

THE UNIVERSITY OF BRITISH COLUMBIA
Vancouver School of Economics

Economics 472: The Economics of Renewable Resources

Term 1, 2016/2017

Office Hours: F, 12:30 – 2:00 and by appointment

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READING LIST AND OUTLINE

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

Along with the text, there will be some additional readings, all of which you will find through Connect, www.connect.ubc.ca

I. An Introduction to the Economics of Renewable Resources

- (i) Natural resources defined: renewable vs. non-renewable
- (ii) Natural resources as capital assets, and the theories of capital and investment
- (iii) Conservation, 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 www.connect.ubc.ca

Ola Flaaten, *Fisheries Economics and Management*, 2011, Chapter 3, Parts 3.1 and 3.2; Chapter 5, Parts 5.1 to 5.3, go to www.connect.ubc.ca

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, and the social rate of discount as a measure of opportunity cost.
- (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”.

C. Clark and G. Munro, “Capital Theory and the Economics of Fisheries: Implications for Policy”, go to www.connect.ubc.ca

Ola Flaaten, *Fisheries Economics and Management*, Chapter 4, Chapter 5, Part 5.4, go to www.connect.ubc.ca

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 Third United Nations Conference on the Law of the Sea and the Exclusive Economic Zone regime.
- (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 www.connect.ubc.ca

“Fishing and Rights: How to Stop Fishermen Fishing”, *The Economist*, February 25, 2012, p. 16, go to www.connect.ubc.ca

The B.C. Groundfish Trawl Habitat Conservation Collaboration Agreement – a global first, go to www.connect.ubc.ca

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, “Net Stumpage Value and Average Economic Yield Per Rotation: Douglas Fir”, go to www.connect.ubc.ca

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.