

ENVIRONMENTAL CONSERVATION AND RESTORATION 2015

ENVR 3110 – FINAL

COURSE CONTENT, GOAL, AND OBJECTIVES

‘Conservation and Restoration’ is the first of two conservation-oriented core courses offered by the Environmental Science and Studies programme. We will focus on the science of conservation and restoration, their implementation in the "real world" and some recent alternatives that complement and in some cases undermine these science-based approaches. Subsequently, we will evaluate some of the more radical and often marginalized approaches to conservation that require fundamental changes in the way we perceive our environments and one another.

In this course will initially discuss conservation in a North American context and the role of wilderness in perceptions of nature (introduction), then examine science-based conservation (convention), evaluate generally accepted restoration strategies as a response to environmental decline (convenience), and introduce more recent community-based responses, especially those of Indigenous Peoples (contention). Although this course is interdisciplinary in approach, it will emphasize biological and community-based approaches to conservation and restoration (my bias). However, there will be much flexibility for you to tailor the course to conform to your own needs and interests (through written assignments and posters). The emphasis is on in-class work, and only 20% of the mark is exam-based. My teaching philosophy is that learning should be a participatory, creative, and emphasize critical thinking. Thus, much of the course work will involve discussion and collaborative (2-4 people) assignments. In-class discussion will also be emphasized; as many of these subject areas are subjective and controversial, I ask you to respect the right of class members to voice opinions that may conflict with your own.

The learning objectives of the course are for you:

- i) To encounter and evaluate many current conservation issues such as fragmentation and species extinction;
- ii) To assess the current state of the science-based conservation and restoration;
- iii) To become familiar "real world" management responses such as protection, ecological restoration, reintroductions, protected area design, and the theory underlying these responses;
- iv) To critically evaluate these conventional management responses, in particular the science-based "world views" that currently dominate the conservation and restoration literature;
- v) To examine community-based efforts that complement and in many cases actively undermine expert-based conservation and restoration strategies
- vi) To explore Indigenous (and Indigenist) approaches to environmental management and protection; and
- vii) To identify your own informed decision regarding many of the controversial issues that percolate through conservation and restoration

GENERAL INFORMATION

Instructor: Stéphane McLachlan

Office and Lab: 303 Wallace

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Contact times: open-door; arrange by email

Lecture:

- Tuesday & Thursday 11:30 - 12:45 PM 245 Wallace

Labs:

- Friday 2:30 - 5:30 PM 217 Wallace

Assigned Readings:

- reading package (electronic only, posted on UM Learn)
Please read them before class as they will provide background for the lectures/discussions

Email:

- course updates and occasional skeletal notes will be e-mailed in advance of each class.

Teacher Assistants:

- Kendelle Fawcett <Kendelle.Fawcett@umanitoba.ca>
Office: 303 Wallace, Phone: 204-474-7949
- Darcy McDougall <ummcd037@cc.umanitoba.ca>
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Other:

- late submissions will be penalised 5% per day (unless arrangements are made with TAs)
- students should be familiar with the University's policy on academic dishonesty including plagiarism, cheating, and exam impersonation (pp.32 of General Calendar)
- marking scheme is: A+ (≥ 90), A (80-89), B+ (75-79), B (70-74), C+ (65-69), C (60-64), D (50-59), F (0-49)

COURSE STRUCTURE

- Lectures / Discussion
- Small group work
- Lab / tutorial assignment (~4 people)
- Poster presentation
- Guest speakers

MARK ALLOCATION

- E-biosheets (Pass/Fail: participation mark)
 - picture, contact info, academic background
 - expectations of course, instructor and TA, what you hope to be doing in 10 years
 - **email due: Sept 15**
- Collaborative debate (group) (25%)
 - critically evaluate topic of choice
 - multi-stakeholder (one student per stakeholder position)
 - compromise position
 - individual (report) and group (presentation) mark
 - **due: Dec 4 (debate) and Dec 22 (two-page report, emailed)**
- Critical reflections (15%)
 - Focus on two of the three course themes, integrating across classes
 - 1) Convention: what works and doesn't in conservation (7.5%)
 - **due: Oct 20**
 - 2) Contention: restoration in peopled landscapes (7.5%).
 - **due: Nov 12**
 - 3) Contravention: local knowledge pushing back against scientism
 - **due: Dec 8**
- Poster (individual) (20%)
 - applied conservation/restoration/environmental justice topic of choice
 - **due: Nov 20**
- Briefs (individual) (10%)
 - in-class reading and Briefs 1-8 (2 Briefs /person)
 - these will focus on reading and distributing notes to group members and for marking
 - objectives (1mk), summary (3mks), critical evaluation of reading based on in-group and class discussion (4mks), questions (2mks)
 - two-pager (4-600 words); point form, pamphlet etc.
 - brief-a (5%) + brief-b (5%)
 - **due: at the *beginning* of the class in which the brief takes place**
 - **attendance in your brief session mandatory, otherwise receive a zero-grade**
- Participation (individual + instructor) (10%)
 - self evaluation (two-page)
 - **due: hand in with final exam**
 - instructor assessment
- Final exam (individual) (20%)
 - in-class or take-home (your choice)
 - group and individual component
 - **hand out date: Nov 24**
 - **due date: Dec 22**

CLASS SCHEDULE

DATE	TOPIC	READINGS
Introduction		
Sept 10	Class Introduction; e-biosheets, teaching philosophy + inclusive content exercise	e-biosheets Due Sept 15
Convention		
Sept 15	Fragmentation	Saunders et al. 1991
Sept 17	Connectivity and corridors	
Sept 22	Parks and management <i>Brief1</i>	Dearden and Demsey, 2004
Sept 24	Forest fragmentation in ON and MB	Moffatt et al. 2004
Sept 29	Expert-based strategies to landscape management	Haufler, 1999
Oct 1	Multi-party panel discussion on the environment	UC 217; 11:30-1:30
Oct 2 - L	Invasive species: background and responses	Field trip – Assiniboine Park
Oct 6	Parks and conservation; much needed or needless	Editors, 2009
Oct 8	Eco-colonialism <i>Brief2</i>	Soomin and Shirley. 2009
Contention		
Oct 13	Restoration vs. conservation <i>Brief3</i>	Young, 2000
Oct 15	Ecological restoration: introduction <i>Brief4</i>	Hobbs and Norton, 1996
Oct 16 - L	Prairie restoration	Field trip – TGP IC
Oct 20	Restoration: case studies Aamjinwanng	Gray-Donald 2015
Oct 22	Urban Restoration <i>Brief5</i>	Gobster, 2007.
Oct 27	Re-imagining invasive species <i>Brief6</i>	Neyfakh, 2011
Oct 29	The Nile perch and colonization Video: Darwin's Nightmare	Goudswaard et al, 2008
Oct 30 - L	Posters and debates: discussion	Work time
Contravention		
Nov 3	Integrated Conservation and Development	
Nov 5	Environmental Justice: An Intro	
Nov 10	Environmental justice in Canada: Case Studies <i>Brief7</i>	Haluza-Delay, 2007
Nov 12	Community based monitoring Guest Speaker: Bruce Maclean	Conrad and Hilchey, 2011
Nov 17	Water and environmental justice in Manitoba: Guest Speakers: Ashlyn Haglund	Neufeld 2015; Anon 2015
Nov 19	Multi-stakeholder collaboration and environmental management <i>Brief8</i>	Redpath et al. 2012

Nov 20 - L	Environment Posters	University Centre
Nov 24	Video: A River Between Us	Final Exam: hand out
Nov 26	Video: A River Between Us (cont'd)	
Nov 27 - L	Work time for group debates	
Dec 1	Sacred Fires and the Leg: Environmental and Social Justice in Manitoba Guest Speaker: Joe Seenie, Rouseau River	
Dec 3	Wa Ni Ska Tan Hydro Alliance: Case study of a multi-stakeholder partnership in Manitoba	McLachlan et al. 2015
Dec 4 - L	Debate (30min*5)	
Dec 8	In-class exam review	

REFERENCES (ON UM LEARN)

- Anon (Anonymous). 2015. Shoal Lake and Winnipeg's Drinking Water. <http://www.winnipeg.ca/waterandwaste/water/shoalLake.stm>
- Conrad, C.C., and K.A. Hilchey. 2011. A review of citizen science and community based environmental monitoring: Issues and opportunities. *Environmental Monitoring and Assessment* 176:273-291.
- Dearden, P., and J. Dempsey. 2004. Protected areas in Canada: decade of change. *The Canadian Geographer/Le Géographe canadien* 48:225-239.
- Editors, 2009. What's Wrong With the National Parks? http://roomfordebate.blogs.nytimes.com/2009/09/27/whats-wrong-with-the-national-parks/?_r=0
- Gray-Donald, D. 2015. Biggest Toxic Tour yet exposes Chemical Valley's harsh reality. *Rabble*. September 9 2015. <http://rabble.ca/news/2015/09/biggest-toxic-tour-yet-exposes-chemical-valleys-harsh-reality>
- Gobster, P.H. 2007. Urban restoration and the "museumification" of nature. *Nature and Culture* 2:95-114
- Goudswaard, K.P.C., F. Witte and E.F.B. Katunzi. 2008. The invasion of an introduced predator, Nile perch (*Lates niloticus*, L.) in Lake Victoria (East Africa): chronology and causes." *Environmental Biology of Fishes* 81: 127-139.
- Haluza-Delay, R. 2007. Environmental justice in Canada. *Local Environment* 12:557-564
- Haufler, J.B. 1999. Strategies for conserving terrestrial biological diversity. Pages 17-30 in R.K. Baydack, H. Campa III, and J.B. Haufler, eds. *Practical approaches to the conservation of biological diversity*. Island Press, Covelo, CA.
- Hobbs, R. J. and D. A. Norton. 1996. Towards a conceptual framework for restoration ecology. *Commentary. Restoration Ecology* 4:93-110.
- McLachlan, S.M. 2014. Deaf in one ear, and blind in the other: Science, Aboriginal traditional knowledge, and the implications of Keeyask for the socio-environment. A report for the Manitoba Clean Environment Commission on behalf of the Concerned Fox Lake Grassroots Citizens. January 11, 2014.

- McLachlan, S.M. 2014. The *Wa Ni Ska Tan* hydro alliance: Cross-regional research alliance on the implications of hydro development for environments and Indigenous communities in northern Canada
- Moffatt, S.F., S.M. McLachlan, and N. Kenkel. 2004. Impacts of surrounding landuse on riparian forests in southeastern Manitoba. *Plant Ecology*, 174:119-135
- Neufeld, J. 2015. Sucked Dry: A First Nations suffers so Winnipeg can have water. March 2015. <http://thewalrus.ca/sucked-dry/>
- Neyfakh, L. 2011. The Invasive Species War. Do We Protect Native Plants Because They're Better for the Earth, or Because We Hate Strangers?. July 31 2015. Boston Globe. http://articles.boston.com/2011-07-31/bostonglobe/29836256_1_invasive-species-native-plants-water-chestnut
- Redpath, S.M., J. Young, A. Evely, W.M. Adams, W.J. Sutherland, A. Whitehouse, and R.J. Gutiérrez. 2012). Understanding and managing conservation conflicts. *Trends in Ecology and Evolution* 28:100-109
- Saunders, D. A., R. J. Hobbs, and C. R. Margules. 1991. Biological consequences of ecosystem fragmentation: a review. *Review. Conservation Biology* 5:18-32.
- Soomin, L. and S. Shirley. 2009. Eco-Imperialism: The global North's weapon of mass intervention. *Journal of Alternative Perspectives in the Social Sciences* 1: 846-860.
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