

# Featured Lesson

## Lesson 4:3 - Aquatic Plant Power

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Chapter 4 of the MinnAqua *Fishing: Get in the Habitat!* Leader's Guide contains five lessons, all pertaining to understanding different concepts relating to Minnesota fisheries management. This chapter covers topics from fishing regulations and sportsmanship, to fisheries management techniques and tools, to our role as citizens in the management of Minnesota fisheries and aquatic resources. What role do aquatic plants play in the management of Minnesota Fisheries? Citizens, business leaders, and public officials need to understand how ecosystems function, how they support human uses, how human use impacts them, and

how resource management practices and land use patterns affect long-term ecosystem health. **Lesson 4:3 – Aquatic Plant Power** illustrates how plants impact water temperature, sedimentation and water clarity, and what that means in terms of survival for different species of Minnesota fish.

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### Lesson Summary

*Students will conduct experiments to explore two significant ways that aquatic habitats support fish reproduction and growth. In Part 1, students will create a fish-spawning habitat in a container and compare good and poor spawning conditions. In Part 2, students will compare water temperatures in shaded and non-shaded stream environments, investigating how shoreline vegetation creates suitable water temperatures for various types of fish.*

### Tips & Tricks

This lesson includes two different classroom activities. Part 1 is a demonstration showing how sedimentation can impact fish spawning habitat. Part 2 provides an opportunity for students to take temperature readings over time, and practice their graphing skills.

#### Part 1-The Next Generation

- You can find many excellent images and videos that illustrate spawning of different species of fish on the internet to share with your students. This **National Geographic video** of trout spawning is one example.
- Glass beads can be obtained from a variety of beading and craft supply sources on the web, including eBay. I Google searched “round glass beads clear” and found many vendors. Red beads instead of clear beads for the “fish eggs” might be more visible to students as you do the demonstration for the class.



## Part 2-Be Cool

- You can set up this experiment as a class demonstration, or have students work in groups with their own supplies and materials.
- Use live potted plants in the demonstration, or purchase “silk” plants from a craft store and “pot” them in lumps of clay, or cans of Play-Dough.
- If your classroom has good sunlight exposure, set up the experiment on your classroom windowsill using sunlight as your light source instead of an electric lamp.



## Diving Deeper

The lesson plan includes five extensions in the “Diving Deeper” section that will both reinforce and provide greater depth, increasing your students’ appreciation and understanding for the importance of aquatic plants for fish habitat and water quality.

## MinnAqua Lesson Connections

By combining two or three of the lessons below with [Lesson 4:3 - Aquatic Plant Power](#), you can create a unit around the theme of aquatic plants and water quality or aquatic plants and fish habitat:

[Lesson 1:4 - Water Habitat Site Study](#) [PDF](#) (43 pages | 8.3 MB)

[Lesson 2:6 - Adapted for Habitat](#) [PDF](#) (35 pages | 3.5 MB)

[Lesson 3:2 - Function of Aquatic Plants](#) [PDF](#) (24 pages | 3.5 MB)

[Lesson 4:5 - Fisheries Management and You](#) [PDF](#) (35 pages | 3.5 MB)

## Suggested Online Student Resources

Have your students access these online resources to engage in these concepts further.

- [Healthy Rivers: A Water Course instructional CD ROM](#) is a captivating program to understand the ecology and management of river and stream systems. Featuring 220+ screens of information exploring the complexity and diversity of river systems. Color photos and maps, illustrations, and graphic animations. Over 100 audio interviews, video clips, and music segments. More than 100 links within the program, 100+ links to external web sites, and a complete bibliography of over 100 references.
- [Restore Your Shore](#). This powerful multimedia program for shoreland owners and professionals is available online to use in implementing shoreland restoration and protection projects. It is a continuation of the DNR's lakescaping series, including, the very popular book *Lakescaping for Wildlife and Water Quality*. Numerous lakeshore restoration demonstration sites and a series of 14 shoreland property owner workshops followed the publication of the book.
- What every water gardener and shoreline restorer should know about harmful exotic aquatic plants [Download the pdf](#).
- MN DNR [Shoreland habitat and fisheries management](#)
- MN DNR [Stream Habitat Program](#)
- [The Value and Use of Vegetation in Stream Restoration](#) PDF brochure