

**University of Manitoba
Department of Environment and Geography**

ENVR 4050 K01, GEOG 4050 K01 and GEOG 7010 K01

Ecosystem Management

Fall Term 2015

Instructor: Dr. Erin McCance 204-786-9301 (ummccanc@cc.umanitoba.ca)

Parkland Mews: Robert Wheeldon, Falconer and Founding Director of Parkland Mews

Office Hours: By appointment 255 Wallace

Classes: Fridays 1:30 – 4:15 pm in 218 Wallace

Text: Meffe, G.K., L.A. Nielsen, R.L. Knight, & D.A. Schenborn. 2002. Ecosystem management: adaptive, community-based conservation. Island Press, Washington.

Optional text: Berg, L.R., M.C. Hager, L.G. Goodman, and R.K. Baydack. 2010. Visualizing the Environment. Wiley, Toronto.

Additional Reference: Shepherd, G. 2004. The ecosystem approach: 5 steps to implementation.

IUCN, Gland (<http://data.iucn.org/dbtw-wpd/edocs/CEM-003.pdf>)

Parkland Mews, Falconry & Bird of Prey Education Center Inc.

<http://www.parklandmews.com/contact-parkland-mews.php>

A. Goals:

Ecosystem Management will provide students with an understanding of the practical applications of ecological science, environmental policy, and resource management approaches in the large-scale planning of landscapes. The course begins with a review of ecological principles, historical development, and description of the ecosystem concept, along with comparisons to other management approaches. The synthesis of major elements and the various approaches to ecosystem management on the Manitoba landscape will be examined during the course through case studies, with an emphasis on practical learning by students through individual and group assignments and discussions. A ‘real-world’ planning exercise will enable students to demonstrate their understanding and implementation of the approach in a Manitoba situation.

B. Objectives:

Upon completion of this course, students will be able to:

1. Understand and participate in discussions regarding various aspects of ecosystem management on a broad as well as a local scale.
2. Identify, examine, and assess the scientific literature and information sources relating to the concept of ecosystem management and related approaches to environmental and natural resources management.

3. Develop an ecosystem management plan as a member of a team for an allocated area in Manitoba.

C. Course Content:

The course will consist of weekly seminar meetings at which students will take an active role in discussing and questioning specific aspects of, or approaches to ecosystem management.

Background reading materials from the textbook and/or other sources will be provided for each seminar. Students should prepare themselves for weekly seminars and class discussions by referring to the designated chapters of the textbook (please try to just 'skim over' the US content) and other materials of their own choosing (i.e., web searches). Be prepared to discuss and introduce the reading materials in each class in order to earn your 'participation' marks. Practical examples, generally from Manitoba, will be used to supplement the material presented in each seminars. Students will be evaluated through class participation, a team-based term assignment, oral presentations, and a final take-home assignment. Resource materials and lecture content will be posted on the U of M Desire 2 Learn (D2L) website:

(<https://universityofmanitoba.desire2learn.com/>) so students should be sure to have availed themselves of a (cc.umanitoba.ca) computer account.

D. Evaluation:

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| • Participation | 20% |
| • Team Assignment: | |
| • Parkland Mews Species Inventory | |
| • Progress Report/Oral Summaries | 10% |
| • Team Assignment Final Report & Oral Presentation (Due: December 4) | 30% |
| • Individual Take-Home Assignment (Due: Dec. 9) | 40% |

Note that electronic submission is required for all assignments using the Dropbox function on the U of M D2L site.

E. Grading Scale

The grading scale to be used in this course is:

A+	90-100	C+	65-69
A	80-89	C	60-64
B+	75-79	D	50-59
B	70-74	F	0-49

F. General

Graduate students will be expected to provide more in-depth discussion, contributions to the team assignment, perhaps by serving as team leaders, and more in-depth responses to the final individual take home assignment.

Students are expected to attend all classes and actively participate in the seminar discussions.

Requirements for course attendance and rules regarding plagiarism may be found in the General Academic Regulations and Policy Section of the University of Manitoba Graduate and Undergraduate Calendars. Students will not be permitted to hand in the assignment or final exam late, except for documented medical or compassionate reasons.

Evaluative feedback will be provided upon request of the individual student before the voluntary withdrawal deadline date, which for this course is November 18, 2015.

G. Team Assignment

Team Projects will be organized with groups of 4 or 5 students in each group by September 25, 2015. Each team will prepare an ecosystem management on Parkland Mews, Falconry and Bird of Prey Education Center. Parkland Mews, under the Endangered Species Act, holds Peregrine Falcons for the purpose of recovery and is engaged in a captive breeding project. Each team will prepare and present an Ecosystem Management Plan for Parkland Mews and Peregrine Falcon Recovery Program based on current knowledge from lectures, internet sources, information in the scientific literature and other sources, and views from local stakeholders.

As an initial assignment, each team will be trained in the field techniques associated with conducting species inventories. Each team will be asked to conduct species inventories within an allocated geographic area of Parkland Mews. Shared data on the overall collated species inventories will be provided to each team to assist them with the ground-truthing component of their Ecosystem Management Plans.

Each team will organize themselves and divide the labour according to their individual knowledge and strengths for all aspects of researching the literature, contacting local area individuals, preparing the plan and providing a formal oral summary in class. **A Progress Summary of each team's approach to the assignment will be presented in class on October 23 (3-5 page report and a 10 minute presentation per team.)** The species inventories, along with an initial progress report and presentation will account for 10% of each student's grade.

The Final Management Plan should be of sufficient length (~ **20 pages**) to adequately outline a strategy for the use of ecosystem management for Parkland Mews and Peregrine Recovery Program and be documented with the appropriate technical and non-technical literature. The role/responsibility of each student will be briefly described in the Acknowledgements to the Plan. The format for the Plan is flexible, but should contain all of the information needed to lead to implementation of the team's ideas and recommendations. The Journal of Wildlife Management or other suitable scientific journal should serve as source documents to guide style and format presentations and Literature Cited. **The Final Ecosystem Management Plan and Oral Presentations are due on December 4, 2015.**

H. Individual Take-Home Assignment

On **December 9**, each student will also be expected to hand in their answers to a take-home assignment that will have been previously distributed. Students will be expected to draw upon textbook readings, seminar presentations, scientific literature, personal communications, internet sources, and other materials in formulating their answers.

I. Preliminary Seminar Schedule

- Sept. 11 **Introduction** (Shepherd)
Introduction to the course (Chapter 1, 10)
Definitions, basic concepts and terms used
Royalwood example
The ecosystem approach: 5 steps to implementation
Dr. Erin McCance, Dept. of Environment & Geography
- Sept. 18 **Getting a Grip on Ecosystem Management** (Chapters 2 & 10)
What is/isn't ecosystem management, ecosystem classification
Dr. Erin McCance, Dept. of Environment & Geography
Introduction to Parkland Mews, Recovery Plan and Strategy for the Peregrine Falcon in Manitoba, and the challenges of Ecosystem Management
Robert Wheeldon, Parkland Mews, Falconer and Founding Director of Parkland Mews <http://www.parklandmews.com/contact-parkland-mews.php>
- Sept. 25 **Field Trip to Parkland Mews** (Chapter 8 & 9)
Site Tour, field orientation, training on hands on species inventory techniques
Robert Wheeldon, Parkland Mews, Falconer and Founding Director of Parkland Mews
Dr. James Duncan, Director, Manitoba Conservation and Water Stewardship
Rob Officer, M.Env., RRCC Instructor, Parkland Mews Vegetation Study
- Oct. 2 **Field Trip to Tall Grass Prairie Preserve, southeastern Manitoba**
Tolstoi, MB – Chartered Bus Departs Uof M at 130 return to U of M at 530 pm
www.natureconservancy.ca/site/PageServer?pagename=mb_ncc_work_projects_tallgrass1 Recovery and protection of Manitoba's most endangered ecosystem
Cary Hamel, Nature Conservancy (Chapter 6 & 7)
- Oct. 9 **Field Trip to Parkland Mews** (Chapters 5)
Hands on species inventories of defined geographic sites
Robert Wheeldon, Parkland Mews, Falconer and Founding Director of Parkland Mews <http://www.parklandmews.com/contact-parkland-mews.php>
- Oct. 16 **Field Trip to Seine River Riparian Corridor, South St. Vital** (Chapter 10)
130-530 pm, Carpool - Meet at SE corner, Extra Foods Parking Lot, 740 St. Anne's Road, Seine River Corridor Management
Denis Gautron, Save Our Seine
Rodney Penner, City of Winnipeg
- Oct. 23 **The Wildlife Society, 22nd Annual Conference Field Trip**

- Oct. 30 **Team Assignment Progress Summaries (10 minutes each)**
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- Nov. 6 **Lake Winnipeg and Manitoba Conservation Districts** (Chapters 5)
 Lake Winnipeg Management and Research
Dr. Karen Scott, Lake Winnipeg Research Consortium
 Manitoba Conservation Districts and Integrated Water Management
April North, Watershed Planning and Programs, Manitoba Conservation and Water Stewardship
- Nov. 18 **Voluntary Withdrawal Date**
- Nov. 13 **Architecture, Urban Planning, and Ecosystem Management** (Chapters 10)
Dr. Alyssa Schwan, Department of Architecture
Urban Ecosystem Management - Living with White-tailed Deer
Dr. Erin McCance, Department of Environment & Geography
- Nov. 20 **Landscape Approaches and Protected Areas Initiatives** (Chapter 8 & 7)
 Wildlife Management Areas
Elvira Roberge - Protected Areas Initiative
 Environmental Impact Assessments: Terrestrial Mammals, Boreal Woodland
 Caribou and Forestry
Dr. Erin McCance, Dept. of Environment and Geography
- Nov 27 **Aquatic Ecosystems/Wetlands Management and Policy Implications**
Dr. Pascal Badiou, Ducks Unlimited Canada (Chapters 4 & 7)
 Policy relationships to ecosystem management
Tracy Maconachi, Ducks Unlimited Canada
- Dec. 4 **Team Assignments Due & Oral Presentations**
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- Dec. 9 **Individual Final Assignments Due**