NRM/GEOG 464 WILDERNESS MANAGEMENT

Spring 2016; Tuesday and Thursday, 2:00-3:30 pm,
O'Neill Building, Room 305

Instructors:

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Course Objectives

The goals of this course are to explore the main concepts and practices of wilderness management from an ecological, wilderness user, and resource management perspective. Wilderness can be looked at as both a biophysical reality and as a social/cultural/legal construct. Wilderness management from the ecological perspective is characterized as making and implementing decisions to sustain intact or naturally functioning ecosystems at large spatial scales and over very long periods of time. The first part of the course applies basic ecological and other biological principles specific to the function of large-scale ecosystems and permanent conservation to management decisions and actions. The second part of the course develops wilderness decision-making and management actions from a social and cultural perspective by considering wilderness users ranging from the individual to society at large. The goals of the course are to equip the student to recognize the main issues involved in wilderness management, to critically evaluate various wilderness management strategies, and to recognize and understand the ecological and social tools available to wilderness managers.

Course Information

Lectures - 11 Powerpoint topic lessons posted to the course Blackboard site.

Learning Objectives - Specific learning objectives drawn from the lectures and assigned readings will be posted; questions for the 2 quizzes and the midterm will be drawn from these.

Student Presentations - student presentations of wilderness management plans and selected documentary material will be posted to the course Blackboard site.

Management, scientific, and technical literature – (A) wilderness, wildlife refuge, and national park management plans, (B) scientific literature on predator-prey relations and wilderness-dependent species, and (C) management efficiency and accountability reviews will be posted to the course Blackboard site.

Topic Outline

Part I – Wilderness Ecosystem management G. Juday (13 class periods, 1.5 hrs. ea.)

1. Review of history, purposes, and ecosystem characteristics U.S. land management systems, and northern nations

a. USDA Forest Service
b. National Park Service
c. USDI Fish and Wildlife Service
d. USDI Bureau of Land Management
e. Land management systems and wilderness in Canada
f. Land management and wilderness in Russia
g. Land tenure in Nordic nations

2. Review fundamental ecosystem processes from perspective of larger scales and long time periods

a. Succession at the large landscape level.
b. Element cycling and retention across large landscapes.
c. Energy flow into and out of wilderness areas.
d. Habitat relations of predators and large predators and wilderness.
e. Animal influences at the landscape level.
f. Wildlife reproduction and life history strategies that require large areas of space and long time periods.

3. Concepts of natural diversity

a. Genetic diversity and species survival – space and numbers.
b. Species diversity – resilience, productivity, and other consequences.
c. Landscape diversity – habitat and disturbance.

4. Ecosystem processes specific to larger spatial (Wilderness) scales

a. Demography and meta-populations.
b. Gene flow in plants and animals.
   Inbreeding depression and local adaptation/outbreeding depression.
c. Migration, the issue of habitat corridors, and transplantation.
d. Minimum Viable Population, in-situ and ex-situ conservation.
e. Effective population size and its operational definition in wilderness planning.
f. Plant-animal interactions (seed dispersal, pollination, etc.) and wilderness management.
g. Disturbance patterns and disturbance regimes (fire, flood, soil and rock movement, etc.) and management emulation of natural disturbance processes.

5. Ecosystem characteristics specific to long time scales

a. The legacy effect; tropical vs. temperate/boreal species richness patterns, consequences, and wilderness management approaches.
b. Deterministic vs. contingent concepts of ecosystem organization.
c. Climate trends and cycles vs. wilderness equilibrium.
d. The challenge of global warming to Wilderness management.

6. Rules for Wilderness Ecosystem Management

a. Disturbance regime and disturbance management.
b. Environmental monitoring, research, and information gathering.
c. Endangered species propagation and management.

d. Exotic species impact and control in wilderness.
e. Visitor impact and facilities in wilderness.

7. Wilderness management– case studies

a. Wilderness resources and management challenges in the Russian Far East.
b. Species-rich and endangered islands and monitoring for management action; Channel Islands National Park management
c. Large forest in a small space: Redwood National Park management plan
d. Ecological restoration at the wilderness scale – the Midwest tallgrass prairie and the wood bison in Alaska.

8. Predators and their prey

a. White-tailed deer, wolf and cougar interactions and management in eastern U.S.
b. Elk in the Northern Rockies, Yellowstone National Park, and wolf management.
c. Moose and wolf in Alaska and northern nations.
d. Marine predators, ecosystems, and management.

9. Wilderness ecosystem management plans (student presentations)

a. National park and other wilderness ecosystem management plans.
b. U.S. national park ecosystem management plans.
c. U.S. national wildlife refuge management plans.
d. U.S. national forest wilderness ecosystem management plans.

Part II – Wilderness Recreation Management Lois Dalle-Molle 18 class periods,1.5 hrs ea.)

1. Wilderness Background

a. Review of the Idea of Wilderness,
b. Brief History through time, Biographies,
c. FAQ and the 1964 U.S. Wilderness Act and subsequent legislation,
d. Site specific information about wilderness

2. Wilderness Stewardship, Management Framework

a. Wilderness Management policies of U.S. federal agencies,
e. Planning, goals, inputs, site specific information

3. Managing the visitor experience

a. Visitor experience,
b. Visitor management,
c. LAC/VERP,
d. Policy and guidelines on development,
e. Public participation,
f. Site-specific information

4. Minimum Requirement Analysis

a. when required
b. framework
c. case studies and exercises

5. Alaska-specific wilderness management issues

a. Background, history of Alaska National Interest Lands Conservation Act (ANILCA)

b. Unique Alaska overlay of ANILCA on Wilderness
c. ANILCA implications for wilderness management
d. Subsistence and Wilderness

6. Current wilderness management issues

a. ANWAR
b. Ambler Mineral District Access Road

7. Assignment reporting

a. Summary of management decisions process as applied to real site management individual-oral)

Grading System

Part I (40% of grade)

1. Class participation 10%
   (response to direct questions, evaluation of assigned readings, synthesizing ideas)
2. Quiz 1 45%
3. Quiz 2 45%

Part II (60% of grade)

1. Class participation 25%
   (contribution to class discussion)
2. 1 quiz 30%
3. Final - individual presentation of management recommendations for specific area. 45%

Final assigned grade criteria:

90-92.9	A-	93-97.9	A	98-100	A+
80-82.9	B-	83-87.9	B	88-89.9	B+
70-72.9	C-	73-77.9	C	78-79.9	C+
60-62.9	D-	63-67.9	D	68-69.9	D+

<60 F