

CTE Standards Unpacking
Wildlife and Fisheries

Course: Wildlife and Fisheries

Course Description: Management of South Dakota’s wildlife and fisheries is critical to our future economic stability. Skills gained in this area will be beneficial to students seeking careers in the many facets of wildlife and fisheries. The Wildlife and Fisheries course addresses the biological and environmental issues related to wildlife and fisheries management within our state. Classroom and laboratory content may be enhanced by utilizing appropriate equipment and technology. Biology, English and human relations skills will be reinforced throughout the course. Work-based learning strategies appropriate for this course are school-based enterprises and field trips. Opportunities for application of clinical and leadership skills are provided by participation in FFA activities, conferences and skills competitions such as the Natural Resources Career Development Event or related proficiency award areas. All students are expected to maintain a Supervised Agricultural Experience program.

Career Cluster: Agriculture, Food and Natural Resources

Prerequisites: None

Program of Study Application: Wildlife and Fisheries is a second pathway course in the Agriculture, Food and Natural Resources cluster, Natural Resources and Environmental Science Systems pathway. Wildlife and Fisheries would follow Fundamental Natural Resources and would prepare a student to participate in a capstone experience.

<p>INDICATOR #WF 1: Demonstrate the importance of fish and wildlife management, including their respective habitats. (National AFNR NRS.02)</p>		
<p>SUB-INDICATOR 1.1 (Webb Level: 2 Skill/Concept): Apply knowledge of natural resource components to the management of wildlife and fish.</p>		
<p>SUB-INDICATOR 1.2 (Webb Level: 1 Recall): Identify fish and wildlife species.</p>		
<p>SUB-INDICATOR 1.3 (Webb Level: 2 Skill/Concept): Identify healthy habitat for wildlife and fish.</p>		
<p>Knowledge (Factual):</p> <ul style="list-style-type: none"> -Natural Resources -Fish and wildlife species -Carrying capacity for ecosystems 	<p>Understand (Conceptual):</p> <ul style="list-style-type: none"> -Describe the importance of fish and wildlife management -Recognize the characteristics of healthy habitats for various species 	<p>Do (Application):</p> <ul style="list-style-type: none"> -Compare balanced and unbalanced ecosystems -Conduct a field inventory of a wildlife or aquatic species and document the findings -Examine wildlife migration

Benchmarks:

Students will be assessed on their ability to:

- Create a food web and food chain.
- Identify endangered species and create a plan to increase population.
- Compare and contrast threatened or endangered species.
- Identify fish, wildlife and bird species based on morphological characteristics.
- Discuss land and water carrying capacity for fish and wildlife.

Academic Connections

ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):

Science:

1)HS-LS2-2 – Mathematical representation affecting factors on biodiversity and population.

2) HS-LS2-6 – Evaluate the claims, evidence, and reasoning in complex ecosystems to maintain stable conditions

Math:

HSS.IC.B.4 - Use data from a sample survey to estimate a population mean or proportion

Sample Performance Task Aligned to the Academic Standard(s):

-Discuss land and water carrying capacity for fish and wildlife.

-Identify endangered species and create a plan to increase population.

-Using a field inventory, estimate the number of members of an endangered species in a given area.

INDICATOR #WF 2: Identify economic and social issues related to fish and wildlife (National AFNR NRS.03)

SUB-INDICATOR 2.1 (Webb Level: 2 Skill/Concept): Discuss hunting/harvesting fish and wildlife species as a management technique.

SUB-INDICATOR 2.2 (Webb Level: 2 Skill/Concept): Demonstrate processing techniques to use game and fish as food sources.

SUB-INDICATOR 2.3 (Webb Level: 2 Skill/Concept): Distinguish safety practices related to hunting and fishing activities.

<p>Knowledge (Factual):</p> <ul style="list-style-type: none"> -Hunting and fishing techniques -Safety practices when hunting and fishing -Food products from wildlife and fish 	<p>Understand (Conceptual):</p> <ul style="list-style-type: none"> -Relationship between fish and wildlife industry and the state's economic and social issues. -Impact of fish and wildlife on state and regional tourism -Categorize the uses of fish and wildlife species. -Recognize safety procedures for hunting and fishing -Proper processing techniques of fish and wildlife 	<p>Do (Application):</p> <ul style="list-style-type: none"> -Utilize SD Hunting and Fishing Manuals to discuss hunting and harvesting ethics. -Safely process wild game and fish species for consumption. -Become HuntSafe certified. -Demonstrate safety practices when hunting and fishing.
<p>Benchmarks:</p> <p><i>Students will be assessed on their ability to:</i></p> <ul style="list-style-type: none"> • Describe wildlife hunting techniques and procedures. • Identify wildlife management practices. • Identify hunting and fishing limits. • Illustrate food products that can be obtained from various wildlife species. • Demonstrate safe food handling techniques and proper food preparation. • Demonstrate appropriate responses to accidents and injuries that occur while hunting or fishing. 		
<p><i>Academic Connections</i></p>		
<p>ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):</p> <p>English:</p> <p>1) 9-12 SL.4 - Presenting information, findings, and evidence conveying a clear perspective.</p>	<p>Sample Performance Task Aligned to the Academic Standard(s):</p> <p>-Utilizing HuntSafe safety protocols, students will present a demonstration on proper processing of game.</p>	

INDICATOR #WF 3: Compare life patterns of fish and wildlife.		
SUB-INDICATOR 3.1 (Webb Level: 3 Strategic Thinking): Differentiate fish and wildlife function and form in their daily lives.		
SUB-INDICATOR 3.2 (Webb Level: 1 Recall): Identify seasonal rituals of fish and wildlife species.		
SUB-INDICATOR 3.3 (Webb Level: 4 Extended Thinking): Diagnose wildlife and fish diseases.		
Knowledge (Factual): -Functions of fish and wildlife -Seasonal traits of fish and wildlife -Fish and wildlife diseases	Understand (Conceptual): -Distinguish form and function of body systems in various wildlife species. -Classify seasonal rituals of fish and wildlife. -Understand the effect of diseases on the fish and wildlife population	Do (Application): -Taxidermy wildlife and fish. -Examine survival techniques by wildlife species. -Evaluate a wildlife management plan and propose changes.
Benchmarks: <i>Students will be assessed on their ability to:</i> <ul style="list-style-type: none"> • Compare and contrast physiological differences between mammals, birds, and fish by viewing skeletal and muscular diagrams. • Examine and describe animal migration. • Explore the hibernation process and identify animals that hibernate. • Summarize phases of ungulate animal rut. • Research, present and critique wildlife and fish diseases and preventative measures. 		
Academic Connections		
ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard): English: 1) 9-12 W.2 – Write to inform/explain, to examine and convey complex ideas. 2) 9-12 W.6 – Use technology, including the internet, to produce an individual writing product.	Sample Performance Task Aligned to the Academic Standard(s): -Write a paper that compares and contrasts physiological differences between mammals, birds, and fish by viewing skeletal and muscular diagrams. -Research, present and critique wildlife and fish diseases and preventative measures.	

INDICATOR #WF 4: Investigate careers in wildlife and fisheries conservation.		
SUB-INDICATOR 4.1 (Webb Level: 2 Skill/Concept): Locate, identify, research and interpret career information.		
SUB-INDICATOR 4.2 (Webb Level: 2 Skill/Concept): Compare and contrast characteristics of various careers.		
Knowledge (Factual): -Wildlife careers	Understand (Conceptual): -Career opportunities available within wildlife and fisheries	Do (Application): -Create a day-to-day plan of a wildlife career
Benchmarks: <i>Students will be assessed on their ability to:</i> <ul style="list-style-type: none"> • Compare and contrast wildlife careers. • Research and present careers related with wildlife and fisheries. • Research post-secondary schools offering wildlife majors. 		
Academic Connections		
ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard): English: 1)9-12 SL.4 - Presenting information 2)9-12 W.6 – Use technology, including the internet, to produce an individual writing product.	Sample Performance Task Aligned to the Academic Standard(s): -Interview a Game Fish and Parks employee and present the findings. -Research post-secondary schools offering wildlife majors and write a reflection paper.	

Additional Resources

- Nature: An Original Duckumentary (video)
- Game Warden: Guest Speaker
- Contact ProPheasants, Ducks Unlimited, Pheasants Forever
- Field and Stream magazine
- Wildlife Lesson Plans: <http://ecosystems.psu.edu/youth/sftrc/lesson-plans/wildlife>