



Pine Grove Area

SCHOOL DISTRICT

Science

Wildlife Management

September 18, 2008

I. PHILOSOPHY

The Wildlife Management course of the Pine Grove Area School District has been structured to introduce, systematically and thematically, the basic principles of wildlife management: habitat, populations, conservation, and management practices. These principles will be addressed using many applications and opportunities for hands-on learning. The course will allow for the accommodation of many learning styles, motivational levels, and academic abilities.

II. CORE CONCEPTS

1. PA Bird and Mammal Identification - Identify common birds and mammals of Pennsylvania via sight and animal signs.
2. Habitats - Discuss the role habitat plays on wildlife populations.
3. Populations - Explain population dynamics and how populations are estimated.
4. Conservation Practices - Select conservation practices and habitat restoration practices to help improve wildlife habitat and populations.
5. Wildlife management - Discuss how resources are managed to complete a wildlife management plan.

III. COURSE OF STUDY

A. Course Name: Wildlife Management

B. Grade Level: 9-10

C. Length of Course: One Semester

1. Frequency: Daily

2. Duration: 42 minutes

D. Academic Level: Career Technology, Post-Secondary, College Prep

E. Credits: 0.5 Credits

F. Prerequisites: None

G. Course Description:

This course is designed to make students more aware of the latest concepts in fish and wildlife management. Concentration will be placed on conservation, habitat evaluation, environmental analysis, game management and possible careers, zoology, ecology, and wildlife species.

IV. CONTENT: Wildlife Management

CORE CONCEPT 1: PA Bird and Mammal Identification

MAJOR OBJECTIVE: Identify common birds and mammals of Pennsylvania via sight and animal signs.

CURRICULUM STANDARD:			
PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 3.3.10.A</p> <p>Explain the structural and functional similarities and differences found among living things.</p> <p>Identify and characterize major life forms according to their placement in existing classification groups.</p> <p>Describe organizing schemes of Classification keys.</p> <p>Identify and characterize major life forms by kingdom, phyla, class and order.</p>	<p>Teacher will guide students to:</p> <p>Identify and organize PA birds and mammals into classification groups</p> <p>Identify PA bird and mammal signs</p> <p>Use PA bird and mammal signs for species identification purposes</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 2: Habitat

MAJOR OBJECTIVE: Discuss the role habitat plays on wildlife populations.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.6.10.A</p> <p>Explain the biotic and abiotic components of an ecosystem and their interaction.</p> <p>Identify the major biomes and explain their similarities and differences.</p> <p>Compare and contrast the interactions of biotic and abiotic components in an ecosystem.</p> <p>Describe how the availability of resources affects organisms in an ecosystem.</p> <p>Explain energy flow in a food chain through an energy pyramid.</p> <p>Evaluate the efficiency of energy flow in a food chain.</p> <p>Explain the concept of carrying capacity in an ecosystem.</p> <p>Interpret possible causes of population fluctuations.</p>	<p>Teacher will guide students to:</p> <p>Describe similarities and differences between the major biomes.</p> <p>Identify abiotic and biotic components in an ecosystem</p> <p>Evaluate resource availability in ecosystems</p> <p>Explain the flow of energy in ecosystems through the use of food chains, food webs, and food pyramids.</p> <p>Describe factors that affect carrying capacity in an ecosystem</p> <p>Identify factors that cause fluctuation in population.</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 2: Habitat

MAJOR OBJECTIVE: Discuss the role habitat plays on wildlife populations.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.6.10.B</p> <p>Explain how cycles affect the balance in an ecosystem.</p> <p>Describe an element cycle and its role in an ecosystem.</p> <p>Explain the consequences of interrupting natural cycles.</p>	<p>Teacher will guide students to:</p> <p>Utilize diagrams to show the cycle of elements in an ecosystem</p> <p>Identify factors that cause interruptions to natural cycles</p> <p>Demonstrate the consequences of interrupting the natural cycles</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 2: Habitat

MAJOR OBJECTIVE: Discuss the role habitat plays on wildlife populations.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.6.10.C</p> <p>Analyze how ecosystems change over time.</p> <p>Identify and explain the succession stages in an ecosystem.</p> <p>Identify causes of succession.</p>	<p>Teacher will guide students to:</p> <p>Illustrate the various stages of succession in ecosystems</p> <p>Explain the causes of succession</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 2: Habitat

MAJOR OBJECTIVE: Discuss the role habitat plays on wildlife populations.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.7.10.B</p> <p>Explain how structure, function and behavior of plants and animals affect their ability to survive.</p> <p>Describe an organism's adaptations for survival in its habitat.</p> <p>Compare adaptations among species.</p>	<p>Teacher will guide students to:</p> <p>Identify various adaptations in animals that have helped them survive</p> <p>Compare/contrast various adaptations among different animal species</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 3: Populations

MAJOR OBJECTIVE: Explain population dynamics and how populations are estimated.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.10.A</p> <p>Explain that renewable and Non-renewable resources supply energy and materials.</p> <p>Identify alternative sources of energy.</p> <p>Compare and contrast the cycles of various natural resources.</p> <p>Explain food and fiber as renewable resources.</p>	<p>Teacher will guide students to:</p> <p>Describe various sources of alternative energy</p> <p>Research impacts of using alternative energies</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 3: Populations

MAJOR OBJECTIVE: Explain population dynamics and how populations are estimated.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.10.B</p> <p>Evaluate factors affecting availability of natural resources.</p> <p>Describe natural occurrences that may affect the natural resources.</p> <p>Analyze technologies that affect the use of our natural resources.</p> <p>Evaluate the effect of consumer desires on various natural resources.</p>	<p>Teacher will guide students to:</p> <p>Identify factors that determine the availability of natural resources</p> <p>Research the use of technologies in managing natural resources</p> <p>Explain how consumer demands affect the use of natural resources</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 3: Populations

MAJOR OBJECTIVE: Explain population dynamics and how populations are estimated.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.10.C</p> <p>Analyze how man-made systems have impacted the management and distribution of natural resources.</p> <p>Analyze energy uses and energy conservation in different regions.</p> <p>Examine conservation practices in different countries.</p>	<p>Teacher will guide students to:</p> <p>Identify different uses of energy</p> <p>Identify various methods of energy conservation in countries around the world</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 3: Populations

MAJOR OBJECTIVE: Explain population dynamics and how populations are estimated.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.3.10.C</p> <p>Explain biological diversity as an indicator of a healthy environment.</p> <p>Explain species diversity.</p> <p>Analyze the effects of species extinction on the health of an ecosystem.</p>	<p>Teacher will guide students to:</p> <p>Identify the importance of species diversity</p> <p>Describe factors that lead to species extinction</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 3: Populations

MAJOR OBJECTIVE: Explain population dynamics and how populations are estimated.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.6.10.A</p> <p>Explain the biotic and abiotic components of an ecosystem and their interaction.</p> <p>Examine and explain how organisms modify their environments to sustain their needs.</p> <p>Explain how erosion and sedimentation have changed the quality of soil related habitats.</p>	<p>Teacher will guide students to:</p> <p>Identify modifications animals make to their environments</p> <p>Identify causes of erosion and sedimentation</p> <p>Describe the effect that erosion and sedimentation has had on animal habitats</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 3: Populations

MAJOR OBJECTIVE: Explain population dynamics and how populations are estimated.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.7.10.A</p> <p>Explain the significance of diversity in ecosystems.</p> <p>Explain the role that specific organisms have in their ecosystem.</p> <p>Identify a species and explain what effects its increase or decline might have on the ecosystem.</p> <p>Identify a species and explain how its adaptations are related to its niche in the environment.</p>	<p>Teacher will guide students to:</p> <p>Identify the various roles that organisms play in their ecosystem</p> <p>Show the effects of species increase/decrease in an ecosystem</p> <p>Identify the niche of several different species</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 3: Populations

MAJOR OBJECTIVE: Explain population dynamics and how populations are estimated.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.7.10.B</p> <p>Explain how structure, function and behavior of plants and animals affect their ability to survive.</p> <p>Describe an organism's adaptations for survival in its habitat.</p> <p>Compare adaptations among species.</p>	<p>Teacher will guide students to:</p> <p>Identify various adaptations that organisms use to survive</p> <p>Identify similarities and differences between the adaptations of various species</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 4: Conservation Practices

MAJOR OBJECTIVE: Select conservation practices and habitat restoration practices to help improve wildlife habitat and populations.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.7.10.C</p> <p>Identify and explain why adaptations can lead to specialization.</p> <p>Explain factors that could lead to a species' increase or decrease.</p> <p>Explain how management practices may influence the success of specific species.</p> <p>Identify and explain criteria used by scientists for categorizing organisms as threatened, endangered or extinct.</p>	<p>Teacher will guide students to:</p> <p>Identify factors in an ecosystem that lead to an increase or decrease of a species</p> <p>Identify different management practices</p> <p>Describe criteria for threatened, endangered, and extinct organisms</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 4: Conservation Practices

MAJOR OBJECTIVE: Select conservation practices and habitat restoration practices to help improve wildlife habitat and populations.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.8.10.B</p> <p>Analyze the relationship between the use of natural resources and sustaining our society.</p> <p>Explain the role of natural resources in sustaining society.</p> <p>Analyze the effects of a natural resource's availability on a community or region.</p>	<p>Teacher will guide students to:</p> <p>Identify natural resources that are used in society</p> <p>Explain how resource availability effects a community</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 4: Conservation Practices

MAJOR OBJECTIVE: Select conservation practices and habitat restoration practices to help improve wildlife habitat and populations.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.8.10.C</p> <p>Analyze how human activities may cause changes in an ecosystem.</p> <p>Analyze and evaluate changes in the environment that are the result of human activities.</p>	<p>Teacher will guide students to:</p> <p>Identify changes in the environment that are man-made</p> <p>Analyze how human activities have impacted various ecosystems around the world</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

CONTENT: Wildlife Management

CORE CONCEPT 5: Wildlife Management

MAJOR OBJECTIVE: Discuss how resources are managed to complete a wildlife management plan.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 4.2.10.C</p> <p>Analyze how man-made systems have impacted the management and distribution of natural resources.</p> <p>Explain the complete cycle of a natural resource, from extraction to disposal, detailing its uses and effects on the environment.</p> <p>Analyze energy uses and energy conservation in different regions.</p> <p>Examine conservation practices in different countries.</p>	<p>Teacher will guide students to:</p> <p>Illustrate the cycle of natural resources</p> <p>Identify methods of energy conservation</p> <p>Compare and contrast various methods of energy conservation</p> <p>Develop a wildlife management plan</p>	<p>Teacher evaluation of:</p> <p>Student performance</p> <p>Partner projects</p> <p>Individuals during small group work</p> <p>Individuals during whole group discussion</p> <p>Oral question and answer</p> <p>Independent activities</p> <p>Cooperative group projects</p> <p>Note-taking</p> <p>Class participation</p> <p>Tests and quizzes</p>	<p>Textbook resources</p> <p>Computer programs/web sites</p> <p>Notebook</p> <p>Supplemental materials</p>

V. EXPECTED LEVELS OF ACHIEVEMENT

A. Students are expected to reach the proficient level of achievement, including all of the skills noted in the specific content area of this curriculum.

B. Grading system for Wildlife Management is as follows:

Grading Scale	
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

C. Each student's grade will be determined at the conclusion of each marking period. Progress notes will be issued half-way through each marking period for students who are performing below 70%.