

**CRISS Learning Framework for
We are Connected! Conservation and Rivers**

PLAN for Instruction:

Standards:

SS.7.G.5.1 Use a choropleth or other map to geographically represent current information about issues of conservation or ecology in the local community.

SS.7.C.2.12 Develop a plan to resolve a state or local problem by researching public policy alternatives, identifying appropriate government agencies to address the issue, and determining a course of action.

SS.C.2.14 Conduct a service project to further the public good.

SC.8.N.4.1 Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.

LAFS.68.RH.1.1 Cite specific textual evidence to support analysis of primary and secondary sources.

LAFS.68.RH.1.2 Determine the central ideas or information of a primary or secondary source.

LAFS.68.Rh.3.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps with other information in print and digital texts).

Enduring Understandings- Note for teachers: This lesson was inspired by the Rivers of America Series that began in 1937. Three rivers are included in this series: Hillsborough River, Everglades: River of Grass, and the Suwannee River.

Content: *Students will understand that changes in the environment, such as human impact on rivers, can cause changes in how the ecosystems function.*

Process: *Students will understand that writing and discussion facilitate deep learning and retention of information.*

Assessment

Formative: *Think-Pair-Share, Primary Source Analysis*

Summative: *Build a Mural*

Content Materials

Pens and Pencils

Highlighters and Post-it Notes

National Archives Photograph Analysis Handout-see attached

Image 1 of “A Pretty Florida Scene”-see attached

Think-Pair-Share Handout-see attached

Vocabulary Map

Chart paper, colored pencils, markers

Read and Explain Handout-see attached

Hillsborough River Virtual Excursion: <https://www4.swfwmd.state.fl.us/hill/>

(You will need Adobe Flash Player for the virtual excursion)

Book: River of the Golden Ibis by Gloria Jahoda; for this lesson the Prologue pages xix-xviii

Venn Diagram Template-see attached

Book: Three Days on a River in a Red Canoe by Vera B. Williams

Perspective Entries: Three Days on a River Handout-see attached

Image 2 of “A Pretty Florida Scene”-see attached

Wetland Wonder Cards 1-10-WaterMatters.org

Analyze Online Hillsborough County Health Atlas Handout-see attached

Summary of Clean Water Act-see attached

Summary of Endangered Species Act-see attached

Summary of Migratory Bird Treaty Act-see attached

National Archives Document Analysis Handout-see attached

Project Wet Lesson: Rainy Day Hike (modified)Bui

PREPARE for Student Learning:

Elicit Background Knowledge: Identify activities such as questions, images, short text, writing, or discussion.

Two options:

Primary Source Analysis

- Using the National Archives Primary Source Analysis Handout, students will analyze the postcard “A Pretty Florida Scene”
- Pair with shoulder partner and share information recorded for 2-3 minutes

Think-Pair-Share

- Working independently, students will write their answer(s) to this question: What do you know about conservation? and record in the Think column.
- With your shoulder partner write down three to five questions you have about “conservation” ----record these questions in the Pair column. Prepare to share whole group.
- Record questions and comments, you hear your peers provide. Choose one that you think is the most interesting and share with the class.
- The teacher can do this activity twice and use the word “watershed(s).”

Vocabulary Map

- Working with your triad: on your chart paper record the names of each partner, period number, and date. ☺
- Your teacher will assign the word to your triad: Conservation or Watershed(s)
- Write the word in the middle of the chart paper.
- Write the definition of the word in the top left corner.
- Using a dictionary, write the synonym of the word in the top right of the corner.
- In the bottom left hand corner, write a sentence using your vocabulary word.
- In the bottom right hand corner, draw a picture or doodle that best represents your word.
- As you work together think about why the above steps are critical in strengthening our knowledge of vocabulary. Hang the charts around the room.

Set Purposes for Students Learning--Essential Question(s):

How do human impacts change the look and function of ecosystems?

What do puddles on your playground, the trash on your school’s parking lot and a nearby river, lake, stream have in common? (Project WET: Rainy Day Hike Lesson)

Set Purposes for Students Learning—Student Learning Target:

Today: We will identify and analyze the watershed our school is located in.

So: That we can explain the role our schoolyard plays in the watershed.

We: Know we are successful when we can identify our watershed and it explain its significance in the ecosystem.

Instruction Needed for Student Analysis of Author's Craft:

Reading primary and secondary sources, as well as graphs and charts.

ENGAGE AND TRANSFORM: Identify processes that keep students actively persistent and learning activities that include writing, discussion, visualization, and organization.

Read and Explain (including handout)

- Students will be paired and assigned a section to read and analyze from the Hillsborough River Virtual Excursion <https://www4.swfwmd.state.fl.us/hill/> (Watershed, River Begins, Springs, Tributaries, Reservoir, Human History, Ecology, Restoration, Tampa Bay, and Recreation) and record the name of their section under the "Read" column.
- Students will independently read their assigned section, then record a one-sentence summary under the "Explain" column and then share this summary with their partner.
- Each student will record in the "Share" column the one-sentence summaries developed by their partners

Venn Diagram

- Students will then read from Gloria Jahoda's book titled "River of the Golden Ibis," Prologue pages xix-xxiii.
- Each student will be provided the handout titled: Venn Diagram: Conservation Lesson.
- Using their notes recorded in their Read and Explain activity, students will complete their Venn Diagram.
- Students will share what they record with their triads and then with whole group.

Sticky-Note Discussions

- Each student will be provided a copy of the Background reading for the Project WET lesson titled "Rainy Day Hike."
- Students will number the paragraphs in the Section I reading (the table is a paragraph 😊)
- Working independently, students will skim the reading and highlight challenging and/or unfamiliar words.
- Students will define these words on the back of this handout.
- Using post-it notes, students will read again and write two to three words/concepts, from each paragraph, and write these words on a post-it note. Stick the post-it notes in the margins next to the corresponding paragraph.

- Complete the Section II prompts after completing Steps 1-5, then discuss with your shoulder partner and prepare to share whole group.

TWO OPTIONS FOR THIS NEXT STEP IN THE LEARNING FRAMEWORK

Option I-

Perspective Entries

- Students will read the Vera B. Williams book titled “Three Days on a River in a Red Canoe.”
- Students can select one of these following characters and write journal entries from that character’s perspective: Sam, Mom, Aunt Rose, or one of the animals they see along their journey).
- Record your journal entries on the attached handout: Perspective Entries: Three Days on a River in a Red Canoe.
 - A. Entries should give clues about the person’s life.
 - B. Think about the person’s circumstances.
 - C. Put yourself in the mind of the character and describe what they are feeling, thinking? What are their challenges, worries, and successes?

Option II-

Wetland Wonder Cards (1-10)

- Students will analyze each image and read the following sections from each card:
 - A. Wonder Background
 - B. Wonder Words
- Using their own paper, students will then answer the Wonder Writing Topics. They must write the prompt and complete the statements in complete sentences.

Show What They Know

- Using the “A Pretty Florida Scene” Handout-students will write to someone of their choice describing the “journey” they took with either text: “Three Days on a River in a Red Canoe” or the Wetland Wonder Cards.
- Each postcard must be addressed to someone, they may create a fake address.
- Three to five facts they learned from either text.
- Display around the room.

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Analyze Online Hillsborough County Health Atlas

- Click on link below to analyze the Health Atlas:

<http://www.planhillsborough.org/health-atlas/>

- Locate the title of the map, scale bar, compass rose, zoom in/out buttons, and list of factors you will analyze.
- Click on “View Map Full Screen” button.
- Locate the Hillsborough River and the Hillsborough River State Park.
- The review the list of factors, located on the right side of the map.
- For more information on these factors click the button titled “Indicators/Data Sources.”
- Find “Natural” and click on the arrow and the eye symbol.
- You will see the following “Layers” you can analyze:
 - Aquatic Preserves
 - ELAPP: Environmental Lands Acquisition and Protection Plan-Displays the county’s habitat and corridors acquired through this program.
 - FNAE: Florida Natural Areas Inventory-Location of conservation lands including national parks, state forests, wildlife management areas, and private preserves.
 - Parks
 - Wetlands

Revisit Read and Explain

- Students may use the two information resources to check their understanding of rivers, specifically the Hillsborough River, and add to their handout new or interesting information.
- Source 1: The Atlas of Florida’s Natural Heritage, Section Water Resources, pgs. 12-13
- Source 2: Florida’s Rivers, 2nd Edition by Charles Boning, Section Hillsborough River, pgs. 174-177.

Analyze Primary Sources

- The teacher may assign the following legislation to the class to analyze:
 - 1/3 of the class will analyze the Clean Water Act
 - 1/3 of the class will analyze the Endangered Species Act
 - 1/3 of the class will analyze the Migratory Bird Treaty Act
- Students will complete their analysis using the National Archives Document Analysis Handout

Project WET Lesson: Rainy Day Hike-see attached

SUMMATIVE ASSESSMENT

Build a Mural: Students will work together to create a mural to demonstrate what they learned throughout this learning framework.

Materials:

White butcher paper or chart paper

Multi-colored construction paper

Legal-sized paper

Markers, colored pencils, pens and pencils

Scissors, glue, tape, staplers

Rulers and yard sticks

Steps:

- 1) Begin by asking students what a mural is (a painting or other work of art executed directly on a wall.) and can the provide examples?
- 2) Ask students to briefly review the information they recorded throughout this lesson and choose three items they think are most important/significant/interesting and share with their triads; prepare to share whole group.
- 3) Tell them they will make a mural demonstrating what they've learned. Each triad is responsible for one panel (sheet of butcher paper or chart paper) of the mural. This mural will be displayed in the school for all to see.
- 4) Provide time for each triad to agree on what they will illustrate in their mural panel. For those students/triads who can't seem to decide, explain to them they may recreate the image from the postcard. Wetland Wonder Cards, of the Three Days on a River book. However, they must include new information they learned during this lesson.
- 5) Once this is decided, provide legal-sized paper for the triads to draft.

Roles for group members:

- a. Illustrator
- b. Fact Sheet/Field Guide development for plants and animals included in the mural
- c. Getting/putting away materials
- d. Creating a title and summary for their mural; talking points

e. Haiku

f. Write new lyrics to the tune of “Santa in a Red Canoe”-- <https://www.youtube.com/watch?v=CQkCwpT8cnY>

- 6) Once all triads have their draft completed, then provide each triad their mural “panel” to draw their final image.
- 7) Once the mural is completed and hung, schedule an “unveiling date” and invite other classes and parents to view the mural.
- 8) Questions to ask students afterwards: (http://www.haringkids.com/lesson_plans/learn/how-to-create-a-mural)
 - ~How does the mural make you feel when you look at the mural?
 - ~What effects can murals have on their environment and the people who see them?
 - ~Do you think words or pictures are stronger?
 - ~How did working together as a group instead of by yourself make you feel?

REFLECT ON TEACHING & LEARNING: Closure, Connections, Extensions, and Process Conference

Build A Mural Assessment: Participants can work collaboratively with their groups and make contributions to the final mural.

Extensions: Students can participate in a Keep America Beautiful project; <https://www.keeptampabaybeautiful.org/>

Reflection Questions:

Think-Pair-Share-How did talking with a partner help you to understand the content?

Vocabulary Map-How does mapping a word help you to make it memorable and meaningful?

Perspective Entries-How did writing from a character’s perspective help you to understand the story better?

Primary Source Analysis-How did the questions in the handouts help you to understand the information better?

Analyze a Photograph



Meet the photo.

What do you see?

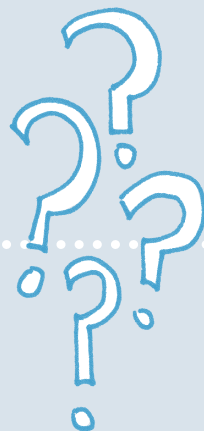
Is the photo?

BLACK AND WHITE COLOR

Is there a caption?

YES NO

If so, what does the caption tell you?



Observe its parts.

Circle what you see in the photo.



PEOPLE



OBJECTS



BOTH

What are the people doing in the photo?

What are the objects used for in the photo?

Write two words that describe the photo.

Try to make sense of it.

Who do you think took this photo?

Where do you think this photo was taken?

List something that helps you prove where it was taken.

Why do you think the photo was taken?

How does this photo compare to modern times?

Use it as historical evidence.

Where do you think we could find out more information about the people or objects in the photo?



Image 1: Postcard-A Pretty Florida Scene

A PRETTY FLORIDA SCENE.



Image 2: Postcard: --Pretty Florida Scene



Think-Pair-Share: Conservation

Think-Pair-Share is a great discussion strategy that allows students to become an active participant.

Steps:

- 1) Working independently, students will write their answer(s) to this question: What do you know about conservation? and record in the Think column.
- 2) With your shoulder partner write down three to five questions you have about “conservation” ----record these questions in the Pair column. Prepare to share whole group.
- 3) Record questions and comments, you hear your peers provide. Choose one that you think is the most interesting and share with the class.

Think	Pair	Share

Think	Pair	Share

Think-Pair-Share: Watersheds

Think-Pair-Share is a great discussion strategy that allows students to become an active participant.

Steps:

- 1) Working independently, students will write their answer(s) to this question: What do you know about watersheds? and record in the Think column.
- 2) With your shoulder partner write down three to five questions you have about “watersheds” ----record these questions in the Pair column. Prepare to share whole group.
- 3) Record questions and comments, you hear your peers provide. Choose one that you think is the most interesting and share with the class.

Think	Pair	Share
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Think	Pair	Share
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Project WET: Rainy Day Hike Background Reading and Sticky Note Discussion

Sticky-Note Discussions provides an opportunity for students to engage on a deeper level with the text they are reading.

Steps:

- 1) Each student will be provided a copy of the Background reading for the Project WET lesson titled “Rainy Day Hike.”
- 2) Students will number the paragraphs in the Section I reading (the table is a paragraph 😊)
- 3) Working independently, students will skim the reading and highlight challenging and/or unfamiliar words.
- 4) Students will define these words on the back of this handout.
- 5) Using post-it notes, students will read again and write two to three words/concepts, from each paragraph, and write these words on a post-it note. Stick the post-it notes in the margins next to the corresponding paragraph.
- 6) Complete the Section II prompts after completing Steps 1-5, then discuss with your shoulder partner and prepare to share whole group.

Section I) Background Reading

Puddles, streams and lakes all have something in common; they collect water that is drained from watersheds. Watersheds are like funnels: they are drainage basins where surface water runs off and drains into a common collection site.

Watersheds are separated from each other by landforms (ridgelines or mountain divides). Water falling on each side of the divide drains into different watersheds and collection sites. Since surface runoff flows over a school’s grounds on its way to the collection site (e.g. a river), schoolyards are part of a watershed. (Puddles are the collection sites of mini-watersheds. The land areas surrounding puddles are the mini-drainage basins that empty into the puddle). When puddles overflow or the soil becomes saturated, water is released.

Often, materials carried by water to the school grounds (e.g. litter, twigs, leaves, oil) are left behind. Surface water leaving the school grounds may in turn carry these materials to the collection site of the watershed. As water flows from the school grounds, it combines with runoff from other land areas within the drainage basin. Materials from these other places are added to the water. While some substances decompose, settle out or are filtered by soil, other matter continues to travel long distances downstream.

Organic materials (anything that is or was alive) carried by the water nourish aquatic life. Some substances are toxic, however, and endanger organisms feeding or living in the water. Contaminants (a polluting substance) with entry points into the watershed that are difficult to locate are classified as nonpoint source

pollutants. Along with residential areas, agricultural fields and paved parking lots, school grounds can contribute nonpoint source pollutants (pollution that enters the water from many sources). A school could contribute point source pollution (pollution that enters water at just one point) when the source of the pollutant can be tracked back to a specific location on the school grounds (for example, a sewer, ditch, or pipe).

Your school's street, sidewalks and parking lots are covered with all kinds of chemicals. These come mostly from cars, trucks, motorcycles and other motorized vehicles. When it rains, these items are washed away through your city's storm water drainage system and may flow into nearby streams, rivers, wetlands, and lakes. If the storm water runs directly into a river or lake, your parking lot is a likely source of pollution.

Your school grounds and parking lots hopefully do not have trash on them, but unfortunately some people do not take the time to recycle or toss garbage into trash cans. Trash that is scattered on the ground can be carried by water running off of schoolyards and washed into nearby bodies of water and even perhaps end up in the ocean.

Nonpoint Source Pollution	Point Source Pollution
<ul style="list-style-type: none"> • Fertilizers • Pesticides • Herbicides • Dumping motor oil and antifreeze into storm drains • Leaking septic tanks • Trash • Animal waste 	<ul style="list-style-type: none"> • Discharge from wastewater treatment plants • Waste from industrial plants • Sewer leaks

Section II) Prompts to respond to after reading:

- 1) Questions I have:

- 2) Information I don't understand:

- 3) Places where I need more examples:

- 4) Connections I made to ideas and content:

Analyze a Written Document



Meet the document.

Are there any special markings on the document? Circle all that apply.



STAMP



POSTMARK



HANDWRITTEN
NOTE



OFFICIAL
SEAL



SPECIAL
LETTERHEAD



OTHER

Is it handwritten or typed?



Write down any words that you don't know. Then look up the definitions.



Try to make sense of it.

What is the main idea of the document?

List two quotes (words from the document) that help support the main idea.

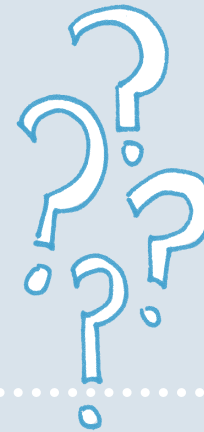
Why do you think this document was written?

Observe its parts.

Who wrote this document?

What is the date of the document?

Who read or received this document?



Use it as historical evidence.

Where do you think you could find out more information about the persons who wrote or received this document?

Where do you think you could find out more information about this event?



Read and Explain: *Hillsborough River Virtual Excursion:*
<https://www4.swfwmd.state.fl.us/hill/>

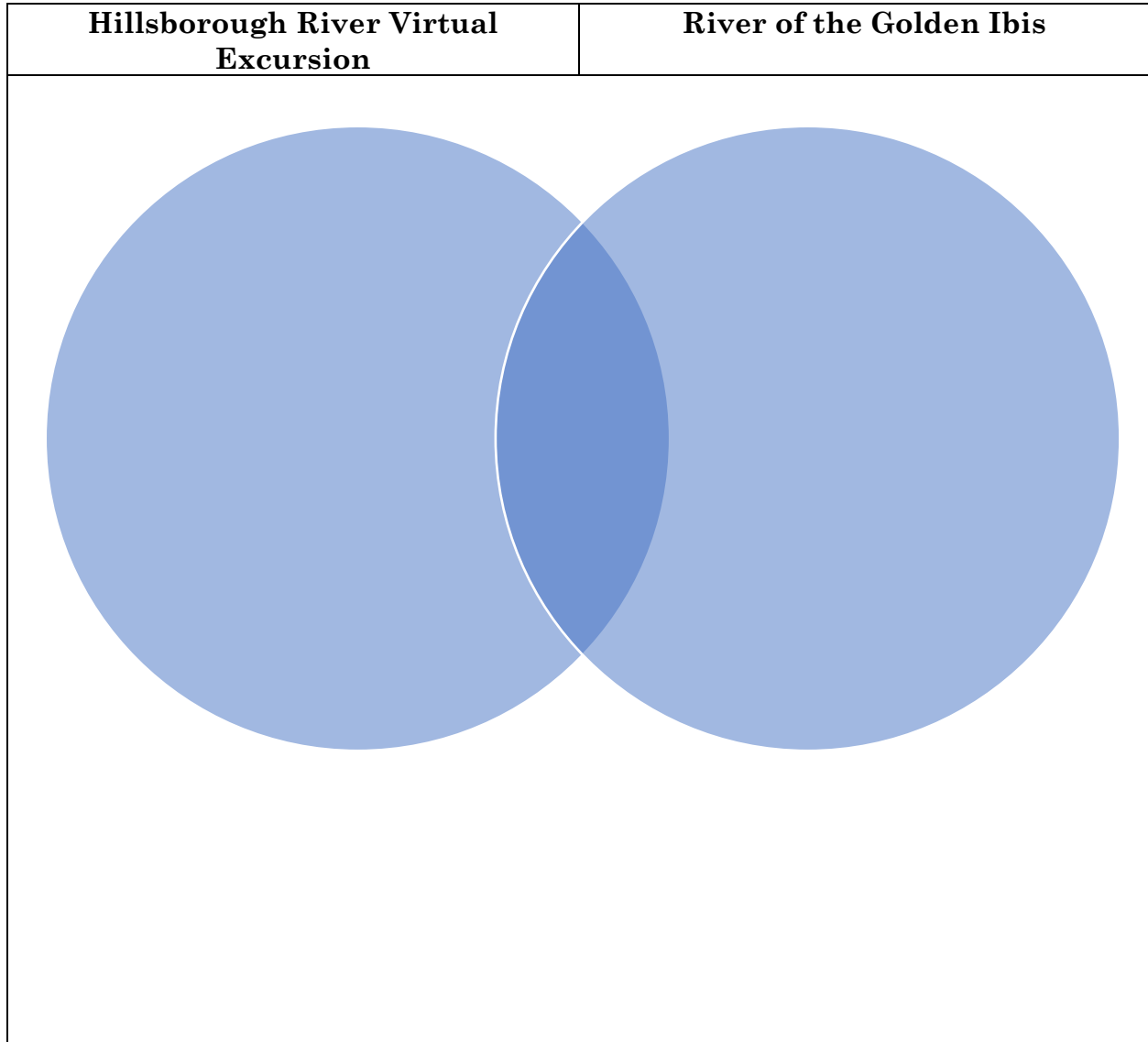
Read and Explain provides a more explicit way for readers to examine their own understanding.

Steps:

- 1) Students will be paired and assigned a section to read and analyze from the Hillsborough River Virtual Excursion (Watershed, River Begins, Springs, Tributaries, Reservoir, Human History, Ecology, Restoration, Tampa Bay, and Recreation) and record the name of their section under the “Read” column.
- 2) Students will independently read their assigned section, then record a one-sentence summary under the “Explain” column and then share this summary with their partner.
- 3) Each student will record in the “Share” column the one-sentence summaries developed by their partners.

Read:	Explain: (Record your one-sentence summary)	Share: (Record your partner's once-sentence summary here)

Venn Diagram: Conservation Lesson



Perspective Journal Entries: Three Days on a River in a Red Canoe

In Perspective Entries students can take on the role of characters and write what that character is thinking and feeling.

Steps:

- 1) Students will read the Vera B. Williams book titled “Three Days on a River in a Red Canoe.”
- 2) Students can select one of these following characters and write journal entries from that character’s perspective: Sam, Mom, Aunt Rose, or one of the animals they see along their journey.
- 3) Record your journal entries in the table below.

Dates:	Journal Entries

Analyze Online Hillsborough County Health Atlas: Conservation Lesson

The fourth largest county, covering almost 1300 square miles in Florida, Hillsborough County is home to almost 1.5 million people. Each year the county updates its online county atlas to provide stakeholders and interested individuals a deeper look at issues facing its residents. Hillsborough County Health Atlas is a living tool intended to provide communities and planners a baseline profile of chronic disease, demographic, transportation, emergency preparedness, and environmental indicators within our communities. Students will analyze several factors and make inferences to the human impacts on the Hillsborough River.

Steps:

- 1) Click on link below to analyze the Health Atlas:
<http://www.planhillsborough.org/health-atlas/>
- 2) Locate the title of the map, scale bar, compass rose, zoom in/out buttons, and list of factors you will analyze.
- 3) Click on “View Map Full Screen” button.
- 4) Locate the Hillsborough River and the Hillsborough River State Park.
- 5) Review the list of factors, located on the right side of the map.
- 6) For more information on these factors click the button titled “Indicators/Data Sources.”
- 7) Find “Natural” and click on the arrow and the eye symbol.
- 8) You will see the following “Layers” you can analyze:
 - Aquatic Preserves
 - ELAPP: Environmental Lands Acquisition and Protection Plan-Displays the county’s habitat and corridors acquired through this program.
 - FNAE: Florida Natural Areas Inventory-Location of conservation lands including national parks, state forests, wildlife management areas, and private preserves.
 - Parks
 - Wetlands

Answer the following questions:

- 1) Where do most of the aquatic preserves seem to be located?
 - 2) What parks are located near the river?
 - 3) What types of wetlands do you find along the river and state park?
 - 4) Who manages the ELAPP near the river and state park?
 - 5) Are their conservation lands near the river?
-
- 9) Click to close “Natural” factors and scroll above to find “Environmental and Environmental Justice.”

- 10) Click on the arrow and eye to display the list of factors.
- 11) Find the following layers and analyze their proximity (closeness) to the river and state park:
 - Hazardous Waste Proximity
 - Lead Paint Indicator
 - Solid Waste Facilities

Answer the following questions:

- 1) Are these sites located close or a safe distance away from the rivers?
- 2) Where are most of these places located in the county?
- 3) What impact do you think they make on water and on land?

Write one question you would like to ask the mayor about what you learned by analyzing this map:

Summary of Migratory Bird Treaty Act of 1918

Establishment of a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this

Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 U.S.C. 703)

This prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Russia.

Summary of the Clean Water Act

33 U.S.C. §1251 et seq. (1972)

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972.

Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry. EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained.

EPA's National Pollutant Discharge Elimination System

(NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual

homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

Summary of the Endangered Species Act

16 U.S.C. §1531 et seq. (1973)

The Endangered Species Act (ESA) provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies for implementing ESA are the U.S. Fish and Wildlife Service (FWS) and the U.S. National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. The FWS maintains a worldwide list of endangered species. Species include birds, insects, fish, reptiles,

mammals, crustaceans, flowers, grasses, and trees.

The law requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and/or the NOAA Fisheries Service, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a "taking" of any listed species of endangered fish or wildlife. Likewise, import, export, interstate, and foreign

commerce of listed species are all generally prohibited.

Name:
Date:
Period:

Mural Rubric

Category	Excellent	Good	Needs Improvement
Overall Assessment	The student's contributions to the mural display an outstanding understanding of the lesson's content and topics.	The student's contributions to the mural display an adequate level understanding of the lesson's content and topics.	The student's contributions to the mural display a basic understanding of the lesson's content and topics.
Use of Facts and Information	The student contributed outstanding facts and information to the development of the mural.	The student contributed limited facts and information to the development of the mural.	The student was not able to contribute facts and information to the development of the mural.
Visual and/or Written Components	The student helped to make the mural visually (or written) compelling, powerful, and understandable.	The student helped to make the mural interesting.	The student did not help to make the mural visually compelling or well executed.

Student Role:
Comments: