

**ECO 4192: Research Seminar in Economics of Natural Resources and
Sustainability**
Winter 2015

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Some of our natural resources are well managed while others are over-exploited, sometimes to the point of near extinction. How can we explain that? The tools of economic analysis can be used to shed light on these contrasting outcomes. In doing so, we will consider some factors that make natural resources different from other productive resources. Prominent among them are the problems of property right enforcement and the presence of stock-flow dynamics.

Course objectives: There are two objectives that will be pursued with this course: one is to get the student acquainted with the process of doing research; the other is to cover a set of selected issues related to the problems of natural resource use and sustainable development.

Intended audience: The course is reserved for students registered in the Major, Joint Honours, Honours, and Honours with specialization in Economics. The prerequisite is ECO2145. (Any student who has not completed this prerequisite must withdraw from this course.) The course should be of special interest to students who are eager to learn about the intellectual process involved in the conduct of research.

Format: Class time use will be broken down as follows:¹

1. Presentations by the professor on selected theoretical concepts in resource economics and sustainable development (10)
2. Discussions about the research projects (3)
3. Student presentations:
 - (a) One empirical paper (post 2000 with econometrics) (4)
 - (b) Final project (5)
4. Mid-terms (2)
5. Meetings with professor (2)

¹The numbers indicate the approximate quantity of 80 minute classes.

Evaluation: There will be two mid-term (80 minutes) examinations, with weights of 20% each. Unless otherwise noted, mid-term examinations will take place on Thursdays **January 29th** and **March 5th**. The first presentation will count for 10% and the second for 15%, leaving 35% for the term paper.

Topics²

1. Finite resources and scarcity rents (class notes)
2. Presenting an empirical paper: Commodity Price Shocks and Civil Conflict (Dube and Vargas (2013))
3. Property rights and resource use (Gordon 1954)
4. Game theory can help us understand the concept of property rights (class notes + Cheung 1970)
5. The bio-economics of a renewable resource: The fishery (classnotes)
6. Exporting resources under weak property rights (Chichilnisky 1994)
7. Property rights and illegal behavior (Becker 1968 and Hotte 2005)
8. Trade with endogenous property rights (Hotte 2000)
9. Conflict and natural resource use (Hotte 2001)
10. Nonreplicability and scarcity: A synthesis (Hotte 2013)
11. Natural resources and economic growth (Jones and Vollrath 2013, chapter 10)

References

- Becker, Gary S. (1968) ‘Crime and punishment: An economic approach.’ *Journal of Political Economy* 76, 169–217
- Cheung, Steven N. S. (1970) ‘The structure of a contract and the theory of a non-exclusive resource.’ *Journal of Law and Economics* XIII, 45–70
- Chichilnisky, Graciela (1994) ‘North-south trade and the global environment.’ *The American Economic Review* 84(4), 851–874
- Dube, Oeindrila, and Juan Vargas (2013) ‘Commodity price shocks and civil conflict: Evidence from colombia.’ *Review of Economic Studies*

²Topics and their timing are subject to change.

- Gordon, H. Scott (1954) 'The economic theory of a common-property resource: The fishery.' *Journal of Political Economy* *VXII*, 124–142
- Hotte, Louis (2001) 'Conflicts over property rights and natural-resource exploitation at the frontier.' *Journal of Development Economics* *66*, 1–21
- (2005) 'Natural-resource exploitation with costly enforcement of property rights.' *Oxford Economic Papers* *57*(3), 497–521
- (2013) 'Environmental conflict and natural resources.' In *Encyclopedia of Energy, Natural Resources and Environmental Economics*, ed. Jason Shogren (Oxford: Elsevier Science) pp. 261–270
- Hotte, Louis, Ngo Van Long, and Huilan Tian (2000) 'International trade with endogenous enforcement of property rights.' *Journal of Development Economics* *62*, 25–54
- Jones, Charles I., and Dietrich Vollrath (2013) *Introduction to Economic growth*, 3rd ed. (Norton)