Assessing Public Attitudes Towards Endangered Freshwater Mussels

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Global Context

- Europe
- China
- India
- Africa

MIDWEST
Regional Imperilment

> 50% mussel species federally or state listed
State by State

11 Missouri
10 Illinois, Ohio, Indiana
5 Minnesota, Wisconsin
4 Michigan
3 Iowa
Mussels in the Tippecanoe River

- Clubshell
- Fanshell
- Rabbitsfoot
- Rayed bean
- Sheepnose
- Snuffbox
Tippecanoe River
Dams and Lakes

Lake Shafer

Lake Freeman
Accessibility

- Public Access Sites (PAS)
- Canoe Rentals
- Winamac City Park
- Tippecanoe River State Park
Targeted Outreach

Effective outreach uses stakeholder
- attitudes
- behaviors
toward conservation object.
Hypotheses

Attitudes

● Neutral to negative
● Low awareness

Behaviors

● Taking, throwing, killing
Methods

Two Surveys

● In-Person
  ▪ Recreational Users
  ▪ Behaviors, Awareness

● Mail
  ▪ Riparian Landowners
  ▪ Attitudes, Behaviors, and Values
In-Person Survey Methods

5 PAS
2 Canoe Rentals
Tippecanoe River State Park
Winamac City Park

395 responses
In-Person Survey Results

Do you know what these animals are?

77% YES
Mixed Messages

America's Mussels: Silent Sentinels

Living rocks as important natural resources

Why mussels are imperiled | Why do we care? | Is there hope? | How can you help?

clams, a group of bivalve molluscs, are important because they are living rocks. Laying on the sediments and gravel, they filter water for their oxygen and food. They can even remove pollution. The male and female mussels live in the same crevice where fertilization takes place. Much of North America's freshwater mussels are sending an early warning signal that environmental problems are present.

Living rocks are important natural resources. Why mussels are imperiled | Why do we care? | Is there hope? | How can you help?

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This is a female Higgins eye pearlymussel with most of the shell buried and the fleshy mantle flap exposed. The Higgins eye has evolved a ribbon-like mantle flap that, when exposed above the shell, looks like a minnow and serves as a lure to attract a potential fish host. When the target fish approaches, she will expel her larvae at the fish. The larvae attach to the fish's gills or fins, and hitch a ride for a few weeks while they continue their transformation into a juvenile mussel.

Photo by Minnesota DNR: Bernard Sietman
Mixed Messages

America's Mussels: Silent Sentinels

Why mussels are imperiled | Why do we care? | Is there hope? | How can you help?

America's Mussels, or clams, are a group of invertebrates that are increasingly rare. They are found in freshwater and brackish water habitats, such as rivers, streams, and lakes. Mussels are important for their role in ecosystems, as they filter water and provide habitat for other species. They are also valuable for their economic importance, as they are a source of food and a component of aquaculture. However, mussels are facing threats from pollution, habitat degradation, and overharvesting. The Midwest region is home to many endangered mussel species, and efforts are being made to conserve these species and restore their habitats.
Do you know what this is?

Disease??

“Baby mussels!”
Awareness

Before this survey, had you heard anything about six endangered species of mussels in the Tippecanoe River?

No 78%
Yes 22%
Legal or Illegal?

Live vs Dead

- Legal: Live (5%)
- Illegal: Live (80%)
- Don't Know: Live (25%)

Legend: Live, Dead
"I take 'em. They're just laying around up here."

"Sometimes I pull 'em...polish 'em up and put 'em on the mantel piece."

“I don’t give a $@!%”

“I could give you a whole list of people who take them.”
## Mail Survey Results

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<th>POSITIVE</th>
<th>NEUTRAL</th>
<th>NEGATIVE</th>
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<td>Important</td>
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<td>Beautiful</td>
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<td>Friendly</td>
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<td>2</td>
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<td>Active</td>
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<td>2</td>
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</table>
Mail Survey Results

Before this survey, had you heard anything about six endangered species of mussels in the Tippecanoe River?

No 49%
Yes 51%
Hypotheses Revisited

Attitudes
- Neutral to negative
- Low awareness

Behaviors
- Taking, throwing, killing
Media Bias in Monticello

Oakdale Dam

Lake Freeman
"It's a contest between two opposing view-points."
Future Directions

- Design and implement outreach campaign
- Evaluate effectiveness
Thank you!

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Tippy-Canoe Rentals, Inc. and Hodges Canoe Trips
Tippecanoe River State Park
Winamac City Park