



School Program Description
Michigan's Endangered Species
Level: 4th Grade-Secondary

Saginaw Bay Visitor Center
Bay City State Recreation Area

PROGRAM DESCRIPTION:

This program focuses on the Michigan's Endangered and Threatened Wildlife populations, featuring a close-up look at the resident wildlife populations which need our help, through a slide talk presentation and mounted wildlife display. Students will discover the "wetland link" to Michigan's and the world's Endangered Species through a simulation game and case study lab. The game "Countdown to Extinction" is an active role-playing game in which the students discover that animals with narrow habitat needs are often the first to disappear. Limiting factors of Michigan's Endangered Species are explored through an investigation into the natural history of selected animals. Through this unique reporting lab, students will learn that most of the animals on Michigan's Endangered Species list are dependent on wetland habitats. Students will learn that Wetland habitat conservation may be the critical link in preserving Michigan's Threatened and Endangered wildlife populations. Program will conclude with a naturalist guided wetland habitat hike, exploring marsh, wooded wetland, wet prairie, pond and thicket habitats.

PROGRAM GOALS:

To help students appreciate and value Michigan's Wetland habitats.
To help students realize the need to conserve Michigan's remaining wetlands in order to preserve Michigan's wildlife populations.

PROGRAM OBJECTIVES:

1. Students will be able to list three Michigan animals that are Endangered Species.
2. Students will be able to define Endangered Species and Threatened Species and extirpation.
3. Students will be able to list the four components of habitat: food, water, shelter and space.
4. Students will be able to give an example of an Endangered Species and its limiting factor.
5. Students will be able to state that one reason Michigan's Endangered Species are in trouble is the destruction of the wetland habitat.
6. When asked why wetland habitat is important, students will be able to say that wildlife needs it for their habitat.

PRE-VISIT SUGGESTIONS:

1. This program can be combined with an ecology hike to make a full-day field trip experience for your students. When making your reservation let the receptionist know if you are interested in this option. The hike is done following the Michigan's Endangered Species program and lunch in the afternoon. Possible endangered species that the students may encounter include common and caspian terns, bald eagle, osprey, American bittern, Least bittern.
2. Have the students read a book or an article in Ranger Rick, National Wildlife or International Wildlife magazines about endangered species. Have them report to the class on the name of the animal and why it's in trouble.
3. Discuss the word habitat and its meaning. With your students list all the types of habitats they can think of. Tell your students that they are going on a field trip to a wetland habitat at Bay City State

Recreation Area. Have the students look through books for pictures of wetlands. Have them draw a picture of a wetland and include animals in the picture that they think live there.

POST-VISIT SUGGESTIONS:

1. As a group have the students list, the different Michigan Endangered and Threatened animals that they learned about in the program. Assign each student an animal from the list to write a report on. Have them include a map of where it's found in Michigan, its food, water, shelter and space requirements and its limiting factor.
2. Have the students create a "Wetland Mural" and let each student draw a picture on it of an Endangered or Threatened animal from Michigan.
3. Have each student write a letter to the DNR Natural Heritage Program, Wildlife Division, Attn: Eve Rolandson, P.O. Box 30180, Lansing, MI 48909-7680 and request information on one of Michigan's Threatened or Endangered Wildlife.
4. Project WILD: *Deadly Links* – students become "hawks", "shrews", and "grasshoppers" in a highly involving physical activity; *Here Today, Gone Tomorrow* – students become familiar with classification of animals, conduct research, and make a master list of endangered animals locally; *Planting Animals* – students write a letter to state wildlife agency for information and make dioramas of transplanted animals in new habitats; *Shrinking Habitat* – students simulate a process of land development.
5. Project Aquatic WILD: *Turtle Hurdles* – students become sea turtles and limiting factors in a highly active simulation game (adapt it to Michigan and have the students become spotted turtles!), *Hooks & Ladders* – students simulate Pacific salmon and the hazards faced by salmon; *Migration Headache* – students role play migrating water birds,
6. PROJECT LEARNING TREE – *Watch on Wetlands* – students learn about wetlands and about how land-use decisions and legislation affect these areas; *Web of Life* – students discover ways that plants and animals are connected to each other; *Life on the Edge* – students will become advocates for endangered species and wetlands through a combination of activities.

COORDINATING WITH MICHIGAN SCIENCE Grade Level Content Expectations:

Science. Inquiry Process: S.IP.04.11, S.IP.04.12, S.IP.04.13, S.IP.04.14, S.IP.04.15, S.IP.04.16

Science. Inquiry Analysis & Communication: S.IA.04.11, S.IA.04.12, S.IA.04.13, S.IA.04.14, S.IA.04.15

Science. Reflection & Social Implications: S.RS.04.11, S.RS.04.14, S.RS.04.15, S.RS.04.16, S.RS.04.17, S.RS.04.18, S.RS.04.19

Life science Organization of Living Things: L.OL.04.16, L.OL.06.51, L.OL.06.52

Life Science Heredity: L.HE.05.11, L.HE.05.12, L.HE.07.21

Earth Science Earth System: E.ES.07.41

Life Science Evolution: L.EV.04.21, L.EV.04.22, L.EV.05.11, L.EV.05.12, L.EV.05.13, L.EV.05.14, L.EV.05.21

Earth Science Earth in Space & Time: E.ST.04.32

Life Science Ecosystem: L.EC.04.11, L.EC.04.21, L.EC.06.11, L.EC.06.21, L.EC.22, L.EC.06.23, L.EC.06.31, L.EC.06.32, L.EC.06.41

COORDINATING WITH M.E.A.P. SOCIAL STUDIES CONTENT STANDARD BENCHMARKS:

Geographic Perspective II.2—I.e.1, I.e.2, I.e.3, I.e.4, m.s.1, m.s.2, m.s.3, m.s.4, m.s.5, h.s.2
II.4—I.e.5, II.5—I.e.1, h.s.2

Inquiry V.1—I.e.3, m.s.3, V.2—I.e.1, I.e.2, I.e.3

Public Discourse and Decision Making VI.1—I.e.1, I.e.3

