



CRITICAL HABITAT OUTDOOR LAB LESSON PLAN

Subject Area: Inland Lake Critical Habitat Designations

Grade Level: Middle School

Seasonal timing: Spring field trip

instructional time: 45 minutes

- A. Learning Goal:** Students will be able to identify critical habitat types and understand the importance of these areas to the functioning and ecology of lake ecosystems.
- B. Objectives:**
- Identify critical habitat area types and factors that distinguish them from other habitat areas.
 - Apply knowledge of critical habitat areas to animal habitat needs.
 - Explain why an area of a lake would be designated as a critical habitat area.
 - Navigate the lake via canoe, to different critical habitat locations and ID their locations on their map.
- C. State Standards:**
- SCI.SEP3.m – Planning and conducting investigations.
 - SCI.LS1.B.m – Animals engage in behaviors that increase the odds of reproduction. An organism’s growth is affected by both genetic and environmental factors.
 - SCI.LS2.A.m – Organisms and populations are dependent on their environmental interactions both with other living things and with nonliving factors, any of which can limit their growth. Competitive, predatory, and mutually beneficial interactions vary across ecosystems but the patterns are shared.
 - SCI.LS2.C.m – Ecosystem characteristics vary over time. Disruptions to any part of an ecosystem can lead to shifts in all of its populations. The completeness or integrity of an ecosystem’s biodiversity is often used as a measure of its health.
 - SCI.LS2.D.m – Changes in biodiversity can influence humans’ resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on — for example, water purification and recycling.
- D. Setting:** Shoreline areas or littoral areas.
- E. Materials and Resources:** Students will survey open water areas in canoe pairs.
- Outdoor critical habitat lab manuals with writing utensil.
 - Laminated WDNR Critical Habitat designation descriptions with photos.
 - AquaScopes.
 - Cameras to document habitat and site characteristics.

- Safety items include, lifejackets, sunscreen, whistles.
- Safety Boats (2) in canoeing area.
- Critical habitat experts on hand to support the students with additional information as needed. Ideally one expert could be located at each designated area in a boat or canoe as a coach and to provide direction for next steps.

Outdoor Preparation

- Two or more CH locations will need to be marked with buoys prior to the class arrival, label buoys to correspond with habitat number on map.
- Work with WI DNR representatives to locate and ID if needed.
- Have canoes delivered, paddles, life jackets available.
- Prepare lab sheet for field work and identification of the critical habitat sites.

F. General delivery, see teacher guide for detailed implementation suggestions:

Large Group

- Introduction to lesson, objectives, and review expectations for the session
- Review Critical Habitat information and critical habitat types
- Review map of Bony Lake with CH areas identified
- Review canoeing safety

Small Group

- Canoe teams (4 people, 2/canoe) depart to critical habitat location marked by buoys
- Take a few minutes to review the location and mark on map
- ID the critical habitat type on their provided lab sheet. ID as many different types of habitats as possible at each location and document on the lab sheet
- Optional, take an underwater photo of the critical habitat item
- Proceed to additional locations, repeat process and return to shore

G. Assessment:

- Have each team write a short paragraph about their findings on the team's lab sheet. (This may be best done as a follow up by the instructor during next class session.)
- Each team should turn in their completed lab sheets which should include the correct critical habitat identifications.
- Optional, (could be used as an assessment tool by the instructor at the next class session.) Have each student write a short essay on how this activity impacted them and their attitudes toward how they will act when using the lakes in the future. Including their thoughts of why critical habitat designations are truly critical to the environment.