

Module 3 ~ Why Manage Invasive Plants (HS)

Answer Key – Reading Activity – Water Hyacinth in Florida – Then and Now



Name: _____ Class Period: _____ Date: _____

Directions: The following passage is taken from the March 19, 1898 issue of Harper's Weekly magazine. Read this historical article and answer the questions below.

The Water Hyacinth Pest in Florida

It seems strange to denominate so beautiful a flower as most of us regard the hyacinth a pest, and yet too much of a good thing, not properly placed, frequently becomes noxious: thus it is with the water-hyacinth in Florida.

It is not actually known when or how this flower was first introduced into Florida, although statistics tell us that it was found in the St. Johns River about 1890, in a pond somewhere near Palatka. The settlers tell us that in cleaning out this pond some of the plants were thrown into the river, they grew, and were so beautiful that settlers transplanted them to different parts of the river, to beautify their places, and thus the seemingly irreparable mistake was made.

The hyacinth is a native of South America, has a thick bush root, and floats on the top of the water without any apparent attachment to the bottom. If it could be kept

near the shore no danger need be apprehended, but wind and storms send it floating out into the middle of the stream in such large masses that navigation is seriously impeded, and the captains of the river craft are beginning to look upon it with growing fear and horror.

As I was sailing up the river on the old steamer Everglades, as represented in the sketch, toward Jacksonville, I noticed this great green mass. As we sailed farther up, it became so thick that the vessel advanced with difficulty. The illustration shows how our steamer struck the mass. We backed and pushed, and finally extricated ourselves. The small stern-paddle boats can hardly push their way through these large masses, and at times are completely blocked. I have seen vessels going at full speed brought to a complete standstill.

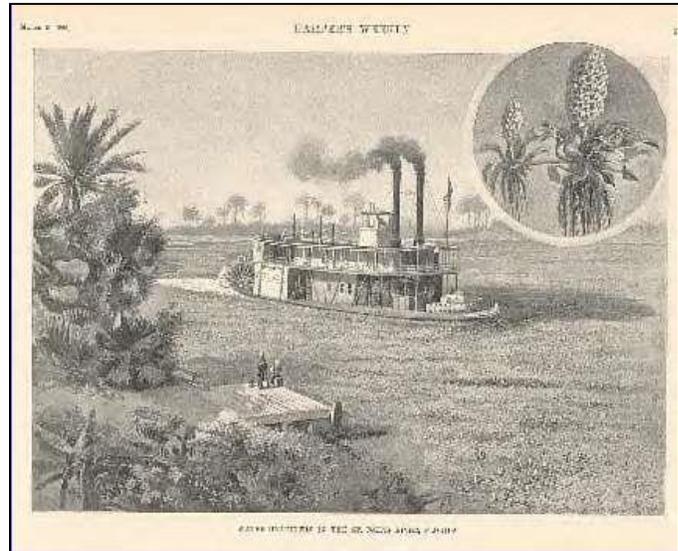
These plants are capable of doing considerable damage in many ways other than that of endangering navigation. They propagate so fast and grow so rank that the narrow creeks running into the larger river are so thoroughly covered, from bank to bank, that boards can be laid across that would easily bear a person, so it is quite impossible to expect anything short of a dredging-machine to penetrate them.

One can also see how much danger may lie concealed under this dense mass. It imperils the health of the neighborhoods, in which it grows so rank, being washed up on the bank, carrying with it the refuse that has been caught among its tangled mass, and decaying, sends forth odors that are neither the most pleasant to inhale nor the most healthful to breathe.

Then, too the hyacinth is destroying the timber industry, as it is impossible to float the logs, and it is menacing the livelihood of the fisherman, by preventing them from spreading their nets as has been their custom in the past: and not only are the fishermen prevented from catching the fish, but the fish get under these large masses and multiply with marvelous rapidity. The fish dying in large numbers, rise to the surface and floating on the water, lodge amongst the other decaying matter on the banks, and constitute a dangerous menace to the health of that part of the country in which the hyacinth is getting to be so abundant.

The query is how to get rid of the pest. An agent from the Agricultural Department of the United States has been sent to Florida to ascertain, if possible, what can be done. It has been suggested that perhaps if the red spider or some natural enemy of the plant were deposited there it would be effectual in ridding Florida of the pest: but after this work had been accomplished, and the Floridians had got rid of their dreaded hyacinth, they might possibly find more formidable enemy in the newly imported exterminator.

But certain it is something must be done or the rivers will soon be completely choked, navigation stopped entirely, and the water-hyacinth will take its place as one of the plagues of modern times.



Florida Invasive Plant Education Initiative • <http://plants.ifas.ufl.edu/education>
A Collaboration of the UF/IFAS Center for Aquatic and Invasive Plants
and the Florida Fish and Wildlife Conservation Commission / Invasive Plant Management Section

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1. Write a 20-word summary of the article. Place one word in each blank.

sample answer:

hyacinth beautiful Florida South American
non-native mass rivers floats
blocked conceal fish-kill pest
danger damage decaying odors
natural enemy navigation modern plague

2. Identify and explain how industries were being affected by the water hyacinth in 1898.

- The timber industry was unable to transport logs;
- The fishing industry was unable to catch fish with nets and many fish were dying due to oxygen problems; any industry that required its goods to be transported via waterway were unable to navigate through the water hyacinth mats;
- Tourism may have been affected;
- Limited access to healthcare made it difficult to cope with mosquito-borne illness.

3. Describe how water hyacinth spread in Florida in the 1890s.

Originally the water hyacinth was in one pond and then transferred to the St Johns River. Once transferred to the river it was purposefully spread to other spots along the river for its beauty. Storms and winds also helped with the transfer of the plant from the riverbank to the middle of the river, where it floated to new locations.

4. Read the last two paragraphs of this article and explain the writer's intentions.

The author is calling for greater awareness and for plant management due to economic and human health hazards posed by the invasive plant. The author acknowledges water hyacinth is a difficult problem and no one is sure how to control it, but something must be done. He is concerned and sees the potential for very serious problems (i.e., modern plague).

5. What was the greatest problem posed by water hyacinth in Florida 100 years ago; why was it significant?

Navigation was the greatest problem the water hyacinth posed. By choking the river it impeded industry and transportation. When the author wrote this article, the water hyacinth mats were already so thick it was nearly impossible to remove them without a dredging machine. While it was only touched on, health issues were also a serious concern (rotting fish and plants, noxious odors and the potential for swampy mosquito-breeding habitat).

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The following is a list of suggested standards that pertain to this activity. This list is provided as a reference to incorporate and expand upon as needed.

Common Core State Standards

9th – 10th Grade

Common Core Code	FL Common Core Code	Common Core Standard
RI.9-10.1	LAFS.910.RI.1.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
RI.9-10.4	LAFS.910.RI.2.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
RI.9-10.10	LAFS.910.RI.4.10	By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9–10 text complexity band independently and proficiently.
SL.9-10.1	LAFS.910.SL.1.1	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.
L.9-10.4	LAFS.910.L.3.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.
L.9-10.6	LAFS.910.L.3.6	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression
RST.9-10.4	LAFS.910.RST.2.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
RST.9-10.10	LAFS.910.RST.4.10	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently
WHST.9-10.9	LAFS.910.WHST.3.9	Draw evidence from informational texts to support analysis, reflection, and research.

11th – 12th Grade

RI.11-12.4	LAFS.1112.RI.2.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).
RI.11-12.10	LAFS.1112.RI.4.10	By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11–CCR text complexity band independently and proficiently.
SL.11-12.1	LAFS.1112.SL.1.1	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.
L.11-12.4	LAFS.1112.L.3.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.
L.11-12.6	LAFS.1112.L.3.6	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
RST.11-12.4	LAFS.1112.RST.2.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
RST.11-12.10	LAFS.1112.RST.4.10	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
WHST.11-12.9	LAFS.1112.WHST.3.9	Draw evidence from informational texts to support analysis, reflection, and research.