Cisco Restoration in Lake Michigan

CORE QUESTION:
How can cisco restoration efforts be tailored to fit the needs
of Lake Michigan stakeholder groups?

WHAT IS INTEGRATED ASSESSMENT?

Rather than running additional experiments, an integrated assessment (IA) research team summarizes what is known and offers an assessment of how the science could be interpreted and used. The team focuses on a complex environmental issue and then conducts a comprehensive analysis of natural and social scientific data and information.

The IA process is different from traditional research because researchers work closely with stakeholders to examine an issue from many perspectives, identify challenges, and evaluate feasible solutions. The aim is to create results that are current, trusted, accessible, and useful.

OVERVIEW

Cisco once was the dominant native prey fish in the Great Lakes food webs. Populations plummeted between 1920 and 1970 due to overfishing, habitat loss, and interactions with invasive species. Today, habitat conditions are beginning to improve and key invasive species populations have declined. Fishery managers are now discussing what it might look like to restore cisco populations in Lake Michigan.

Though many stakeholder groups are interested in restoring cisco, they disagree on the best approach. Some advocate helping existing remnant populations recover, while others recommend stocking Lake Michigan with young cisco from elsewhere in the Great Lakes region. Still others note that ecological conditions in the lake have changed drastically and question whether cisco would still be viable as a self-sustaining population.

PROJECT DESCRIPTION

The research team will use existing data and guided discussions to help stakeholders create a path for cisco restoration in Lake Michigan.

Drawing from existing publications, reports, and databases, the team will pool information about food web dynamics, rearing methods, fishery regulations, and other relevant topics. They will present this information at regular meetings held by charter fishing associations, regional fishery regulators, and Lake Michigan ecosystem managers.

The team also will distribute an electronic survey to key stakeholders involved in, or likely affected by, future cisco management decisions. The survey will allow stakeholders to convey and explain their preferred options for restoration actions.

The compiled research material and survey responses will provide a comprehensive launching point for a pair of stakeholder workshops, which will be the centerpiece of the project. The workshops will introduce participants to the integrated assessment process, deliver compiled background information, identify remaining data gaps, and review restoration strategies and lessons from other fisheries. Then, the research team will facilitate interactive discussions aimed at selecting preferred restoration options and clarifying major considerations embedded in each option. By the end of the workshop, the participants will either:

- Agree on a recommended course of action, or
- Identify roots of disagreement that will need to be addressed before recommendations can be made.

Cisco (Lake herring), *Coregonus artedi*
ILLUSTRATION: EMILY DAMSTRA

EXPECTED OUTCOMES

Through the workshops, the project team will provide a framework for helping managers and the fishing community advance a preferred option for Lake Michigan cisco restoration. Their work will be synthesized into a final report, which will summarize existing research, survey results, notes from the workshops, and a recommended path for future restoration efforts. The report also will include a decision tree, a chart that maps out all decision points and likely outcomes in a decision-making process.

Other deliverables will include fact sheets and informational tools, which will be made available through the Michigan Sea Grant website.

GET INVOLVED

Many groups have a stake in cisco restoration efforts, including federal, state, and local government agencies; non-profits and stewardship organizations; recreational, tribal, and commercial fishers; and academic researchers. An integral part of this project, stakeholder engagement will dictate which cisco restoration options are recommended to fishery managers. Through the online survey and follow-ups, stakeholders will provide vital input and feedback. The workshops will be almost entirely stakeholder-driven, with the project team providing information and moderating the discussion.

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