



Module 3 ~ Why Manage Invasive Plants (MS) Answer Key – Reading Activity – Water Hyacinth in Florida – Then and Now

Name: _____ Class Period: _____ Date: _____

Directions: Read this passage and answer the questions below.

"WATER HYACINTHS AREN'T SOMETHING WE HAVE TO WORRY ABOUT THESE DAYS," said the fisherman on the St. Johns River. "Used to be, there were so many plants, I couldn't get my boat into the water; but today there's not a problem."

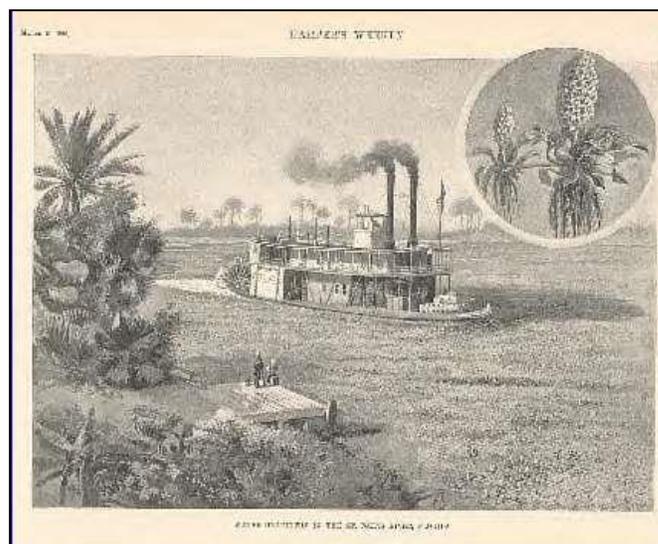
Therein lies a misperception.

The fisherman is partly correct: he is able to get his boat into the river now, because there are relatively few water hyacinth plants there. But this is only because 100 years of hyacinth seek-and-destroy missions have succeeded in greatly reducing the plant population, and keeping them low. For many people, especially people new to Florida, the relatively few water hyacinths don't appear to be a threat at all.

However, were it not for at least \$70 million worth of management efforts every year in Florida (by city, county, and state agencies), we know that our lakes, rivers, canals and wetlands would again be quickly covered with any number of non-native invasive aquatic plants.

In fact, this \$70 million protects billions in Florida's natural and economic resources. Today there are a number of non-native invasive aquatic plants on the loose in Florida's waters and wetlands. Hydrilla, water hyacinth, melaleuca and torpedo grass are well-known and costly invaders. Others, like wild taro, water spinach, West Indian marsh grass, and wetland nightshade have recently been recognized as serious threats. Still others, like Wright's nutrush, water snowflake, Asian marsh weed and giant reed may be making advances without us even knowing it. Invasive plants require constant attention and maintenance control.

For more information on the subject, visit: <http://plants.ifas.ufl.edu/manage/>



Water hyacinth plants infesting the St. Johns River in north Florida. This illustration was published in an 1898 issue of Harper's Weekly magazine. The author of the magazine article said, "I have seen vessels going at full speed brought to a complete standstill."



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1. Are water hyacinth plants currently a problem in Florida?

Yes, water hyacinths are still a problem in Florida. Without constant management efforts, the plant would quickly cover our lakes, rivers, canals, and wetlands.

2. How does the removal of water hyacinth plants affect Florida's current economy?

It costs the state 70 million dollars each year to manage invasive plants. Without management, invasive plants would cost BILLIONS in economic assets by preventing recreational and commercial use of water bodies in Florida.

Examples of recreational use: boating, fishing, water skiing, nature watching, diving, swimming
Examples of commercial use: flood control, charter boats, tourism, hydroelectric power, housing development

3. How do you think the water hyacinth affected Florida's economy 100 years ago?

It prevented steamboats and barges from traveling waterways which would prevent goods getting from one location to another. It also would have prevented fishermen from catching and selling fish.

4. What do you think "management effort" means?

Management efforts include finding and destroying invasive plant populations.

5. Aside from navigation problems, what other types of problems could occur from plant infestations?

- a. **Invasive plants prevent recreational activities such as fishing, swimming, or boating and destroy the native habitat for fish and other wildlife as well as native plants**

Higher thinking answers:

- b. **Oxygen problems (fish kills) occur from the plants covering the surface and slowing photosynthesis underwater and exchange of Oxygen (O₂) from the air**
- c. **Lack of control would also impact human health as these plants harbor disease carrying mosquitoes**
- d. **Too many plants hide alligators!**



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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.

Next Generation Sunshine State Standards

7th Grade

SC.7.E.6.6: Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.

8th Grade

SS.8.G.5.2: Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history.

Common Core State Standards

6th Grade

Common Core Code	FL Common Core Code	Common Core Standard
RI.6.1	LAFS.6.RI.1.1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
RI.6.4	LAFS.6.RI.2.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.
RI.6.10	LAFS.6.RI.4.10	By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
SL.6.1	LAFS.6.SL.1.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
L.6.4	LAFS.6.L.3.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.
L.6.6	LAFS.6.L.3.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.
RST.6-8.4	LAFS.68.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 6–8 texts and topics.
RST.6-8.10	LAFS.68.RST.4.10	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
WHST.6-8.9	LAFS.68.WHST.3.9	Draw evidence from informational texts to support analysis reflection, and research.

7th Grade

RI.7.1	LAFS.7.RI.1.1	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
RI.7.4	LAFS.7.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 impact of a specific word choice on meaning and tone.
RI.7.10	LAFS.7.RI.4.10	By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.



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SL.7.1	LAFS.7.SL.1.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
L.7.4	LAFS.7.L.3.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 7 reading and content, choosing flexibly from a range of strategies.
L.7.6	LAFS.7.L.3.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.
RST.6-8.4	LAFS.68.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 6–8 texts and topics.
RST.6-8.10	LAFS.68.RST.4.10	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
WHST.6-8.9	LAFS.68.WHST.3.9	Draw evidence from informational texts to support analysis reflection, and research.

8th Grade

RI.8.1	LAFS.8.RI.1.1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
RI.8.4	LAFS.8.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 impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
RI.8.10	LAFS.8.RI.4.10	By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.
SL.8.1	LAFS.8.SL.1.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.
L.8.4	LAFS.8.L.3.4	Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.
L.8.6	LAFS.8.L.3.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.
RST.6-8.4	LAFS.68.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 6–8 texts and topics.
RST.6-8.10	LAFS.68.RST.4.10	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
WHST.6-8.9	LAFS.68.WHST.3.9	Draw evidence from informational texts to support analysis reflection, and research.



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