the class without notifying me in advance or being ready to lead discussion will have one pass. Two misses will result in your grade being lowered by one grade and three will result in the assignment of a C.**Readings.** All of the course material will be drawn from journal articles, loaded on Gauchospace.. **1/09 Collective Action and Environmental Externalities: Overview of Issues.** * Libecap will lead. “Addressing Global Environmental Externalities: Transaction Cost Considerations,” *Journal of Economic Literature*, 52(2): 424-79.This article examines broad global externalities and summarizes the cases where transaction costs are low enough to address them and the consequences for mitigation of open access losses when transaction costs are higher.
* **Read in advance**.
* Gary D. Libecap, 2014, “Addressing Global Environmental Externalities: Transaction Cost Considerations,” *Journal of Economic Literature*, 52(2): 424-79.

**1/11 The Problem of Open Access**This is the problem that we are trying to address. These three classic papers outline the basic issue and Cheung links the losses to the absence of property rights. Based on them, how might the lost rents be saved?* **Read in advance**
* Garrett Hardin, 1968, “The Tragedy of the Commons,” *Science* 162: 1243-8.
* H. Scott Gordon, 1954, “The Economic Theory of a Common Property Resource: The Fishery,” *Journal of Political Economy* 62(2): 128-42.
* Steven N.S. Cheung, 1970, “The Structure of a Contract and the Theory of a Non-Exclusive Resource,” *Journal of Law and Economics* 13 (1): 49-70.

**1/16 University Holiday.****1/18 Cooperation**We might expect cooperation to save those rents. Here are some basic papers from the natural sciences and economics. What are the basic assumptions for cooperation and how might they break down in reality? The Science papers are short; Elinor Ostrom (who was a co-winner of the Nobel prize in 2009 for her work on local common pool resource (CPR) management) is somewhat longer.* **Read in advance**
* Robert Axelrod and William D. Hamilton, 1981, “The Evolution of Cooperation,” *Science* 211: 4489, March, 1390-96.
* Robert Axelrod and Douglas Dion, 1988, “The Further Evolution of Cooperation,” *Science* 242: 4884, 1385-90.
* Martin A. Nowak, 2006, “Five Rules for the Evolution of Cooperation” *Science* 314, 1560.
* Elinor Ostrom, 2000, “Collective Action and the Evolution of Social Norms,” *Journal of Economic Perspectives*, 14(3): 137-58.

**1/23 Cooperation Conditions in Low Transaction Cost Settings**When would local institutions address open access losses successfully and when would they scale up? * **Read in advance**
* Elinor Ostrom, 2010, “Beyond Markets and States: Polycentric Governance of Complex Economic Systems,” *American Economic Review*, 101: 641–672.
* Elinor Ostrom, et al, 1999, “Revisiting the Commons: Local Lessons, Global Challenges” *Science* 284, 278.
* Michael Cox, Gwen Arnold, and Sergio Villamayor Tomás. 2010. A Review of Design Principles for Community-Based Natural Resource Management. *Ecology and Society* 15(4): 38-52.

**1/25 Transaction Costs and Bargaining**What can break down cooperation bargaining even in the presence of high potential rents that are saved? We first examine an empirical case, groundwater in California. Buchanan (Nobel Prize 1986) takes transaction costs into perspective in determining whether externality mitigation is pareto relevant or irrelevant.* **Read in advance**
* Andrew Ayres, Eric Edwards and Gary D. Libecap, 2016, “Transaction Costs Constraints on Collective Action for Open-Access Resources: The Case of California’s Groundwater,” working paper UCSB.
* Ayres presenting with discussion of transaction costs analysis and data collection.

**1/30 Coasean Bargaining and Transaction Costs**Neo classical economics did not address transaction costs, but Coase did in economics’ most cited paper. He won the 1991 Nobel Prize. His arguments are commonly miss-interpreted in economics. Dahlman provides some clarity on transaction costs.* **Read in advance**
* Ronald Coase, 1960, “The Problem of Social Cost,” *Journal of Law and Economics* 3: 1-44.
* Carl Dahlman.1979. "The Problem of Externality." *Journal of Law and Economics* 22: 141-62.
* James M. Buchanan and William Craig Stubblebine. 1962. “Externality,” *Economica* 29(116): 371-84.

**2/1 Coasean Bargaining and Transaction Costs**If transaction costs impede bargaining to close externalities and save open access rents, we need more information about them in order to address them in understanding and research. Barzel explores the importance of measurement in markets. **Read in advance*** Douglas W. Allen. 1991. “What are Transaction Costs?” *Research in Law and Economics* 14: 1-18.
* Yoram Barzel. 1985. “Transaction Costs: Are They Just Costs*?” Journal of Institutional and Theoretical Economics,* March: 4-16.
* Yoram Barzel. 1982. “Measurement Costs and the Organization of Markets,” *Journal of Law and Economics*, 25(1): 27-48.

**2/6 Failures to Address Open Access Losses: Extinction or Near Extinction.** We examine some empirical cases where no collective action or bargaining agreement is forthcoming to mitigate the losses of open access. * **Read in advance**
* T.R. Halliday, 1980, “The Extinction of the Passenger Pigeon Ectopistes Migratorius and Its Relevance to Contemporary Conservation,” *Biological Conservation* 17: 157-62.
* Jennifer Devine, Krista Baker and Richard Haedrich, 2006, “Fisheries: Deep-Sea Fishes Qualify as Endangered,” *Nature* 439 January 5, 29.
* Scott Farrow, 1995, “Extinction and Market Forces: Two Case Studies,” *Ecological Economics*, 13: 115-23
* Dean Lueck, 2002, “The Extermination and Conservation of the American Bison,” *Journal of Legal Studies*, 31 (S2): S609-650.

**2/8 Coasean Bargaining, Conditions for Successful Collective Action, State Actions to Lower Transaction Costs** The state can lower the costs of bargaining and market activity to allow rents to be saved. Dixit explores the general arguments and Libecap and Lueck and Edwards and Ogilvie examine specific cases.**Read in advance*** Avinash Dixit, 2009, “Governance Institutions and Economic Activity,” *American Economic Review* 99 (1): 5-24.
* Gary D. Libecap and Dean Lueck. 2011. The Demarcation of Land and the Role of Coordinating Property Institutions. *Journal of Political Economy*, Vol. 119, No. 3 (June 2011), pp. 426-467.
* Jeremy Edwards and Sheilagh Ogilvie, 2012, “What Lessons for Economic Development can We Draw from the Champaign Fairs?” *Explorations in Economic History* 49(2): 131-48.

**2/13 Coasian Bargaining Outcomes with Transaction Costs.** These articles that discuss small group bargaining to avoid rent losses in common pool or weak resource property rights settings. The final ones examine what happens when group size and heterogeneity increase.* **Read in advance**
* James M. Acheson and Roy Gardner, 2005, “Spatial Strategies and Territoriality in the Maine Lobster Industry,” *Rationality and Society* 17(3): 309-41.
* Robert C. Ellickson, 1986, “Of Coase and Cattle: Dispute Resolution among Neighbors in Shasta County,” *Stanford Law Review* 38 (3): **623-29, 671-87 only**.
* Arun Agrawal and Sanjeev Goyal, 2001, “Group size and Collective Action: Third Party Monitoring in Common Pool Resources,” *Comparative Political Studies* 34(1): 63-93.
* Robert T. Deacon, Christopher Costello, and Dominic Parker. 2013. “Reforming Fisheries: Lessons from a Self-Elected Cooperative.” *Journal of Law and Economics* 56(1): 83-125.

**2/15 Coasian Bargaining Outcomes with Transaction Costs.** These readings point to sources and effects of higher transaction costs in common pool mitigation cases.* **Read in advance**
* Ronald N. Johnson and Gary D. Libecap, 1982, “Contracting Problems and Regulation: The Case of the Fishery” *American Economic Review* 72 (5): 1005-22.
* Corbett A. Grainger and Christopher J. Costello. 2014. “Capitalizing Property Rights Insecurity in Natural Resource Assets.” *Journal of Environmental Economics and Management* 67: 224-40.
* Scott Barrett. 2016. Property Rights vs. Cooperative Agreements on the

 Global Ocean Commons. Manuscript.**2/20 University Holiday****2/22 Class Coasean Bargaining Outcomes with Transaction Costs.*** Dan Ovando, Gary Libecap, Lennon Thomas, Kat Millage, 2016. “A Bargain for Tuna: Coasean Solutions to Bigeye Overfishing,” working paper, UCSB.

**2/27 Coasean Bargaining Outcomes with Transaction Costs.**These papers continue to explore the sources of high transaction costs in mitigating open access problems in fisheries, along with the benefits of agreement.* **Read in advance**
* R. Quentin Grafton, Dale Squires, and Kevin Fox, 2000, “Private Property and Economic Efficiency: A Study of a Common-Pool Resource,” *Journal of Law and Economics*. 43(2): 679-713, **679-690 only**.
* Christopher Costello, Steven Gaines, and John Lynham, 2008, “Can Catch Shares Prevent Fisheries Collapse?” *Science* 321, September 19: 1677-78.
* Stephanie F. McWhinnie. 2009. “The Tragedy of the Commons in International Fisheries: An Empirical Examination,“ *Journal of Environmental Economics and Management* 57 321–333.
* Frances R. Homans and James E. Wilen. “Markets and Rent Dissipation in Regulated Open Access Fisheries,” *Journal of Environmental Economics and Management* 49(2): 381-404.

**3/1: Coasean Bargaining Outcomes with Transaction Costs.** Further analyses of transaction costs limiting CPR management.* **Read in advance**
* Steven N. Wiggins and Gary D. Libecap, 1985, “Oil Field Unitization: Contractual Failure in the Presence of Imperfect Information,” *American Economic Review* 75(3): 368-85.
* Gary D. Libecap and James L. Smith, 1999, “The Self-Enforcing Provisions of Oil and Gas Unit Operating Agreements: Theory and Evidence,” *Journal of Law, Economics and Organization*, 15(2): 526-48.
* Zeynep K. Hansen and Gary D. Libecap, 2004, “Small Farms, Externalities, and the Dust Bowl of the 1930s,” *Journal of Political Economy* 112(3): 665-694.

**3/3 Added Make Up class. Coasean Bargaining: Political Responses—Tax and Regulation NORTH HALL 2113.**When private parties cannot reach agreement on mitigation in a Coasean sense, the state might be called upon to intervene. What is the theory of the political and agency response? The articles below outline interest group politics, the problem of providing public goods when private interests lobby politicians and how regulatory agencies might respond. Becker won the Nobel Prize in 1992 in part for this work. It is striking how little work exists in economics on political and agency motives to provide public goods.* **Read in advance**
* Gary S. Becker, 1983. “A Theory of Competition among Pressure Groups for Political Influence.” *Quarterly Journal of Economics* 98 (3): 371-400.
* Barry R. Weingast, Kenneth A. Shepsle, and Christopher Johnsen. 1981. “The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics,” Journal of Political Economy, 89(4): 641-664.
* Toke S. Aidt, T. S. 1998. “Political Internalization of Economic Externalities and Environmental policy.” *Journal of Public Economics*, 69(1):1–16.

**3/6—Short presentations of paper ideas.** **3/12—Final paper due 8 am**  |
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