

Inquiry Lesson

Given that the Passenger Pigeon was believed to be the most populous bird species the world has ever known, what caused the bird's extinction and why did it happen so quickly?

Subset Inquiry Questions

- 1) What were the main factors in the Passenger Pigeon's demise and eventual extinction during the early nineteenth century?
- 2) Why were humans at that time so insensitive towards wildlife as to drive the most populous bird into extinction?
- 3) Were humans totally to blame? Did the species of bird, its large numbers, and its natural characteristics, or a changing environment have any influence on the Passenger Pigeon's extinction?
- 4) What kind of economic factors may have influenced the Passenger Pigeon's extinction? What could have been done to avoid those factors? Have we learned any lessons from the Passenger Pigeon's extinction?

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Social Studies Methods

Prepared for Grades 9-12

Inquiry Lesson Plan

Overview

The once most numerous species of bird the world has ever known, who's migrations during the springtime would blacken the midday sky. The Passenger Pigeon was rapidly driven into extinction during the late nineteenth century. How could this have happened and what were the main factors in the Passenger Pigeon's demise and eventual extinction? Prior to westward settlement, the Passenger Pigeon's migrations in spring were unimpeded. These migration routes were dependent on large food sources to support the great bird numbers, estimated by ornithologists like Wilson and Audubon to be as high as three to five billion. The Passenger Pigeon's natural characteristics met head on in conflict with America's population and expansion growth. The Pigeon's reproductive features allowed only one offspring annually, abandonment during the reproductive process ensured the offspring's demise, and the reproductive period also left the Pigeon most vulnerable to kill by hunters. As the American population and expansion moved westward, the Pigeon's habitat became pinched between the western plains and the new agrarian lands by the settlers. At the same time the Pigeon's natural habits, such as migrating in close proximity and destroying the settler's agriculture made them an easy target for kill, practically and justifiably.

Rationale

This inquiry lesson will engage the students to learn the historical attitudes of humans towards the wildlife and environment of the late nineteenth century. The lesson will help students understand how environmental polices evolved to what they are today. Also, this lesson should spark debate on what can be done to improve current environmental policies and ensure a balance between environmental interests and economic necessities.

Multiple Objectives

Students will:

- learn the effects of rapid modernization and population growth on the environment and wildlife during the nineteenth century.
- learn the effects of a market driven economy on the environment and wildlife during the nineteenth century.
- be able to distinguish between a primary and secondary sources and detect biases for or against a point of view.
- be able to properly cite and reference sources to support or refute a statement or argument.
- be able to critically assess the events of the subject and make a conclusion about those events and realize their consequences.
- create an opinion on how these events improved or worsened the environment and wildlife.
- have a judgment on how this lesson will relate to today's environment and wildlife.

During this lesson students will perform and meet the following standards:

B.12.2 – Analyze primary and secondary sources related to a historical question to evaluate their relevance, make comparisons, integrate new information with prior knowledge, and come to a reasoned conclusion.

B.12.4 – Assess the validity of different interpretations of significant historical events.

B.12.9 – Select significant changes caused by technology, industrialization, urbanization, and population growth, and analyze the effects of these changes in the United States and the world.

RH 2 - Determine the central ideas or information of a primary or secondary source; providing an accurate summary that makes clear the relationships among key details and ideas.

RH 3 - Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matter uncertain.

Grade Level

This lesson is designed for high school social studies/environmental history class. Preferably, grades 11 and 12. This lesson could also be modified to be used at the middle school level.

Time

This lesson could be used for three to five, 50 minute class periods, depending on how in-depth the instructor would like to focus on the subject.

Course

This lesson is designed for social studies, U.S. history, or environmental history class. Studying this lesson will give students a knowledge of the historical context of how growth in population and settlement expansion conflicted with environmental issues.

Materials

- 1) Copies of Hypothesis/evidence worksheet, one per student
- 2) Youtube Video, <https://www.youtube.com/watch?v=kstvzdoaKwc>
<https://www.youtube.com/watch?v=CNA9NqGalWw>
- 3) Data sets for students, one per student.
- 4) Smartboard and Whiteboard

Procedure

1) **Engagement in the Inquiry** - This inquiry lesson on the extinction of the Passenger Pigeon during the late 19th century will start with a videos (<https://www.youtube.com/watch?v=kstvzdoaKwc>, and <https://www.youtube.com/watch?v=CNA9NqGalWw>) to grab the attention of the students and create a base of curiosity in the subject. The first video marks the 100 year anniversary of the death of the last living Passenger Pigeon, whose name was Martha and lived in a zoo in Ohio. The videos will also outline the tragedy of the Pigeon's extinction, explaining how plentiful they were and how quickly they went extinct. After the videos, the students who have already been placed in co-operative groups, will be given instruction in the process of doing inquiry and creating hypotheses. The students will also be informed about how they will be assessed for their work.

2) **Elicit Student Hypotheses** - Once the hypotheses and primary source worksheets are handed to each student, there will be instruction on what hypotheses and primary sources are. If the teacher can make the assessment that the class clearly understands those two principles, the instruction will begin with the posting of the inquiry question for the entire class to view. At this point several sequential steps should take place. First, students should write down their individual hypotheses. Secondly, after enough time has passed to allow students to write down several of their ideas, they should discuss their individual hypotheses within their groups, sharing their ideas and recording new ones given to them by their group members. The third step will require the teacher to select a student who is willing to be the recorder for the entire class. This recorder will write down, either on a smart or white board, hypotheses generated by the groups. Once an adequate list has been assembled, the instructor will ask the class for one or two "crazy" hypotheses and have those added to the list. When that is completed, the first data set will be handed out.

3) **Data Gathering, Data Processing, and Hypotheses Revision** - A student will be asked to read the first data set aloud to the class. Once this has been read, the instructor should guide the class through a discussion about the data set. At this point, the instructor will also pause the relevant discussion on the Passenger Pigeon to give a brief overview of how to process sources, both primary and secondary. The following points concerning sources should be reviewed with students. A document analysis worksheet is provided to students and should be used along with their hypotheses worksheet.

- Is the source a **primary** or **secondary** source?
- If **primary**, was the source hard to read or understand? Will the students need additional help, especially with vocabulary? (Make modifications, if necessary for ELL and Struggling Readers)
- Who made the document? What kind of Document is it? When was it made?
- What about the author of the document? Who was this person? What was their role in the event? Did this person have a bias or agenda for writing the document.
- If the document is a **secondary** source, many of the same questions may still apply.
- Additional questions for students to consider while looking at secondary sources may include looking at the author's citations. Does the author have proper citations? What are those citations?
- Does the author have good credentials?
- Is the source from the internet? Should the student conduct a web-site analysis?

Returning back to the data sets, the instructor will ask students/groups to continue working on their hypotheses worksheets using the newly presented information from the data sheets. Again, this

information can create new hypotheses, refute or maybe even eliminate an old one, and may also support one. The class recorder will continue to record new ideas given to the class from the groups. As this process is repeated as the class works through the provided data sets, the instructor should monitor the group participation as to ensure that all groups and student are involved. In an ideal situation, toward the end of the data set evaluations the class should almost carry out the process by themselves.

4) **Conclusion** - After the last data set is evaluated, the students should make their final revisions to their hypotheses and make their final conclusions. At this point the instructor will give the details on the writing assignment and pass out the assignment's rubric. Clear and concise instructions are provided with the rubric. At some point during the writing process, the instructor will introduce another data set or in this case, talk about a discovery recently found that may cause them to make revisions to their hypotheses. The point of this brief exercise is to have students realize that discoveries about an event are sometimes made after long periods of time have passed and therefore historians have made revisions to historical events long after they have occurred.

Assessment

The assessment will be made by many factors. Class participation, demonstrating hypotheses creation with supported and refuted evidence. Demonstrating an understanding of Primary and Secondary sources. The main form of evaluation will be an essay that includes identifying primary and secondary sources with the proper citation.

- Class participation will be judged entirely by the instructor. It will be advisable that notes on class participation be recorded immediately and each student should be given equal chance to participate. Students who are reluctant to participate, as we know that there is always a segment of the class who falls in this category, should be prompted by the instructor to contribute to the discourse.
- Hypotheses creation should be collected at the end of the lesson along with the primary source check sheet. These should be evaluated not by the merits of the hypotheses itself, but also by the evidence that either supports or refutes that hypotheses. Extra points should be given to any student who cites a data set to their argument for or against.
- The essay assessment should be graded by the following rubric and the rubric should be provided to the student along with an instruction guide on how to proceed with their essay.

Please write an essay of 300 to 500 words, that explains your hypotheses to the answer of the inquiry question. This essay should include a thesis, two citations (one primary and one secondary) that are properly cited and contribute to a refutation or affirmation of your final hypotheses. These citations are a minimum standard, but you are invited to include as many references to the data sets, properly cited or not, to your argument. Credit for additional references to the data sets will greatly enhance your essay and your grade on the subject. The rubric goes as follows....

Points Scored	Thesis	Evidence/Cited Properly	Mechanics
3	Thesis is well written.	There is one primary and one secondary source cited and those sources that contribute to or against the thesis.	Great outline, good grammar and evidence of proofreading.
2	Thesis present, but not strong or easily understood.	Evidence is present, but may have flaws in either distinguishing of sources or citations.	A few mistakes in the written discipline with some evidence of proofreading.
1	Very weak or no thesis.	Evidence is unclear or not applied to the thesis.	Essay was not proof-read and few corrections were attempted.
1		One point extra credit for each additional reference provided to argue any point of your thesis.	

Inquiry Lesson

Name _____

Given that the Passenger Pigeon was believed to be the most populous bird species the world has ever known, what caused the bird's extinction and why did it happen so quickly?

Hypotheses	Supporting Evidence	Refuting Evidence

Primary Source Checklist

Name _____

Description of the Primary Source	Why is it a Primary Source?	Who is the author? Is the author bias?	If the author is bias, explain your reasoning

Notes for Instructor Relating to Data Sets

Each data set is designed to be a prompt for which students will create a hypotheses. At the same time, each data set is designed to either support or refute any previously stated hypotheses. In an ideal situation, the data set may even cause the student to create a new hypotheses and gather more evidence to support or rebut it. The data sets have both primary and secondary sources. These are not noted, as part of the exercise is for students to distinguish between the two sources. The data sets are an imperfect process by design, even one data set may be considered to be extreme, as it is the instructors job to guide the students through their own inquiry process. For the data sets provided in support of this lesson, these are the author's designed effects to create, support, and refute any hypotheses that may be generated from the inquiry question.

Data Set 1

- Provide context, give magnitude to the populist of the Passenger Pigeon.
- Provide respect and admiration for the natural properties of the Passenger Pigeon.
- Give information on the reproductive and behavioral habits of the Passenger Pigeon.
- Provide insight and context to a "brash young America".

Data Set 2

- Give historical account of the large migration of Passenger Pigeons in 1871.
- Introduce students to the value of Passenger Pigeons to the market hunter.
- Provide description of the Passenger Pigeon's destructive nature towards an agrarian society.
- Provide description of the Passenger Pigeon's voracious appetite and gorging.
- Describe how the Passenger Pigeon migrated in very close proximity, making them vulnerable to easy killing.
- Argue that the habitat of the Passenger Pigeon may not have a way of being sustained in today's world.

Data Set 3

- This data set is a primary source.
- Firsthand account of how large migrations were.
- Firsthand account of how large the number of hunters were who participated in the killing of Passenger Pigeons.
- This data set describes the thoughtlessness of humans at this time.

Data Set 4

- This data set should be recognized by students as a questionable source, as its publisher and author may not be credible.
- This data set could provide students with a extreme hypotheses as to why Passenger Pigeon became extinct.
- May cause students to compare the Passenger Pigeon's plight to that of the American bison.

Data Set 5

- This data set is a primary source.
- This should give students a sense of the finality of the extinction of the Passenger Pigeon.
- Students should question why finality of the extinction was such an obscure issue at the time.

Data Set 6

- Introduce students to Aldo Leopold.
- This data set is a primary source, but may be harder for students to recognize.
- Speech is a great literary source that should elicit deep critical thinking by students before making their final conclusion of the inquiry.
- Does this data set relate to any current issues that effected the balance between economic progress and preservation of the environment.

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Social Studies Methods

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Self Evaluation of Inquiry Lesson

This lesson plan would work excellent for both U.S. History and an Environmental History class. I envision possibly having the opportunity to use this lesson this spring when I am doing my student teaching, as the year 2014 will mark the one hundred year anniversary of the passing of the last living Passenger Pigeon. I think the lesson is set up to be very informative on a subject that I suspect that very few students know very little about, if anything at all. I think the lesson will also be interesting to students and will be a great source for discussion and debate.

Using the **PASS Standards** to self-critique this lesson plan, this is my evaluation:

Higher Order of Thinking - 3

This lesson will require students to really weigh the benefits and drawbacks of population expansion and economic growth. They will need to balance economic issues with the consequences that they may bring to the environment. This debate is nothing new, but will involve students to critically think about issues and make a reasoned and thoughtful stance.

Deep Knowledge - 3

This lesson will introduce a topic that I expect few, if any students to know about. By doing the readings, videos, and some lecture the students knowledge of the topic will expand greatly. The reason for a middle assessment in this standard is that the topic has a narrow focus on the history of one bird species.

Substantive Conversation - 4

I feel this lesson can have the potential to spark a passionate and live discussion among classmates. Today's students will sense the tragedy of more than one hundred years ago and have something to say about it. There are enough issues that relate to the inquiry to keep a valuable discussion active for as long as the teacher merits.

Connection to the World Beyond the Classroom - 5

This is one of the lesson's strongest standards. The topic of the tragedy of the Passenger Pigeon can relate to a multitude of issues, both from our past and our present. Pick up any paper today, or for that matter any paper from time gone by and there will be an issue related to how humans have done damage to the environment because of economic demands.

Ethical Valuing - 4

Again, I think this is one of the lessons stronger standards. Ethical decisions need to be debated and critically thought of before they are acted on. Perhaps the people responsible for the extinction of the Passenger Pigeon could plead ignorance to some point, but human greed and thoughtlessness was also to blame. If students could recognize this and carry that less to our current period in time, then there is a good chance that they have learned some common values that will benefit society.

Integration -4

Of the four sub-types of integration, I would rank this lesson from strongest to weakest as follows: Time or Place, Interdisciplinary, Knowledge and Skills, and then Subject Area. This lesson will give students a clear understanding of the Time and Place of the tragedy and where and when they live today. Also, the lesson will require students to use several social studies disciplines, build on knowledge and use skill to critically analyze the topic and actively participate.