



NATIONAL
CONSERVATION
LANDS

Eastern States

Jupiter Inlet Lighthouse

Outstanding Natural Area

Hands on the Land Lesson Plan

Bird Identification and Conservation

4th Grade

Bureau of Land Management
Jupiter Inlet Lighthouse Outstanding Natural Area
600 State Road 707, Jupiter, FL 33469
561-295-5953
www.BLM.gov/jupiterONA

Lesson Plan

Course: Grade 4 Science

Course Number: 4th Grade

Lesson Plan Date: October 2017

Lesson Title: Bird Identification & Conservation

Time: 1 hour in class, 2 hours in field.

Instructor Preparation: (Prior to site visit)

This lesson has correlations with the following book:

Oyer, Harvey E. III. The Adventures of Charlie Pierce: The Last Egret. Oakland Park FL. Middle River Press. 2010.

Discuss the South Florida "Plume Trade" of the early 1900's and the conservation practices that have been implemented because of that trade.

Prepare students with vocabulary and bird ID PowerPoint and ONA rules.

Make necessary copies of data sheets and preview lesson activities.

Site Prep and Equipment:

a. Pre-registration is required for all field trips please check the Lighthouse and ONA websites at:

<http://www.jupiterlighthouse.org/plan/school-field-trips/>
www.BLM.gov/jupiterONA

b. Clipboards, pencils, ID pamphlets and binoculars are available on site.

c. Activity Overview:

Using reference materials, students will make and record weather observations, observe and identify local bird species then record their findings on a Data Collection sheet. Students will determine the listing of each species as a Species of Special Concern (SSC), Threatened (T), Endangered (E) or Extinct and record that classification on the data sheet.

Main Objective:

Students will make observations and record data to identify specific species of birds and understand past and present efforts to protect and preserve natural resources.

Est. Time	Visuals and Notes	Content
20 min.	<p>Oyer, Harvey E. III. <u>The Adventures of Charlie Pierce: The Last Egret</u>. Oakland Park FL. Middle River Press. 2010.</p> <p>Introduction: (pre-trip)</p> <p>See attached Teacher Information and Resource Web Site Links page for "Plume Trade" information.</p> <p>See attached Vocabulary sheet.</p>	<p>It is highly recommended that students read <u>The Adventures of Charlie Pierce: The Last Egret</u> prior to this lesson.</p> <p>Have students define vocabulary words and discuss how these terms relate to events from the above referenced book and the "Plume Trade".</p> <p>Endangered: any species which is likely to become extinct. Exotic species: species that has been introduced or is non-native. Extinct: any species with no living members; no longer in existence. Native species: species that live in the geographical locations where they originated. Non-Renewable resource: a resource that cannot be replaced as fast as it is being used; a finite resource. Plume: a feather or group of feathers on a bird or a decoration made of feathers or something similar. Renewable resource: a resource that can be replaced or replaces itself as it is used up. (example: food crops) Species of Special Concern: A category of protection for species that are being considered for higher classification. Sustainable: wise use and replacement of natural resources so as not to run out of that resource in the future. Threatened: any species which are at risk of becoming endangered in the near future.</p>
20 min.	<p>Hook 1:</p> <p>Refer to ONA Bird ID PowerPoint</p>	<p>Show and discuss the ONA Bird ID PowerPoint to help student learn to identify species of birds that were hunted for their plumes and are usually present on the ONA.</p>

10 Min.	Hook 2: See attached Bird ID Data and Answer sheets	Preview the Bird ID data sheet with students to help them understand what is expected of them on the site visit.
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10 Min.	Pre-trip See the attached ONA Rules and Guidelines	<p>Review the ONA rules and guidelines with students.</p> <ol style="list-style-type: none"> 1. <u>Do not collect anything.</u> Collection of any item, living or non-living is not allowed without special permit from the site manager. 2. <u>No digging.</u> This site is a historical site with cultural significance, it is protected by law. 3. <u>Stay on the concrete trail and boardwalk.</u> Endangered and sensitive plants are on the site. 4. <u>No pets are allowed</u> in the natural area. 5. <u>No swimming.</u> Wading may be permitted for specific field study activities. 6. <u>Closed-toe shoes are required</u> for all activities on site. 7. <u>Be familiar with the local plants and animals</u> both terrestrial and marine. There are poison plants and may be venomous animals on the ONA site. 8. <u>Be respectful of both other visitors and the environment while visiting the natural area.</u> 10. <u>Emergency – follow group protocol. Report all injuries, issues or concerns to the site manager.</u>
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2 Hours	On Site Bird ID and Conservation Lesson Plan	<p>Our Main objectives are:</p> <ul style="list-style-type: none"> • Explain the “plume trade”, it’s impacts on nature and humans. (SC.4.N.1.1 & SC.4.N.1.4) • Explain the difference between native species and exotic species. (SC.4.N.1.1) • Identify some common local native animals. (SC.4.N.1.6) • Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations. (SC.4.N.1.6) • Explain reasons why plants and animals have or may become “threatened”, “endangered” or “extinct.” (SC.4.N.1.1 & SC.4.N.1.4) <p>Using a Data Collection sheet students will make and record weather observations, observe identify and record birds on the provided list and determine if those species are listed as a Species of Special Concern (SSC), Threatened (T), Endangered (E) or Extinct. All species except the Anhinga have been documented on site.</p> <p>Directions:</p> <ol style="list-style-type: none"> 1. Pair students to work together and manage materials. 2. Provide each pair of students a clipboard, bird data sheet, and bird identification booklets. 3. Have students complete the weather observations and record method collected. 4. Have students make observations while sitting (most efficient) so they can scan the area. It may be advantageous to move the student form one place to another during the observation time. Remind students that most birds may be on or near the water. 5. Have student indicate if they think the birds were or were not targets of the “Plume Trade.” 6. Have student indicate what they think the “status” of each species may be.
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20 min.	Follow-up discussion	<p>7. After the allotted time (30-45 minutes) collect the materials and discuss which birds they did or did not observe and possible reasons why as well as which birds they think were impacted by the "Plume Trade."</p> <p>8. If student added species that they observed, discuss what "Identifying Characteristics" they observed that helped them identify those species.</p> <p>Review the following:</p> <p>Variety of birds observed (number of different species)</p> <p>Native vs Exotic</p> <p>Species of Special Concern, Threatened, Endangered, Extinct and why animals may be classified in each category.</p> <p>How natural resources can be used in a sustainable manner and what practices are now in place to protect wildlife.</p>
20 min	Field trip follow-up See attached follow-up questions	Have students answer follow-up questions after the field trip experience.

Following attachments:

Vocabulary List

Teacher Information and resource web sites

Bird Identification Data Sheet

Bird Identification Data Sheet Answers

Field trip follow-up questions

ONA rules and Guidelines

How to be a Great Chaperone

4th Grade Bird ID & Conservation Vocabulary:

Name: _____

Endangered:

Exotic species:

Extinct:

Native species:

Non-Renewable resource:

Plume:

Renewable resource:

Species of Special Concern:

Sustainable

Threatened:

Teacher information and resource web site links:

Recommended reading prior to site visit:

Oyer, Harvey E. III. The Adventures of Charlie Pierce: The Last Egret. Oakland Park FL. Middle River Press. 2010.

During site visit:

Weather observations may be estimated, or gathered from equipment on site (if available) or taken from a local report. It is important that students record the unit of measurement and indicate if the recorded data is estimated or taken from a source. Bird observations may be affected by weather conditions and time of year. All species except the Anhinga have been documented on site.

Actively Chaperone and assist students with observations and recording.

Post-Visit Classroom Activities:

- Review vocabulary
- Review which animals were important to the early settlers.
- Explain what has been done since the early 1900's to help make the use of our natural resources sustainable.
- Identify birds that may have been on the site but not listed in the identification activity.
- Discuss the benefits of native species compared to exotic species.

Resource web site links:

The following websites are provided for teacher use and information and should be used as reference only.

Bureau of Land Management (ONa) – www.BLM.gov/jupiterONA

Jupiter Lighthouse - <http://www.jupiterlighthouse.org/>

Florida Wildlife - <http://myfwc.com/wildlifehabitats/>

Conservation of Florida Wildlife - <http://myfwc.com/conservation/>

Florida listed species:

<https://ecos.fws.gov/ecp0/reports/species-listed-by-state-report?state=FL&status=listed>

Plume Trade:

<http://americanhistory.si.edu/feather/fthc.htm>

http://web.stanford.edu/group/stanfordbirds/text/essays/Plume_Trade.html

Bird information - <http://www.audubon.org/>

Bird identification - <http://www.birds.cornell.edu>

Outdoor Education - <http://www.acornnaturalists.com>

BIRD IDENTIFICATION Data Sheet

Name: _____

Date: _____ Time: _____ Location: _____

Wind Direction: _____ Wind Speed: _____ Temperature: _____

Weather was: ____ Estimated, ____ Measured, ____ Taken from local report (**check one**)

Bird Species (Common Names)	Bird observed		Identifying Charistics	Hunted for Plumes?	**SSC, T, E or extinct?
	YES	NO			
ANHINGA					
BROWN PELICAN					
DOUBLE-CRESTED CORMORANT					
GREAT BLUE HERON					
Great Blue Heron (White Morph)					
GREAT EGRET					
GREEN HERON					
OSPREY					
SNOWY EGRET					
TRI-COLORED HERON					
WHITE IBIS					
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*					

* ADD BIRDS YOU SEE AND CAN IDENTIFY.

Indicate if the bird is a **Species of Special Concern (SSC), **Threatened (T)**, **Endangered (E)** or **extinct**.

BIRD IDENTIFICATION

ANSWERS

Name: _____

Date: _____ Time: _____ Location: Jupiter Light House

Wind Direction: (N, E, S, or W) Wind Speed: (mph) Temperature: degrees F or C

Weather Data was: ____ Estimated, ____ Measured, ____ Taken from local report (check one)

Bird Species (Common Names)	Bird observed		Identifying Characteristics	Hunted for Plumes?	**SSC, T, E or extinct?
	YES	NO			
ANHINGA	Not Likely		Mostly found in <u>fresh water areas</u> . Black body, white streaks on wings, pointed bill, slow alternate wing beats.	NO	NO
BROWN PELICAN			Large bird, white head and neck, greyish/brown body, large bill with pouch. Dives from air into water for fish.	YES	SSC
DOUBLE- CRESTED CORMORANT			Large blackish water bird. Kinked neck in flight, constant wing beat, hooked tip of bill.	NO	NO
GREAT BLUE HERON			Very large wading bird with gray-blue body. Black stripe above eye. White fore neck streaked with black. Yellowish bill and dark legs. Plumes during breeding season.	YES	NO
Great Blue Heron (White Morph)	Not Likely		Same as Great Blue Heron but all white body. Yellowish bill and light yellowish legs. Plumes during breeding season.	YES	NO
GREAT EGRET			Large white wadding bird with heavy yellow bill and black legs. Long back plumes in breeding season.	YES	NO
GREEN HERON (Green-backed Heron)			Small chunky heron with short legs. Green on upper parts is mixed with blue/grey.	YES	NO
OSPREY			Feed almost exclusively on fish. Dark brown back with white underside. Dark eye stripe.	NO	SSC
SNOWY EGRET			Medium size wading bird. All white, slender black bill, black legs with yellow feet (socks). Graceful plumes on head neck and back.	YES	SSC
TRI-COLORED HERON			Medium size wading bird. White belly and fore neck, dark blue upper with brownish back of neck. Slender long bill light yellowish legs.	YES	SSC
WHITE IBIS			White bird with long reddish curved bill. Face and legs are reddish-orange. Immature Ibis are brown or brown speckled on back.	YES	SSC
*			Answers in the bottom three rows of data sheet will differ based on what the students' see and can identify.		

* ADD BIRDS YOU SEE AND CAN IDENTIFY. Note: All birds are protected by law.

**Indicate if the bird is a Species of Special Concern (SSC), Threatened (T), Endangered (E) or extinct.

Name: _____ Date: _____

Answer the following questions using complete sentences.

1. In relation to the "Plume Trade", explain some of the things that have been done in the United States that since the early 1900's that help protect our animals and other natural resources.

2. Explain reason why plants and animals have or may become "threatened", "endangered", or "extinct".

3. List some of the birds that were named or described in the book The Adventures of Charlie Pierce: The Last Egret that you observed on the ONA visit.

ONA Rules and Guidelines:

The Natural Area is Federal property and is regulated by Federal, State and local laws. Complete and detailed regulations regarding the Jupiter Inlet Lighthouse Outstanding Natural Area (ONA) are available in the Jupiter Inlet Outstanding Lighthouse Natural Area Comprehensive Management Plan and Environmental Assessment (pages 137-149) available at the following website:
www.BLM.gov/jupiterONA

General Rules and Guideline Requirements:

1. **All groups or individuals MUST contact the site manager** (Peter DeWitt, Site Manager Jupiter Inlet Lighthouse ONA, Bureau of Land Management, 600 State Road 707, Unit B Jupiter, FL 33469. Phone: (601) 331-7407) **prior to starting** any field study or research activities on the site to obtain special permits for field work.
2. **Do not collect anything.** Collection of any item, living or non-living is **not allowed without special permit from the site manager.**
3. **No digging.** This site is a historical site with cultural significance, it is protected by law.
4. **Stay on the concrete trail and boardwalk.** Endangered and sensitive plants are on the site.
5. **No pets are allowed** in the natural area.
6. **No swimming.** Wading may be permitted for specific field study activities.
7. **Closed-toe shoes are required** for all activities on site.
8. Be familiar with the local plants and animals both terrestrial and marine. There are poison plants and may be venomous animals on the ONA site.
Helpful websites:
Marine organisms: http://www.floridahealth.gov/diseases-and-conditions/food-and-waterborne-disease/_documents/stings.pdf
Plants: <http://www.edis.ifas.ufl.edu/pdffiles/EP/EP22000.pdf>
Snakes: http://ufwildlife.ifas.ufl.edu/venomous_snake_identification.shtml
Insects: <http://edis.ifas.ufl.edu/ig099>
9. **Be respectful of both other visitors and the environment while visiting the natural area.**
10. **Park only in designated areas.**
11. **Emergency – follow group protocol or call 911. Report all injuries, issues or concerns to the site manager.**

How to be a Great Chaperone

You don't need special knowledge to be a chaperone—just common sense and a willingness to jump in and get involved. Here are a few tips to help make your trip a good one:

What will I be doing as a chaperone?

You will supervise a small group of students, help them learn, assist the ranger when called upon, and make sure the students behave appropriately.

What will my role be during the program?

Throughout the visit, your job will be to monitor the behavior of the students, provide for their safety, and facilitate the learning process while insuring a fun visit for the students. You may be asked to work with specific students and help guide them through program activities. You may want to ask the teacher for information about the program, including background information and vocabulary words, to familiarize yourself with the topic. The more you can interact with the students, the better their experience will be.

What do I need to tell the students about touching things?

Encourage students to touch gently when instructed to do so. When touching marine animals, wet your hands in seawater first. Most marine animals have a coating of slime to protect them. Touching them with a dry hand can damage their slime layer and harm their delicate surfaces.

- Do not pick up or remove the animals.
- Follow the guidance of the education staff.

How can I help students get the most out of their visit?

- Be sure you understand the plan for the day, as instructed by the student's teacher.
- Ask the teacher for any material that will help you lead the students.
- Ask the teacher whether the students have specific projects to work on, and how you can help them during the visit.
- Interact and have fun with the students.
- Ask questions of each student in your group. There will always be a few who have all the answers.
- Encourage the shy or quiet students to share ideas, too.

What else do I need to know?

- Please leave small children at home if possible. They distract you from your duties as a chaperone.
- Avoid visiting with other adults at the expense of your chaperone duties. Remember that your primary job is to chaperone the students, not to visit with other parents.
- Students must stay with you, their chaperone, always. Their behavior is your responsibility.
- Be sure you know when and where to meet the rest of your group during and at the end of the visit.