

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

WILDLIFE MANAGEMENT

COURSE TITLE: _____

FOR 338-6

5 & 6

CODE NO.: _____

SEMESTER: _____

FISH AND WILDLIFE TECHNOLOGY

PROGRAM: _____

H. A. COOPER

AUTHOR: _____

MAY 1993

MAY 1992

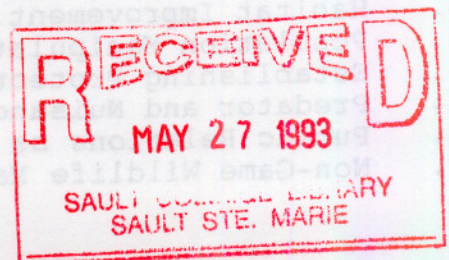
DATE: _____

PREVIOUS OUTLINE DATED: _____

APPROVED: _____

DEAN

DATE



WILDLIFE MANAGEMENT

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TOTAL CREDIT HOURS: 96

PREREQUISITES(S): Nil

I. PHILOSOPHY/GOALS:

An advanced level course combining theoretical and practical aspects of wildlife management tools. Topics include biology of important wildlife species; the role of harvesting fish and game; habitat requirements and improvement for upland game birds, small game and big game mammals, furbearers and waterfowl; population manipulation; management of protected areas; predator and nuisance species control; and the role of effective public relations in resource management.

II. STUDENT PERFORMANCE OBJECTIVES:

Upon successful completion of this course the student will be able to:

1. State the major management tools used for wildlife, and discuss how these tools may affect future wildlife management.
2. Describe the role of harvesting wildlife populations.
3. Discuss the biological requirements and management practices used for major wildlife species of Canada.
4. Describe how habitat improvement practices may increase wildlife numbers.
5. Discuss population manipulation techniques, and the role of protected areas.
6. Describe various predator control and nuisance species control techniques, and their effectiveness.
7. Discuss the importances of an effective public relations program in resource management.

III. TOPICS TO BE COVERED:

1. Introduction and Scope of Course.
2. The Role of Harvesting Fish and Game.
3. Biology and Requirements of Game Species.
4. Habitat Improvement.
5. Population Manipulation.
6. Establishing Protected Areas.
7. Predator and Nuisance Species Control.
8. Public Relations as a Management Tool.
9. Non-Game Wildlife Management.

IV. LEARNING ACTIVITIES:**TOPIC 1: INTRODUCTION**

At the completion of this unit, the student will be able to:

- 1.0 State and explain:
 - 8 principles of game management
 - 7 major management tools
 - 8 factors that future resource planners must consider

TOPIC 2: ROLE OF HARVESTING

At the completion of this unit, the student will be able to:

- 2.0 State the objectives and rationale for harvesting resources.
 - 2.1 Describe how harvest numbers may be regulated for sustained yield management.
 - 2.2 State the arguments that the many persons in favour of, and opposed to hunting, trapping or fishing may use.

TOPIC 3: BIOLOGY AND RELATED MANAGEMENT OF GAME

At the completion of this unit, the student will be able to:

- 3.0 Describe biology, habitat, limiting and compensating factors, life history and value of major game species, fur-bearing species or endangered species.

TOPIC 4: HABITAT IMPROVEMENT

At the completion of this unit, the student will be able to:

- 4.0 Describe the methods and rules for planting of game food or cover plant species.
 - 4.1 State objectives of water level control, and design a control device for a given water course to achieve these objectives.
 - 4.2 Describe four types of improvements to protective cover and five methods of improving nesting cover.
 - 4.3 Demonstrate on a sketch six methods of improving the habitat of any wetland area for fur-bearers or waterfowl.

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IV. LEARNING ACTIVITIES: (Cont'd)

TOPIC 4: HABITAT IMPROVEMENT (cont'd)

- 4.4 Differentiate between rejuvenation and release operations, giving benefits, drawbacks and examples of each.
- 4.5 State five advantages and five disadvantages of the artificial feeding of any game species.
- 4.6 Describe the habitat requirements and guidelines for habitat improvement for moose, deer, bear, hare and grouse spp., as well as other game and fur bearer spp. as assigned.

TOPIC 5: POPULATION MANIPULATION

At the completion of this unit, the student will be able to:

- 5.0 Describe the use of population manipulation as a management tool.
- 5.1 Describe the reasons and methods for translocating game spp.
- 5.2 Describe the seven major potential problems and benefits of exotic game spp and game farming.

TOPIC 6: ESTABLISHING PROTECTED AREAS

At the completion of this unit, the student will be able to:

- 6.0 Describe the role and shortcomings of the protected areas listed in the course outline.

TOPIC 7: PREDATOR AND NUISANCE SPECIES CONTROL

At the completion of this unit, the student will be able to:

- 7.0 State eight principles of predator-prey relationships, and apply these principles to the ecological role of predators in the ecosystem.
- 7.1 State the major methods of humane predator and nuisance species control, and state the advantages and disadvantages of each.

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IV. LEARNING ACTIVITIES: (Cont'd)

TOPIC 8: PUBLIC RELATIONS AND RESOURCE MANAGEMENT

At the completion of this unit, the student will be able to:

- 8.0 Outline the features of an effective public relations program.
- 8.1 Submit an acceptable position paper on a topic dealing with a contentious issue related to resource management, ensuring that the principles of a good public relation program are met, in a technical style.

TOPIC 9: NON-GAME WILDLIFE MANAGEMENT.

At the completion of this unit, the student will be able to:

- 9.0 Discuss the special management considerations required for endangered and threatened species.
- 9.1 Describe the role of non-game wildlife in Ontario.

V. METHODS OF EVALUATION:

Students will be assessed on the basis of the following:

Term tests (3)	45%
Practical tests approximately every second week in labs	40%

- | | |
|---|--------------------------------------|
| -Habitat improvement | -Parasites & diseases identification |
| -Mammal identification - anatomy | -Firearm anatomy & handling |
| -Waterfowl whole specimens, wings and in flight | -Mammals, skull & fur i.d. |

Reports - 3 technical style reports	15%
- position paper	
- species biology and management	
	100%

GRADING:

For practical tests:

For all else:

A+ = 95%+ consistently
 A = 90 - 94%
 B = 85 - 89%
 C = 80 - 84%

A+ = 85%+ consistently
 A = 80 - 84%
 B = 70 - 80%
 C = 60 - 69%

- * Students must achieve 100% competence in common furbearers, game animals and game birds, waterfowl and waterfowl wing identification.

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V. EVALUATION METHODS: (Cont'd)

LABORATORY COMPETENCY

In addition to the above objectives, the student must be able to achieve an accumulated grade of 80% in the following laboratory-related material:

1. Mammal and bird anatomy. (review)
2. Mammalian and bird identification and classification. (review)
3. Waterfowl identification from whole specimens or wings.
4. Parasite and disease diagnosis.
5. Mammal skull and fur identification.
6. Firearm anatomy and handling.

NOTE: 100% competency is required for identification of common game, fur-bearer and waterfowl species.

Students will be assessed on the basis of the following:

Practical tests approximately every second week in labs

-Parasites & disease identification
 -Mammal identification -
 -Firearm anatomy & handling
 -Mammals, skull & fur id.
 -Waterfowl whole specimens, wings and in flight

Reports - 3 technical style reports

- position paper
 - species biology and management

100%

For all else:

A+ = 85% - consistently
 A = 80 - 84%
 B = 70 - 80%
 C = 60 - 69%

For practical tests:

A- = 95% - consistently
 A = 90 - 94%
 B = 85 - 89%
 C = 80 - 84%

Students must achieve 100% competence in common furbearers, game animals and game birds, waterfowl, and waterfowl wing identification.

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V. EVALUATION METHODS: (Cont'd)

A. Super-project:Value of assignment: 20% of final gradeDescription of assignment:

Each student will select one wildlife species or cluster of similar species from the list below. Your objective is going to be a complete research of that species to discover all you can about that species and its management, and to present your findings to the rest of the class. You will include:

- * Biological life history of the species - Limiting, factors
- * Distribution and importance (including status)
- * Present management by
 - harvest manipulation
 - legislation
 - habitat alteration
 - population manipulation
 - Protected areas
 - Predator/nuisance spp. control
 - Problems in management
 - Research & surveys
- * Recommendations for future management
 - e.g. Other provinces, states, countries & their approach

Presentation to Class:

- You will be allotted about one hour to present everything you know about the species
- You can use slides (yours or mine), video (a good source of information - edit what you need from several, if you wish)
- Try to get student involvement
- Summarize (typed) notes on species for class. One copy must be to be 4 days prior to presentation for copying.

I will also need:

- * Complete reference list. I expect the best and latest.
- * Copy of slides/videos used.

Due Date: Presentations begin Nov. 10. You must be ready. No excuses.

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EVALUATION METHODS: (Cont'd)

Super-project: (cont'd)

Species to choose from:

- Black Bear
- White-tailed Deer
- Moose
- Pheasant/Sharp-tailed Grouse
- Ruffed Grouse/Spruce Grouse
- Varying hare/cottontail rabbit
- Endangered species
- Canidae
- Mink, Otter
- Beaver/Muskrat
- Marten/Fisher
- Wild turkey
- Squirrels - Red & Black
- Waterfowl - Puddle ducks & geese
- Diving ducks
- Woodcock
- Bobcat/Lynx
- Woodland/Caribou

B. Position Paper:

The wildlife management field brings up some highly controversial issues on a regular basis, and generally a lot of press coverage and public relation funds are devoted to one side or the other of the topic.

Each student will research one of these "hot" topics and present:

- a) arguments for BOTH SIDES of the issue, based on research.
- b) an intelligent summation with the student's position on the issue. This report will be in correct technical style, and submitted to the instructor before Nov. 15. Approximate length: 4 to 5 typed pages.

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V. EVALUATION METHODS: (Cont'd)

Suggested topics include:

1. The seal hunt.
2. Leg-hold traps for terrestrial mammals.
3. Native rights and privileges with respect to hunting/fishing.
4. The Wild Rice Harvesting Act.
5. The Ontario Hunter Safety Training Program. Is it adequate?
6. Bounty systems for nuisance spp.
7. Selective harvests for moose or deer. Should we have them?
8. The wildlife resource. Should it revert back to the landowner as in Europe?
9. The new emphasis on predator (esp. wolf) control, e.g. B.C., Yukon
10. More strict gun control. Is it justified?
11. Solutions to the bear problem in parks.
12. Should steel shot replace lead shot?
13. Should hunters require written permission to hunt private land?
14. Snowmobiles should be banned from game-inhabited areas.
15. Preserve shooting to eliminate access problem and excessive hunting pressure on crown lands.
16. Game farms.

Late penalties for ALL REPORTS:

Penalty for first week: 1 mark (out of 10) per weekday.

Reports more than 1 week late will receive a "0" value, but must be submitted in a satisfactory form to complete the course.

Reports more than 3 weeks late: "R" grade on entire course.

TENTATIVE LABORATORY SCHEDULE

Note: Field trips will be taken when they can be arranged, not necessarily in sequences shown.

Week #

1. Mammal Dissection and Anatomy (review)
2. Anatomy test. Waterfowl identification (review)
3. Waterfowl wing I.D.
4. Wing test. Mammal/Bird study skin preparation
5. Skull and fur identification; Mammal review.
6. Field Trip - fur processors
7. Field Trip - Upland Habitat improvement
8. Field Trip - Wetland Habitat improvement
9. Mammal, skull, fur test, wildlife parasites and diseases

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V. EVALUATION METHODS: (Cont'd)

- 10. Deer Check (compulsory to "volunteer" 2 shifts)
- 11. Parasite/disease case test
- 12. Private enterprise research and assignment
- 13. Private enterprise research and assignment
- 14. Field Camp
- 15. Field Camp

Other possibilities -

- 1. Predator Control Workshop
- 2. Field trip with trapper

VI. REQUIRED STUDENT RESOURCES:

TOPIC 1	Introduction 1.0	Reference(1) - Chs. 1-5 Reference(2) - Chs. 1-2 (17) - Ch. 1
TOPIC 2	Role of Harvesting	Reference(1) - Ch. 21 Reference(2) - Ch. 10 Reference(17)- Ch. 2, 11
TOPIC 3	Biology and Related Management of Game 3.0	See references (7),(9),(10), (12),(16),(18),(19) Others as assigned. Students will complete a project on this unit.
TOPIC 4	Habitat Improvement 4.0 4.1 4.2-4.6	Reference(1) - Ch. 20 Reference(1),(3),(15),(16) Reference(17), - Ch. 5, 6 The students will complete a self-study unit based on the above material.

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. REQUIRED STUDENT RESOURCES: (cont'd)

TOPIC 5	Population Manipulation	
	5.0-5.1	Reference(17) - Ch. 8 Reference(2) - Ch. 2, Ch. 18
	5.2	Assigned reading from "Harrowsmith" magazine
TOPIC 6	Establishing Protected Areas	
	6.0	Reference(2) - Ch. 16
TOPIC 7	Predator and Nuisance Species Control	
	7.0-7.1	Reference(1), Ch. 22 Reference(1), Ch. 10 Reference(2), Ch. 8, 9
TOPIC 8	Public Relations and Resource Management	
	8.0-8.1	Readings as selected on assigned to complete position paper - Reference(2) - Ch. 20, 21
TOPIC 9	9.0-9.1	Read O.M.N.R. publication Read Non-game Wildlife Reference(2), Ch. 16, 17 Reference(17) - Ch. 17

VII. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY BOOK SECTION:

- (1) Schemnitz, S. S., 1980. Wildlife Management Techniques Manual. The Wildlife Society, Washington, D.C. 686 pp.
- (2) Robinson, W. L. and E. G. Bolen, 1989. Wildlife Ecology and Management. Collier MacMillan Canada Inc. 579 pp.
- (3) U.S. Forest Service. 1969. Wildlife Habitat Improvement Handbook. U.S.D.A. Washington. 200 p.
- (4) Assorted Acts and Regulations

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VII. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY BOOK SECTION: (cont'd)

- (5) The Journal of Wildlife Management - 1966-1993. LRC.
- (6) Transactions of N. A. Wildlife and Resources Conf. - 1971-1992. LRC.
- (7) O.M.N.R. publications on Wildlife spp.
- (8) Giles, R.H., Jr. 1978. Wildlife Management. Freeman & Co. San Francisco. 416 pp.
- (9) Bellrose, F.C., 1980. Ducks, Geese and Swans of N.A. 3rd Ed. Stackpole, Penn. 540 pp.
- (10) Rue, L.L. III, 1980. Fur-Bearing Animals of North America. Crown publ., N.Y. 343 pp.
- (11) Ibid, 1978. The Deer of North America. Crown publishers, N.Y. 463 pp.
- (12) Schmidt, J. L., and D. L. Gilbert. 1978. Big Game of North America. W.M.I. Stackpole, Penn. 494 pp.
- (13) Readings in Wildlife Conservation. 1974. The Wildlife Society, 722 pp.
- (14) Linde, A.F., 1969. Techniques for Wetland Management. Department of Natural Resources, Madison, Wisconsin. 156 pp.
- (15) Dagg, A.I. n.d. Wildlife Management in Europe, Otter Press, Waterloo 324 pp.
- (16) O.M.N.R., 1987. Comm. Wildlife Involvement Program Manual, Toronto.
- (17) Peek, James M., 1986. A Review of Wildlife Management, Prentice Hall, N.J. 486 p.
- (18) Novak, M., J.A. Baker, M.E. Obbard, B. Malloch ed. 1987, Wild Furbearer Management and Conservation in North America. Ontario Trappers Association, North Bay, Ont. 1150 pp.
- (19) Johnsgard, P.A. 1973. Grouse and Quail of North America. Univ. of Nebraska Press, 553 pp.

VIII. SPECIAL NOTES:

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.