



School Program Description
Winter Ecology Hike
Level: K & 12th Grade

Saginaw Bay Visitor Center
Bay City State Recreation Area

PROGRAM DESCRIPTION:

Students will explore four types of wetland habitat: wooded wetland, shrub fringe, marsh, and pond with a naturalist-guide. The tour will include a look animal tracks and signs, snow classification, winter insects, and how animals survive in the winter. Ecological interactions between plants and animals will be discussed. As they hike, students will be introduced to the plants and animals which make up a wetland community.

PROGRAM GOALS:

To help students realize the importance and uniqueness of the plants and animals which make up the wetland habitat.

To inspire students to appreciate, respect, and value wetland habitats.

PROGRAM OBJECTIVES:

1. Students will be able to define wetland.
2. Students will be able to describe 2-4 types of wetland habitat.
3. Students will be able to list at least one reason why wetlands are special habitats.
4. Students will be able to name at least one animal which lives in a wetland habitat.
5. Students will be able to name at least one plant which lives in a wetland habitat.
6. Students will be able to list at least two animals which are active in the winter.
7. Students will be able to identify at least one animal track and/or sign.

PRE-VISIT SUGGESTIONS:

1. Be sure that every student is dressed for the weather conditions. It can be 5-10 degrees cooler next to the Saginaw Bay. (Bring a box of square bottomed trash bags for an emergency rain poncho)
2. Discuss the ways animals prepare for winter.
3. Talk about the different families of animals: mammals, reptiles, amphibians, birds, fish, insects, mollusks
4. Project WET activities: Capture, Store & Release – build a wetland model, Life in the Fast Lane – field study of temporary wetlands
5. Project Aquatic WILD activities: Marsh Munchers- students role play marsh animals to illustrate a food web, Wetland Metaphors – students investigate the function of wetlands in keeping water clean, Migration Headache – students role play migratory water birds, Dragonfly Pond – students create a collage of human land-use activities around an image of a pond
6. Project Learning Tree: Watch on Wetlands – students investigate how man's land-use practices effect wetlands.
7. Research animals which live in wetlands; find out their food, water, shelter and space requirements.

POST-VISIT SUGESTIONS:

1. Have each student draw and/or write a report on a plant or animal, which they saw in the wetland on the field trip.
2. Make a class mural of the animals which inhabit the wetlands.
3. Have the students write a story, from a duck's perspective, about their migrational journey south for the winter.
4. Have the students make a map of Michigan and color in the portions of our state which is wetland marsh habitat, and wetland forest habitat. Michigan Natural Features Inventory has maps available which you can compare present wetlands to wetlands, which were here when the first explores came to our state. Check it out on their web site:

<http://www.dnr.state.mi.us/wildlife/heritage/mnfi>

5. Get a copy of Michigan's Endangered, Threatened and Rare wildlife and make a table showing which animals live in wetland habitat.
6. Make a diorama of a muskrat den or beaver lodge during the winter under the ice.
7. Prepare an environmental exchange box on Michigan Wetlands. Put pictures of plants and animals which inhabit the wetlands in the box. Exchange it with a school in a desert community.

COORDINATING WITH MICHIGAN SCIENCE Grade Level Content Expectations:

Science. Inquiry Process: S.IP.00.11, S.IP.00.12, S.IP.00.13, S.IP.00.14, S.IP.00.15, S.IP.00.16, S.IP.01.11, S.IP.01.12, S.IP.01.13, S.IP.01.14, S.IP.01.15, S.IP.01.16, S.IP.02.11, S.IP.02.12, S.IP.02.13, S.IP.02.14, S.IP.02.15, S.IP.02.16, S.IP.03.11, S.IP.03.12, S.IP.03.13, S.IP.03.14, S.IP.03.15, S.IP.03.16, S.IP.04.11, S.IP.04.12, S.IP.04.13, S.IP.04.14, S.IP.04.15, S.IP.04.16, S.IP.05.11, S.IP.05.12, S.IP.05.13, S.IP.05.14, S.IP.05.15, S.IP.05.16, S.IP.06.11, S.IP.06.12, S.IP.06.13, S.IP.06.14, S.IP.06.15, S.IP.06.16, S.IP.07.11, S.IP.07.12, S.IP.07.13, S.IP.07.14, S.IP.07.15, S.IP.07.16

Science. Inquiry Analysis & Communications: S.IA.00.12, IA.00.13, S.IA.00.14, S.IA.01.13, S.IA.02.12, S.IA.02.13, S.IA.02.14, S.IA.03.11, S.IA.03.12, S.IA.03.13, S.IA.03.14, S.IA.03.15, S.IA.04.11, S.IA.04.12, S.IA.04.13, S.IA.04.14, S.IA.04.15, S.IA.05.11, S.IA.05.12, S.IA.05.13, S.IA.05.14, S.IA.05.15, S.IA.06.11, S.IA.06.12, S.IA.06.13, S.IA.06.14, S.IA.06.15, S.IA.07.11, S.IA.07.12, S.IA.07.13, S.IA.07.14, S.IA.07.15

Science. Reflection & Social Implications: S.RS.E.1, S.RS.00.11, S.RS.01.11, S.SR.01.12, S.RS.02.11, S.RS.02.13, S.RS.02.15, S.RS.02.16, S.RS.03.11, S.RS.03.14, S.RS.03.15, S.RS.03.16, S.RS.03.17, S.RS.03.18, S.RS.03.19, 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, S.RS.05.11, S.RS.05.12, S.RS.05.13, S.RS.05.15, S.RS.05.16, S.RS.05.17, S.RS.05.19, S.RS.06.11, S.RS.06.12, S.RS.06.13, S.RS.06.14, S.RS.06.15, S.RS.06.16, S.RS.06.17, S.RS.06.18, S.RS.06.19, S.RS.07.11, S.RS.07.12, S.RS.07.13, S.RS.07.14, S.RS.07.15, S.RS.07.16, S.RS.07.17, S.RS.07.18, S.RS.07.19

Life science. Organization of Living Things: L.OL.00.11, L.OL.00.12, L.OL.01.13, L.OL.01.21, L.OL.02.14, L.OL.02.22, L.OL.03.31, L.OL.03.32, L.OL.03.41, L.OL.03.42, L.OL.04.16, L.OL.05.41, L.OL.05.42, L.OL.06.51, L.OL.06.52, L.OL.07.62, L.OL.07.63

Earth Science. Solid Earth: E.SE.00.11, E.SE.01.12, E.SE.02.21, E.SE.03.13, E.SE.03.14, E.SE.03.22, E.SE.03.31, E.SE.03.32, E.SE.06.11, E.SE.06.13, E.SE.06.14

Physical Science. Properties of Matter: P.PM.01.11, P.PM.02.12, P.PM.02.13, P.PM.02.14, P.PM.02.41, P.PM.02.12, P.PM.02.13, P.PM.02.4, P.PM.04.23

Life Science. Heredity: L.HE.01.11, L.HE.01.12, L.HE.02.13, L.HE.05.11, L.HE.05.12, L.HE.07.21

Earth Science. Earth System: E.ES.01.11, E.ES.01.12, E.ES.01.21, E.ES.01.22, E.ES.03.41, E.ES.03.42, E.ES.03.43, E.ES.03.44, E.ES.03.52, E.ES.07.41, E.ES.07.81

Earth Science. Fluid Earth: E.FE.02.11, E.FE.02.12, E.FE.02.13, E.FE.02.14, E.FE.02.21, E.FE.02.22

Life Science. Evolution: L.EV.03.12, L.EV.04.21, L.EV.04.22, L.EV.05.11, L.EV.05.12, L.EV.05.13, L.EV.05.14

Earth Science. Earth in Space & Time: E.ST.05.25

Life Science. Ecosystem: L.EC.04.21, L.EC.06.11, L.EC.06.21, L.EC.06.22, L.EC.06.23, L.EC.06.31, L.EC.06.32, L.EC.06.41

Physical Science. Energy: P.EN.07.43

Physical Science. Changes in Matter: P.CM.04.11

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

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

Civic Perspective III.3—I.e.2

Economic Perspective IV.2—I.e.1

Inquiry V.1—e.e.2, m.s.1, m.s.3

Public Discourse and Decision Making VI.1—e.e.1, e.e.2, I.e.1, I.e.3