

GEOGRAPHY 310: Environment and Resources
Autumn 2005 ~ Term 1 (3 credits)

Lectures: MW 9:30-11:00, Rm. GEOG 100

Instructors: K. Bakker (Room G142)

Tutorials: alternate Fridays 9:30 - 11:00 (GEOG 212 and 214)

M. Church (Room G133)

Prerequisite

Geography 101 (102/103) or permission of the instructor. Senior students in Applied Science, Life Sciences or Forestry may enroll without special permission.

Objectives

1. To introduce complexity and uncertainty as characteristics of environment, and multiple perspectives as a characteristic of resource management concepts and practices;
2. To encourage critical and integrative thinking about current problems of environment and resource management practices, with some special reference to British Columbia; and
3. To consider how institutional and social arrangements for environmental and resource management affect the economic, social and ecological sustainability of land and resources.

Although the course is introductory, it is given in the third year since it deals with complex issues and concepts. Some background in the study of environmental and social sciences, gained in lower years, is necessary for proper appreciation of the subject. The course is taught in a non-technical manner, but full attention is given to the selected range of problems that are raised.

Reading

Course readings are contained in the course book, which is sold at the Bookstore. Supplementary readings will be available in the Geography Information Centre (Rm.112).

Evaluation

Quiz	15%
Assignment	15%
Mid-term examination	25%
Final Examination	45%

The due dates for the assignment, quiz and midterm are fixed (see course schedule). Extensions will not be granted, except for documented medical or compassionate reasons.

A note on the final examination

The final examination is timetabled by the Registrar. The instructors will not make individual arrangements for students to circumvent the schedule (medical and compassionate deferrals are approved by the academic counseling office in your home faculty).

Module 1: Introduction to resources and the environment

Date	Topic	Readings	Lecturer
07 Sept	Introductory lecture	None	KB
12 Sept	Resources, sustainability and sustainable development	Freedman	KB
14 Sept	Ecosystem perspectives and adaptive management: ecological approaches	Slocombe	MC
19 Sept	Environmentalism	Guha	KB
21 Sept	British Columbia: ecology, urbanization and the organization of resource production	--	MC

Module 1 Tutorials: Exploring sustainability

16 Sept	9:30 - 10:10	1a	GEOG 214	TA1
16 Sept	9:30 - 10:10	1b	Geog 212	TA2
16 Sept	10:20 - 11:00	1c	GEOG 214	TA1
16 Sept	10:20 - 11:00	1d	Geog 212	TA2
23 Sept	9:30 - 10:10	2a	GEOG 214	TA1
23 Sept	9:30 - 10:10	2b	Geog 212	TA2
23 Sept	10:20 - 11:00	2c	GEOG 214	TA1
23 Sept	10:20 - 11:00	2d	Geog 212	TA2

Module 2: Long-cycle renewable resources: Forestry and forest land management

26 Sept	Forestry: The global picture	--	KB
28 Sept	Regional perspectives: characterizing the forests of the Pacific Northwest	Waring and Franklin	MC
3 Oct	Changing concepts in ecosystem management: sustained yield and sustainable yield	Dearden and Mitchell	KB
5 Oct	***Quiz*** Practicing sustained and sustainable yield	--	MC
10 Oct	Thanksgiving holiday -- no class	--	--
12 Oct	Property rights and stakeholders: evolution of forest tenure and administration	Berkes	MC

Module 2 Tutorials: Changes in forest management practices

7 Oct	9:30 - 10:10	1a	GEOG 214	TA1
7 Oct	9:30 - 10:10	1b	Geog 212	TA2
7 Oct	10:20 - 11:00	1c	GEOG 214	TA1
7 Oct	10:20 - 11:00	1d	Geog 212	TA2
14 Oct	9:30 - 10:10	2a	GEOG 214	TA1
14 Oct	9:30 - 10:10	2b	Geog 212	TA2
14 Oct	10:20 - 11:00	2c	GEOG 214	TA1
14 Oct	10:20 - 11:00	2d	Geog 212	TA2

Module 3: Flow resources: fresh water

17 Oct	Geography of freshwater: the global picture	Gleick	KB
19 Oct	Geography of freshwater use: regional perspectives	Cohen et. al. (online reading)	MC
24 Oct	Sustainable water management: quality, quantity, and security	Cech	KB
26 Oct	**Midterm**		
31 Oct	Dams, diversions and hydropower	--	MC
2 Nov	Property rights and water supply: The debate over privatization and commercialization **Assignment handed out**	--	KB

Module 3 Tutorials: How can we improve water supply management?

28 Oct	9:30 - 10:10	1a	GEOG 214	TA1
28 Oct	9:30 - 10:10	1b	Geog 212	TA2
28 Oct	10:20 - 11:00	1c	GEOG 214	TA1
28 Oct	10:20 - 11:00	1d	Geog 212	TA2
4 Nov	9:30 - 10:10	2a	GEOG 214	TA1
4 Nov	9:30 - 10:10	2b	Geog 212	TA2
4 Nov	10:20 - 11:00	2c	GEOG 214	TA1
4 Nov	10:20 - 11:00	2d	Geog 212	TA2

Module 4: Short-cycle renewable resources: the salmon fishery

7 Nov	Fisheries: the global picture	Pauly et. al.	KB
9 Nov	Regional perspectives: characterizing the salmonid fisheries of the Pacific Northwest	DFO, Dayton	MC
14 Nov	Pressures on the fishery resource: exploitation, changing habitat and environment	Clapp	MC
16 Nov	Sustained yield & sustainability in the fisheries	McRae and Pearse	MC
21 Nov	Property rights in the fishery **Assignment due**	McRae and Pearse	KB

Module 4 Tutorials: Who should control the fishery?

18 Nov	9:30 - 10:10	1a	GEOG 214	TA1
18 Nov	9:30 - 10:10	1b	Geog 212	TA2
18 Nov	10:20 - 11:00	1c	GEOG 214	TA1
18 Nov	10:20 - 11:00	1d	Geog 212	TA2
25 Nov	9:30 - 10:10	2a	GEOG 214	TA1
25 Nov	9:30 - 10:10	2b	Geog 212	TA2
25 Nov	10:20 - 11:00	2c	GEOG 214	TA1
25 Nov	10:20 - 11:00	2d	Geog 212	TA2

Course wrap-up

23 Nov	Guest lecture	--	--
28 Nov	Final arguments	--	KB & MC
30 Nov	Review class	--	MC

Readings

Berkes, F., Feeny, D., McCay, B.J. and Acheson, J.M. (1989) The benefits of the commons. *Nature* 340: 91-93.

Cech, T. (2003) *Principles of Water Resources* New York: Wiley, pages 301 - 321 ('Water Quality')

Clapp, R (1998) 'The Resource Cycle in Forestry and Fishing' *Canadian Geographer* 42(2), 129 - 144

Cohen, S., de Loë, R., Hamlet, A., Herrington, R., Mortsch, L., and Shrubsole, D. (2004) 'Integrated and Cumulative Threats to Water Availability' *In Threats to Water Availability in Canada* Burlington: National Water Research Institute (Chapter 15) **downloadable from** <http://www.nwri.ca/threats2full/intro-e.html>.

Dayton, P.K. 1998. Reversal of the burden of proof in fisheries management. *Science* 279: 821-822.

Dearden, P. and B. Mitchell 2005 *Environmental change and challenge: A Canadian perspective*. Toronto: Oxford University Press, pages 290 - 299.

DFO (Fisheries and Oceans Canada). *The incredible salmon*. Pamphlet: 8pp. no date.

Freedman, B. 1998. *Environmental Science: A Canadian perspective*. Scarborough: Prentice Hall Canada, pp. 182 - 199 (Chapter 12).

Gleick, P. 2000. 'The changing water paradigm: A look at twenty-first century water resources development' *Water International* 25(1), 127 - 138

Guha, R. 2000. *Environmentalism: A global history* New York: Longman, pp. 69 - 97 (Chapter 5).

McRae, D. M. and Pearse, P. H. 2004. Treaties and transition: towards a sustainable fishery on Canada's Pacific Coast. Federal-Provincial Joint Task Group Report: 58pp.

Pauly, D., V. Christensen, S. Guénette, T. Pritcher, U. Sumaila, C. Walters, R. Watson, D. Zeller (2002) 'Towards Sustainability in World Fisheries' *Nature* 418, 8 August, pages 689 - 695.

Slocombe, S. (2004) 'Applying an Ecosystem Approach' *in* B. Mitchell (ed.) *Resource and Environmental Management in Canada: Addressing Conflict and Uncertainty*. 3rd ed. Toronto: Oxford University Press, pages 420 - 441 (Chapter 15).

Waring, R.H. and Franklin, J.F. 1979. The evergreen coniferous forests of the Pacific Northwest, *Science* 204: 1380-1386.