

Codorus Creek Improvement Partnership (CCIP)

Endangered Bird Lesson Plan

This lesson plan addresses the PA environmental education standards for these subsections: 4.7.7/ 4.7.12C

Objectives:

- 1) Bring attention to York Cities nesting area for three PA endangered species.
- 2) Illustrate how habitat is used by animals.
- 3) Bring awareness to endangered species.
- 4) Illustrate the positive and negative effects of human interaction with the environment.
- 5) Teach students about birds including the Black Crowned Night Heron, Yellow Crowned Night Heron, and Great Egret.
- 6) Provide access to tangible teaching materials.

Materials:

Only need to supply each student with Endangered Birds Information and Notes Packet.

This lesson plan is restricted to being done from mid-spring to late summer due to migration habits of all three birds.

Lesson Outline:

- 1) Introduce the Student to Area- “Kiwanis Lake” which is feed by “Willis Run”
- 2) State that the lake was a man made lake constructed by the city.
- 3) The lake is now home to three of Pennsylvania’s endangered bird species including the Black and Yellow Crowned Night Heron and the Great Egret. All these endangered birds are part of the heron family.
- 4) State the National Audubon Society has issued Kiwanis Lake as an “Important Bird Area”. It is one of the few urban areas throughout the United States to get this title.
 - a. The National Audubon Society is one of North America’s older environmental advocacy groups.
 - b. “Audubon's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity.” – Quoted from www.audubon.org
- 5) Go over first page on notes with students on the endangered birds allowing time for discussion and to fill in answers.

***Highlighted words are answers to blanks on worksheet.**

- I) Habitat-
- A) These birds and all other types of herons make their nests around **water**.
 - B) These areas can include rivers marshes, streams, lakes and ponds.
 - C) The endangered herons need **trees** to make nests in however other tall objects, such as radio towers, may be substituted in urban areas.
- II) Diet-
- A) Juveniles and Adults live around water and feed mostly on **fish**.
 - B) Some other parts of diet include insects, eggs, young birds, small mammals and small Amphibians.
 - C) New born birds of the three species are fed **predigested** food which the parent will regurgitate into their mouths.
- III) Migration-
- A) All three types of endangered herons migrate south for the winter.
 - B) Most popular winter nesting areas are **Gulf of Mexico Islands** and **South America**.
 - C) Islands include Cuba and others around it.
 - D) The three species can be found nesting at Kiwanis lake from mid **spring** to late **summer**.
- IV) Facts-
- A) The three species of endangered herons often nest in small to large **colonies**.
 - B) **Great Egrets** hunt for food during the day and tend to be more quite than other types of herons but can still produce very loud squawks.
 - C) Both the Yellow and Black **Crown Night Herons** forage for food at night and squawk very loudly at dusk and dark while hunting.
 - D) Will also squawk if disrupted.

What does the area of Kiwanis Lake offer to Great Egrets, Black Crowned Night Herons and Yellow Crowned Night Herons that would draw them to nest there?

Kiwanis Lake fulfills the needs of the endangered herons. Kiwanis Lake and Willis run offer the aquatic habitat that they rely on for food and water. The birds will often be seen fishing in the stream above Kiwanis Lake. Also along the lake and stream shore there are an abundance of trees for the birds to nest in. Also it offers the warm weather during the summer months that the birds desire.

Why would it be important to preserve the area for these endangered species to nest?

The species are endangered and very fragile in PA. It is becoming scarcer for them to find desirable nesting habitat, particularly in such an urban area. The birds will annually migrate to the same areas. It is important to keep the nesting area undisturbed, but the area is also protected under the endangered species act.

What benefits does Kiwanis Lake and surrounding community gain from the endangered species?

The city gains a lot of income from the birds. Not only are they supported by environmental organizations but it is also a tourist attraction to see the endangered birds.

- 5) After completing the worksheet have instructors lead students around the loop at Kiwanis Lake.
- 6) Have students look around lake and in trees for birds particularly the endangered species.
- 7) Guide students down path that leads from the lake up Willis Run.
- 8) Cross the road and continue follow the stream keeping an eye out for habitat and wildlife.
- 9) Observe Willis Run signs put in by CCIP for information to the stream. Also show students improved habitat and riparian buffer zones installed at Willis Run.
- 10) Once completed head back to Kiwanis Lake keeping an eye out for any endangered bird species.

Terms:

1. Watershed- the area of land from which runoff from mountains drains into specific streams, rivers, lakes, and finally the ocean.
2. Biological diversity- the variety and complexity of species present and interacting in an ecosystem and the relative abundance of each.
3. Endangered species- A species that is endangered throughout all or a portion of its range.
4. Ecosystem- a community of organisms and their interrelated physical and chemical environment.
5. Extinction- the complete elimination of a species from the earth.
6. Niche- the role played by an organism in an ecosystem its food, shelter, timing, behavior and interaction with other organisms and its habitat.
7. Wetlands- lands where water saturation is the dominant factor determining the nature of the soil development and the plant and animal communities.