



AQUATIC INVASIVE SPECIES WHAT AQUATIC MANAGERS DO TO SLOW THE SPREAD AIS PUBLIC SERVICE ANNOUNCEMENT

SKILL LEVEL

6th-8th

KEY TERMS

Aquatic Manager

WIDS

Public Service Announcement
(PSA)

Regulation

Compliance

Wildlife Conservation Officer

Infested

EDUCATION STANDARDS

SD Science:

MS-ESS3-3

SD English Language Arts: 6-8.

RST.4

6-8.WHST.2

6-8.WHST.4

6-8.WHST.6

SD Fine Arts:

6-8.VA.Cr.1.1

SD Ed Tech:

6.ET.CT.2

6.ET.KC.1

6.ET.KC.3

7.ET.CC.1

7.ET.KC.1

7.ET.KC.3

8.ET.CC.1

TIME NEEDED

45-50 Minutes

MATERIAL LIST

- » Computer for research
- » GFP documents on AIS
- » WANTED posters (Appendix C)
- » Crayons, markers, etc for designing poster
- » Phone or recording device for capturing audio and video



EXPECTED LEARNER OUTCOMES

- » **OBJECTIVE 1:** Students will become familiar with what aquatic managers are doing to slow the spread of AIS.
- » **OBJECTIVE 2:** Students will be able to demonstrate their understanding of AIS preventative measures throughout the creation of a public service announcement (PSA) for their peers.

BACKGROUND

Aquatic invasive species (AIS) are on the rise in South Dakota. In this lesson, students will become familiar with actions aquatic managers are taking to slow the spread of AIS in South Dakota.

AIS can be very harmful to an aquatic ecosystem and can be difficult and expensive, if not impossible, to eradicate. Unfortunately, most AIS cannot be eradicated so slowing the pace of invasion or limiting spread is extremely important.

In South Dakota, an AIS specialist and **aquatic managers** use science and management techniques to determine measures to slow the spread of AIS as part of their efforts to promote healthy aquatic habitats and ecosystems. Monitoring, education, and law enforcement/regulations are several of the tools employed to slow the spread of AIS.

If this lesson is being done in conjunction with other lessons in this unit, very little background information is needed. However, if it is being used as a standalone lesson, please pull additional background information from Lessons 3 and 4 in the AIS curriculum.

VOCABULARY

Aquatic Manager

A professional that uses science and management strategies to promote and maintain healthy aquatic ecosystems.

Watercraft inspection and Decontamination Stations (WIDS)

Checkpoints where boaters are required to stop to make sure that they don't have any aquatic invasives on board.

Public Service Announcement (PSA)

A short message, broadcast, or video commissioned by a government agency or non-profit organization in order to raise awareness about an issue of public interest.

Regulation

A rule or directive made and maintained by an authority
Compliance: the action or fact of complying with a wish or command.

Wildlife Conservation Officer

Law enforcement officers who enforce the laws in place to protect wildlife and natural resources.

Infested

To cause a problem by being present in large numbers.

ACTIVITY PREPARATION

In this activity, students will have an opportunity to practice creating an educational Public Service Announcement about AIS. Students should gather information about AIS covered in past lessons and then search for examples of AIS advertisement including posters, radio adds, or television commercials.

ACTIVITY INSTRUCTIONS

Prior to the activity, have a discussion with students about what is being done on a local, state, and national level for AIS management. It is recommended you cover: monitoring, education, and law enforcement.

Monitoring

Monitoring refers to the continued observance of where aquatic invasives are and where they are not. Samplers placed below docks are one method used to monitor for zebra mussels. Samplers are simply pieces of PVC tubing that are placed in the water, often near docks, and left for a period of time. Often in the fall, they are retrieved and examined for zebra mussels. The absence of zebra mussels on all samplers in a lake indicates that there may not be mussels, but it is possible that they are in low enough density that they were not detected. However, if they are discovered at a locations then additional sampling is done which often involves examination of rocks, dock frames, and other structures. If zebra mussels are found in two locations, then a water is classified as "infested" and signs are placed at access areas and news releases are created to alert the public of the new infestation. Frequently-used infested waters can act as a gateway for the spread of zebra mussels to surrounding waters.

Another tool in monitoring for AIS is to engage the public, especially lakeshore residents. Initial detection of zebra mussels has often occurred when lakeshore residents pull their docks and boat lifts ashore in the fall in preparation for winter.

Game, Fish and Parks fisheries managers also monitor for invasive species during their annual adult fish population surveys. Rakes are used to collect samples of aquatic vegetation and rocks and other hard surfaces are examined for zebra mussels.

Education

Education is another tool used by GFP to help slow the spread of AIS. The public is often not familiar with the various types of AIS and the mechanisms behind the spread, detrimental effects and high costs associated with infestations. Poor awareness can lead to inadvertent spread of AIS.

One way that managers are educating the public is the "Clean, Drain, Dry" initiative. Boaters should **clean** all visible aquatic vegetation, animals, and mud off boats and trailers prior to leaving the landing. They should also rinse the outside of their boat off with high pressure, hot water and flush out their engine with hot water, if possible. Boaters should also **drain** all compartments capable of holding water on their boats. They should also **dry** their boats by allowing them to sit outdoors for 5 days or by wiping all moisture off their boat. Lastly, anglers should **dispose** of all bait into the trash once they are done. When storing live bait, all lake or river water should be drained and replaced with well water or treated tap water. Aquatic managers practice "clean, drain and dry" with their field operations to ensure that AIS is not spread to new waterbodies.

Various forms of media are utilized to spread the message of AIS prevention. Radio and television advertisement, billboards, signs, and even gas station television and ice bin wraps have been used to spread information on AIS. Creating lesson plans like these for use in our schools represent another effort to educate the public about AIS in order to help slow the spread.

Law enforcement and regulation

Use of law enforcement is another means of slowing the spread of AIS. In South Dakota all plugs must be removed from boats and all aquatic vegetation must be removed from trailers prior to leaving the landing of a body water. If water users decide to ignore these rules, GFP **Wildlife Conservation Officers** may issue them a citation.

You and your family may have been required to pull off the roadway while trailering your boat to a lake and watch an inspection of your boat or jet ski. These roadside checks occur at designated sites and are called **watercraft inspection and decontamination stations (WID stations)**. Boats are inspected to make sure that there is no aquatic vegetation on the trailer and plugs are removed. Boaters are also asked a series of questions that help aquatic managers track movement between water bodies, especially from **infested** to uninfested waters. Law enforcement will stop boaters who chose not to stop for a WID inspection and issue them a citation.

WIDS serve to engage and inform the public on how to clean, drain, and dry. They also are helpful tools to be able to estimate boater compliance with **regulations** such as plug removal.

AIS Public Service Announcements

Students have now learned about the many different types of AIS and how they are managed. This activity will give them the opportunity to be creative and use their past research and pair it with their new findings during this activity. For this activity students will be creating a TV ad, radio ad, social medial post, or billboard/poster to notify and educate the public about AIS and how to slow the spread. The instructor may choose the length requirements for students who choose to create a TV or radio ad.

1. Break students into small groups or let them choose their partners. Students may also work alone independently if that is preferred.
2. Instruct students to work together or independently to research both AIS and what is being done to slow the spread.
3. Have students create their PSA while instructing them to be creative and work together.
4. If time allows have each small group present their PSA to the rest of the class.

Note: this section offers the opportunity to adapt and have students utilize technology, such as cell phones to record their PSA and show in front of the class.

REFLECTION

Lead a discussion on the following questions:

5. What is an aquatic manager?
6. What are the 3 main tactics being used to slow the spread?
7. Which tactic being used to slow the spread do you think works the best?
8. What actions can you take to stop or slow their spread?

ADDITIONAL RESOURCES

- » Example of WIDS
[youtube.com/watch?v=Y1Gp2kjBwL8&list=PLauhOcAmn6dHdcqThgfAAsOh31RTkMlIz&index=7](https://www.youtube.com/watch?v=Y1Gp2kjBwL8&list=PLauhOcAmn6dHdcqThgfAAsOh31RTkMlIz&index=7)
- » Example of aquatic invasive species PSA
[youtube.com/watch?v=S_FocdOTLgg&list=PL1A468B277F9A6E57&t=26s](https://www.youtube.com/watch?v=S_FocdOTLgg&list=PL1A468B277F9A6E57&t=26s)
- » Example of AIS billboard (left)

