

**THE UNIVERSITY OF BRITISH COLUMBIA**  
**Department of Economics**

**Economics 472: The Economics of Renewable Resources**

**Term 2, 2013/2014**  
**Office Hours: F, 9:00 – 10:30 and by appointment**

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**Office: BuTo 998**

**READING LIST AND OUTLINE**

Textbook: J.M. Hartwick and N.D. Olewiler, *The Economics of Natural Resource Use*, 2<sup>nd</sup> Edition.

Along with the text, there will be some additional readings. You will either be directed to these readings, or you find through Connect, <http://elearning.ubc.ca/connect/>

**I. An Introduction to the Economics of Renewable Resources**

- (i) Natural resources defined: renewable vs. non-renewable
- (ii) Natural resources as capital assets
- (iii) Sustainability and dynamic considerations
- (iv) Property rights, public and private, and the management problems created by the absence of such rights – “common pool” resources

Text: Chapters 1 and 2

**II. The Economics of Fisheries: The Traditional Static Approach**

- (i) An overview of the Canadian fishing industry
- (ii) Capture fisheries vs. aquaculture
- (iii) Biological foundations of economic models of the fishery – the concept of bioeconomics
- (iv) Capture fisheries as the quintessential “common pool” resource: Pure and Regulated Open Access
- (v) Concepts of resource rent and Bionomic Equilibrium
- (vi) Weaknesses in the static approach to fisheries economics

Text: Chapter 4

G. Munro, “Mathematical Bioeconomics and the Evolution of Modern Fisheries Economics”, *Bulletin of Mathematical Biology*, vol. 54, issue 2/3, p. 163ff, go to: <http://www.sciencedirect.com/science/journal/00928249/54/2-3>

Ola Flaaten, *Fisheries Economics and Management*, Chapter 3, Parts 3.1 and 3.2; Chapter 5, Parts 5.1 to 5.3, go to:

<http://www.ub.uit.no/munin/bitstream/handle/10037/2509/book.pdf?sequence=1>

### **III. The Economics of Fisheries: Capital Theoretic Approaches**

- (i) A review of elementary capital theory and investment theory; the concept of the social rate of discount
- (ii) Dynamic economic models of the fishery introduced: the fundamental equation of renewable resource exploitation; a dynamic perception of the “common pool” problem
- (iii) The special issue of “existence value”

Text: Chapter 11

G. Munro, “Mathematical Bioeconomics and the Evolution of Modern Fisheries Economics”.

Ola Flaaten, *Fisheries Economics and Management*, Chapter 4, Chapter 5, Part 5.4

### **IV. Major Policy Issues in Fisheries Management**

- (i) Dealing with the consequences of the “common pool” characteristic of capture fisheries: Incentive Blocking vs. Incentive Adjusting approaches to resource management
- (ii) The impact of the UN Third Conference on the Law of the Sea, and Extended Fisheries Jurisdiction
- (iii) The special problem of internationally shared fishery resources
- (iv) The issue of uncertainty

Text: Chapters 5 and 11

R. Arnason, “Property Rights in Fisheries: How Much Can Individual Transferable Quotas Accomplish?”

J. Wilen, J. Cancino and H. Uchida, “The Economics of Territorial Use Rights Fisheries, or TURFs”

both the Arnason and Wilen et al. articles to be found at:

<http://reep.oxfordjournals.org/content/6/2.toc>

G. Munro, B. Turriss, C. Clark, U.R. Sumaila and M. Bailey, “Impacts of Harvesting Rights in Canadian Pacific Fisheries”, Fisheries and Oceans Canada, go to: <http://www.dfo-mpo.gc.ca/ea-ae/cat1/no1-3/no1-3-eng.htm>

“Fishing and Rights: How to Stop Fishermen Fishing”, *The Economist*, February 25, 2012, p. 16. Go to: <http://www.economist.com/node/21548240>

**V. The Basic Economics of Forest Management**

- (i) Forestry in the Canadian and British Columbia economies
- (ii) Optimal management over the long run: the optimal stock and optimal period of rotation.

Text: Chapter 10

P. Pearse, “Average Economic Yield Per Rotation: Douglas Fir”, go to Connect

**VI. Further Issues in Forest Management**

- (i) Problems of forest tenure
- (ii) Multiple Use of Forest Lands and Environmental Conflicts

Text: Chapter 10

**VII. The Economics of Environmental Quality**

- (i) The environment as a “common pool” resource
- (ii) Static vs. dynamic approaches to the problems of pollution
- (iii) Means of control: quantitative controls vs. taxes

Text: Chapter 6; Chapter 7, pp. 220-228, pp. 245-259.