

Wetland Ecology

(BIOL 3372)

8 – 21 August 2010

Lectures and field exercises examine the biotic (algae, macrophytes, invertebrates, and vertebrates) and abiotic (hydrology, nutrient cycling) properties of Delta Marsh, a prairie lakeshore wetland. Other wetland types, including peatlands, will also be considered in lectures and field trips. The course is offered in Summer Session at the Delta Marsh Field Station (University of Manitoba).

Instructors:

Dr. Dale Wrubleski
Ducks Unlimited Canada
Office (OHM): 467-3317
Fax: 467-3410
E-mail: d_wrubleski@ducks.ca

Dr. Gordon Goldsborough
Department of Biological Sciences
Office (538 Machray Hall): 474-7469
Fax: 474-7588
E-mail: ggoldsb@cc.umanitoba.ca

Evaluation:

- | | |
|---------------------------------|-----|
| • midterm (1 hour) | 25% |
| • project and oral presentation | 25% |
| • final exam (3 hours) | 50% |

Grade Assignment:

90 - 100..... A+	70 - 76..... B	50 - 59..... D
80 - 89..... A	65 - 69..... C+	< 50..... F
77 - 79..... B+	60 - 64..... C	

Textbook:

There is no formal textbook for this course. However, if you wish to do supplementary reading or get information on a subject that is not covered by the lectures, the following books in the Field Station library (and other libraries) may be helpful:

- *Treatment Wetlands*. R. H. Kadlec and R. L. Knight, 1996. CRC Press, 893 pp.
- *Wetlands*, 4th edition. W. J. Mitsch and J. G. Gosselink, 2007. John Wiley & Sons, 600 pp.
- *Prairie Wetland Ecology: The Contribution of the Marsh Ecology Research Program*. H. Murkin, A. van der Valk, and W. R. Clark (editors), 2000. Iowa State University Press, 413 pp.
- *Northern Prairie Wetlands*. A. van der Valk (editor), 1989. Iowa State University Press, 400 pp.

The Canadian Wetland Classification System, 2nd edition. The National Wetland Working Group, B. G. Warner and C. D. A. Rubec (editors), 1997. Wetland Research Centre, University of Waterloo. Available for free download at www.portofentry.com/Wetlands.pdf.

Wetland Ecology

(BIOL 3372)

8 – 21 August 2010

Lecture outline:

Day	Morning	Afternoon	Evening
Sunday 8 August			Welcome, room assignments, house rules; introduction to the Field Station and Delta Marsh
Monday 9 August	Lecture: wetland definitions, classification, distribution, function and values (Goldsborough)	Canoe trip through Delta Marsh; discussion of field sampling exercises, projects and presentations	Lecture: Introduction to the MERP, Marsh Ecology Research Program (Wrubleski)
Tuesday 10 August	Lecture: wetland hydrology and biogeochemistry (Goldsborough)	Sampling exercise: water and sediment chemistry	Data analyses from field exercise and develop project ideas
Wednesday 11 August	Lecture: algae in wetlands, and role in food web (Goldsborough)	Sampling exercise: invertebrates	Work on projects
Thursday 12 August	Lecture: structure and function of invertebrate populations in wetlands, and role in food web (Wrubleski)	Sampling exercise: algae	Work on projects
Friday 13 August	Tour of peatlands and prairie potholes in western Manitoba (CFB Shilo & Minnedosa)		
Saturday 14 August	Mid-term exam	Lecture: vertebrates (amphibians, fish, birds, mammals) in wetlands, and role in food web (Wrubleski)	Friends of Delta Marsh Field Station Annual Pignic
Sunday 15 August	No activities scheduled		
Monday 16 August	Lecture: macrophytes in wetlands, and role in food web (Goldsborough)	Sampling exercise: macrophytes	Work on projects
Tuesday 17 August	Lecture: treatment wetlands, wetland models (Wrubleski)	Sampling exercise: vertebrates; work on projects	Data analysis from field exercises; work on projects
Wednesday 18 August	Lecture: wetland decomposition, peatlands (Goldsborough)	Exercise: vertebrate sample processing	Data analysis from field exercises; work on projects
Thursday 19 August	Lecture: salt marshes, wetland stressors and contamination (Goldsborough)	Work on projects	
Friday 20 August	Lecture: wetland management and restoration (Wrubleski)	Oral presentation of project results	Study for final exam; work on written project reports
Saturday 21 August	Final Exam	Submit written project reports and departure	