Syllabus

**Course Description**  This course deals with the role of geographic information, paradigms and modes of analysis - including but not restricted to GIS - in environmental impact assessment and decision-making. The focus will be on community-based decision-making, particularly where biodiversity conservation issues are involved. We will examine cross-cultural situations, developing areas and the role of government and non-government organizations.

**Overview** We study, and likely live, in a city center. In the course of human evolution, we have come “in from the plains and forests” and settled in towns and cities. In so doing, the basic biology of humans has changed little, but the basic ecology has changed enormously. During much of that transition, there was little need for critical self-analysis based on ecological understanding, because the ecosystems of which we were a part absorbed most of the added stresses, and maintained their own integrity, robustness and resilience. Notably, we begin this course only two days after Science published the formal acknowledgement that “The Anthropocene is functionally and stratigraphically distinct from the Holocene” (Waters et al.) [http://science.sciencemag.org/content/351/6269/aad2622](http://science.sciencemag.org/content/351/6269/aad2622). We have created our own epoch, and as we reach what many observers feel are the “limits to growth”, as we recognize threats to sustainability, the need to study, analyze, and manage human ecology asserts itself. These process are formalized in the field of environmental decision-making.

This course is about environmental decision-making. It considers the challenge of maintaining ecological integrity of our life-support systems. While this could cover many possible contemporary issues, this year the course focuses specifically on the need for biodiversity conservation. Biodiversity is, in fact, the measure of the system that sustains us. If it is imperiled, we are imperiled. Biodiversity conservation is a complex agenda, and involves reconsidering many aspects of modern life. But the specific efforts to protect biodiversity-rich areas often means working in areas where cultural diversity and economic development challenges are great. How have human communities organized themselves within natural and semi-natural landscapes and how have they contributed to local ecological dynamics? What sites have attracted the conservation interests of the global community, and what is the relationship between those interests and local interests? How are planning and management decisions taken? How have stakeholders interacted, and how do power balances influence outcomes? These are questions that will underlie this research seminar.

Poverty reduction is often linked to conservation interests, and Community Based Natural Resource Management (CBNRM) has been widely explored as a possible solution. We will consider successes and failures of CBNRM and look to future alternatives. Tourism is increasingly seen as a means of linking livelihoods to conservation, but are conflicts in conservation likely to become more or less common as tourism plays an ever-increasing economic role in supporting the case for conservation? What are the processes and mechanisms for local decision-making? Who are the instrumental stakeholders and within what governance structures do they operate? What analytical tools can be used to clarify spatial decisions? How can disputes be resolved or kept to a minimum? And once conflicts have arisen, how can society move beyond them?

At the core of the field of environmental decision-making are the routine questions of how humans fit into and modify their habitats. Research in this field requires the blending of natural and social science in a policy context. It requires understanding technology as one of the driving forces of conflict but also as a possible mitigating factor and as a tool for monitoring, analyzing and communicating issues underlying the conflict. This course deals with applying the technical and theoretical knowledge of
geography and allied disciplines to the task of making decisions about land use, resource development and environmental conservation. This course provides an opportunity for graduate students and advanced undergraduates to work in a small seminar group where current issues and practical problems of application are discussed.

**Structure.** The course consists of two components. The first comprises a series of discussions based on assigned readings. For each set of readings, a leader is designated from within the group, but all members of the group are expected to take a full and active part in the discussion - i.e. it is not a presentation by the seminar leader but a round table “animated” (or mediated) by the leader. The second phase involves a “hands-on” project (which offers, but does not require, the possibility of using GIS). Students will actively participate in developing and using environmental information in a community decision exercise. There are two outputs from this research: an individual (or small group (2-4)) theory paper, and a contribution to the full group project report.

**The theory paper.** The major piece of individual or small group work will be a theoretical paper and annotated bibliography covering some aspect of the major research theme. While this is an independent project, it must be coordinated with the group activity, that is, there should be no overlap in student topics, but elements should complement one another to form a coherent whole related to the project we are working on. The collection of theoretical papers arising from this exercise should, therefore, be a high quality series of analyses of the designated topic. In the past students have arranged an exchange so that each student has had access to the full set of collated documents (therefore an agreement should be reached amongst students on the formatting of the papers). In two cases the product was published. The students will each make an oral presentation on their own work and submit a written final version.

**The group report:** The written report on the case project will be prepared by the entire group but with each small group taking responsibility for one section. This should be a document that makes some useful contribution to a practical environmental decision-making case. It is to be the sort of document that a team of professional consultants might produce. Each student is also required to write a brief commentary on the report.

**Grading.** Students will be graded as follows:

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<th>Component</th>
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<tbody>
<tr>
<td>Contribution to class</td>
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<tr>
<td>Theory Paper:</td>
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<tr>
<td>- oral</td>
<td>20% (lead one hour seminar)</td>
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<tr>
<td>- written</td>
<td>40% (major research paper)</td>
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<td>Segment of group report</td>
<td>20%</td>
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**Readings.** Assigned from bibliography introduced in class and discussed with students. As background, begin with…


Kolbert, E. (2014). The sixth extinction: an unnatural history. Henry Holt and Company. N.Y. 319pp. – This one is just a good read and will provide a background in case you are uncertain of why this is important.
Assignment 1

Examine the “Linking Biodiversity Conservation...” document and get back to me by Monday Jan 18, by email with subject line: “551 comments”. In that email, and in not more than 250 words, state 1) what your background is that brings you to this course, 2) what you think you could contribute to an exploration of these ideas, and 3) what you hope to acquire during this course.

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Student Integrity

1. "McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ for more information). (approved by Senate on 29 January 2003)
"L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site www.mcgill.ca/students/srr/honest/)."

2. “In accord with McGill University’s Charter of Students’ Rights, students in this course have the right to submit in English or in French any written work that is to be graded.” (approved by Senate on 21 January 2009 - see also the section in this document on Assignments and evaluation.)
"Conformément à la Charte des droits de l’étudiant de l’Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l’un des objets est la maitrise d’une langue)."

3. For information on university and department policies for student assessment, please go to http://www.mcgill.ca/geography/studentassessment.

4. Instructor generated course materials (e.g., handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

5. "As the instructor of this course I endeavor to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me and the Office for Students with Disabilities, 514-398-6009."

6. Guidelines for the use of mobile computing and communications (MC2) devices in classes at McGill have been approved by the APC.

7. "End-of-course evaluations are one of the ways that McGill works towards maintaining and improving the quality of courses and the student’s learning experience. You will be notified by e-mail when the evaluations are available on Mercury, the online course evaluation system. Please note that a minimum number of responses must be received for results to be available to students."

8. "McGill has policies on sustainability, paper use and other initiatives to promote a culture of sustainability at McGill. (See the Office of Sustainability.)

9. In keeping with McGill's preparedness planning strategies with respect to potential pandemic or other concerns: “In the event of extraordinary circumstances beyond the University’s control, the content and/or evaluation scheme in this course is subject to change.”

10. "Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights"