

FISHERIES MANAGEMENT

LESSON PLAN



WOLF RIDGESM
ENVIRONMENTAL LEARNING CENTER

FISHERIES MANAGEMENT



CLASS DESCRIPTION: An Aquatic Ecology Class

After investigating the habitat needs of stream fish, students visit the Sawmill Creek field stations where they will make a working stream model and will identify aquatic invertebrates.

Total time: 3 hours (two hours outdoors)

Audience: 6-20 students, 4th grade through adult

Activity level: strenuous

Travel: 1 1/4 mile

Total uphill travel: 320 feet

GUIDING QUESTION

How are stream structure and life in the stream related? What do people consider when managing streams?

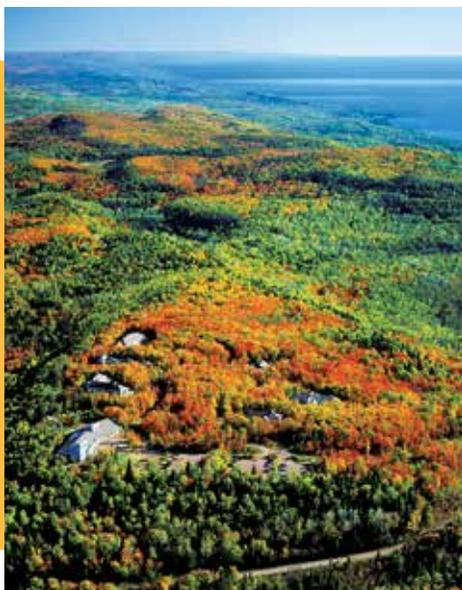
CONCEPTS

1. All living and non-living components of an environment interact with one another to form an ecosystem.
2. Energy flows from one organism to another in a complex food web.
3. Life in a stream requires habitat characteristics like water, food, air, shelter, and space. Trout require even colder and cleaner conditions than most Minnesota fish species.
4. Small changes in one part of a system might cause large changes in another part.
5. Nature knows best. Humans can mimic natural processes to restore or enhance habitats.

OUTCOMES

Upon completion of Fisheries Management class students will be able to:

- Evaluate a population graph for carrying capacity, predator/prey relationships and habitat health.
- Compare and contrast stream and lake environments as they relate to habitat for aquatic life.
- Identify at least two aquatic invertebrates and describe their roles in the food chain.



Our mission is to develop a citizenry that has the knowledge, skills, motivation and commitment to act together for a quality environment.

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Wolf Ridge Environmental Learning Center and the USDA are equal opportunity providers and employers.



Equipment

Classroom Equipment:

- Iowa DNR fish posters
- DNR food pyramid poster
- MN fish list
- MN fishing regulations
- DNR cap

Field Equipment:

- stream flow table
- 3 five gallon buckets
- 20 gallon supply tub
- Sawmill Creek fish keys
- 3 large examination trays
- 6 lunch trays
- 6 wide-bore eye droppers/
pipettes
- long-handled dipnet
- invertebrate keys
- ring buoy with floating rope
- invasive species sheets

Appendices

- Glossary
- References
- Sources
- Spiral Learning Sheet
- Planning Outline

Set-up (15 min.)

- Classroom/class prep description
- Safety Management

I. What makes a healthy stream ecosystem? (20 min.)

II. What do aquatic animals need to survive? (30 min.)

- A. The Needs of Aquatic Animals
- B. Look Out Trout!
- C. Carrying Capacity
- D. The Stream Environment

[Travel to Sawmill Creek (15 min.)]

III. How do we investigate stream habitat? (75 min.)

- A. Stream Flow Model
- B. Invertebrate and Invasive Species Identification

IV. How can we protect streams? (20 min.)

- A. Review
- B. Stewardship Actions

[Return to Wolf Ridge (20 min.)]

Clean-up (5 min.)