



## The R/V *Kiyi* - Lake Superior

**T**he USGS Great Lakes Science Center is dedicated to providing scientific information for restoring, enhancing, managing, and protecting living resources and their habitats in the Great Lakes region. The USGS Great Lakes Science Center is headquartered in Ann Arbor, Michigan, and has biological stations and research vessels located across the Great Lakes Basin.



### **K** Specifications

**I** Length: 107 ft.  
**Y** Beam: 28 ft.  
**I** Draft: 10 ft.  
**I** Cruising speed: 11 kts.



### *The Fleet*

The Great Lakes Science Center (GLSC) operates five large research vessels, ranging in length from 70 to 107 ft, with one vessel stationed on each of the Great Lakes. The vessels are equipped with wet laboratories, gear for fish, limnological, and contaminant sampling, hydroacoustical fish-detection systems, and GPS navigation systems. The GLSC also operates a fleet of small (18-25 ft) research vessels, outfitted with GPS navigation systems and equipment for fishery and limnological research, and has a side-scan sonar and remotely operated vehicle.

### *The Vessel*

The R/V *Kiyi*, stationed in **Ashland Bayfield, WI**, near the GLSC's Lake Superior Biological Station (LSBS), is the principal GLSC research vessel on Lake Superior. The *Kiyi* was built in 1999 and commissioned in 2000. The vessel provides a large modern research platform for conducting research in nearshore and offshore waters of Lake Superior and the other Great Lakes as needed. Work

on Lake Superior is coordinated with Wisconsin, Michigan, and Minnesota Departments of Natural Resources, federal agencies including the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and National Park Service, tribal partners, and the Canadian government. The *Kiyi* routinely deploys gillnets, mid-water and bottom trawls, hydroacoustics equipment, limnological instruments, and plankton and bottom sampling equipment throughout Lake Superior.

The *Kiyi* can accommodate nine crewmembers, including a captain, mate, engineer, and six scientific personnel, for two weeks. The *Kiyi* has three heads with showers, a laundry room and full galley.

### *The Science*

LSBS provides scientific information to support the restoration, enhancement, management, and protection of fishery resources in Lake Superior. The *Kiyi* is the cornerstone of this mission. The vessel is used to conduct annual fish stock assessments and specific research projects, which provide







timely information to state, provincial, and tribal management partners. Research focuses on long-term ecosystem dynamics and sustainability of Great Lakes fisheries.

Current research projects evaluate the biology, population dynamics, and yield prediction of Lake Superior fishes with emphasis on lake trout, cisco, and forage fishes. Information gathered from research on-board the *Kiyi* is critical for understanding changes in fish population abundances, species extinctions, potential effects of invasive species, and climate change.

### ***On-board Equipment***

The *Kiyi* is equipped to support a wide range of scientific sampling activities in the Great Lakes. The vessel has a GPS navigational system, twin propellers, a bow

thruster, and hydraulic anchor winch, which provide a variety of options for complex maneuvering and stationary sampling. The vessel has a gillnet lifter, stern A frame, trawl net reels, and a 9,000 pound deck crane.

The *Kiyi* has wet and dry lab facilities for on-board sample processing and data analysis, including a 700 gallon live well, balances, ice machine, freezer, and computer stations. Electronic sampling equipment includes trawl mensuration gear, hydroacoustics, and electronic overboard samplers for collecting water depth, temperature, and chemistry data. The *Kiyi* also operates a remote submersible vehicle. Safety equipment includes a 14 ft inflatable Zodiac boat, two ten-person life rafts, and a fixed CO<sub>2</sub> engine room fire suppression system.



*The R/V Kiyi on Lake Superior*

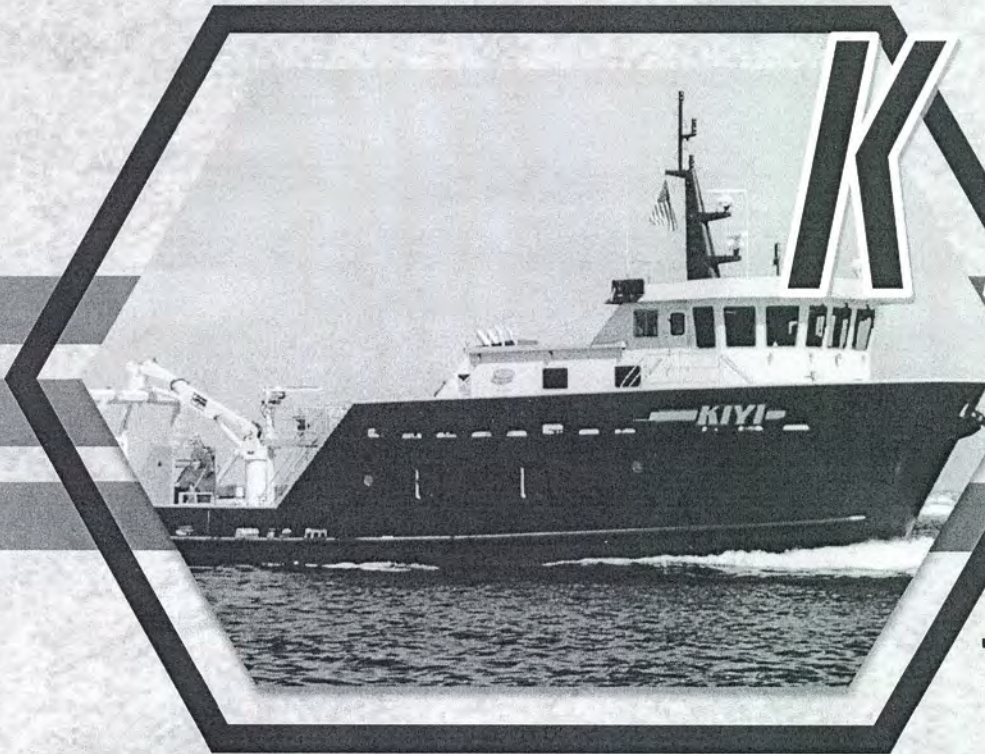




# Lake Superior cruise

*aboard the USGS research vessel*

# Kiwi



**Tue, June 30**  
**4:30 pm**

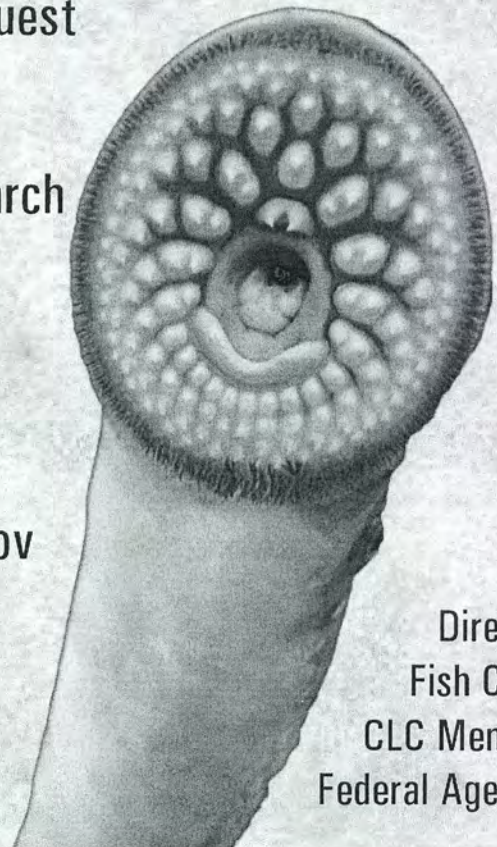
**Location:** Walking directions on reverse  
Transportation provided free upon request

## Highlights

Latest on coregonine restoration research  
Live sea lamprey exhibit  
Light refreshments will be served

**Space is limited!**

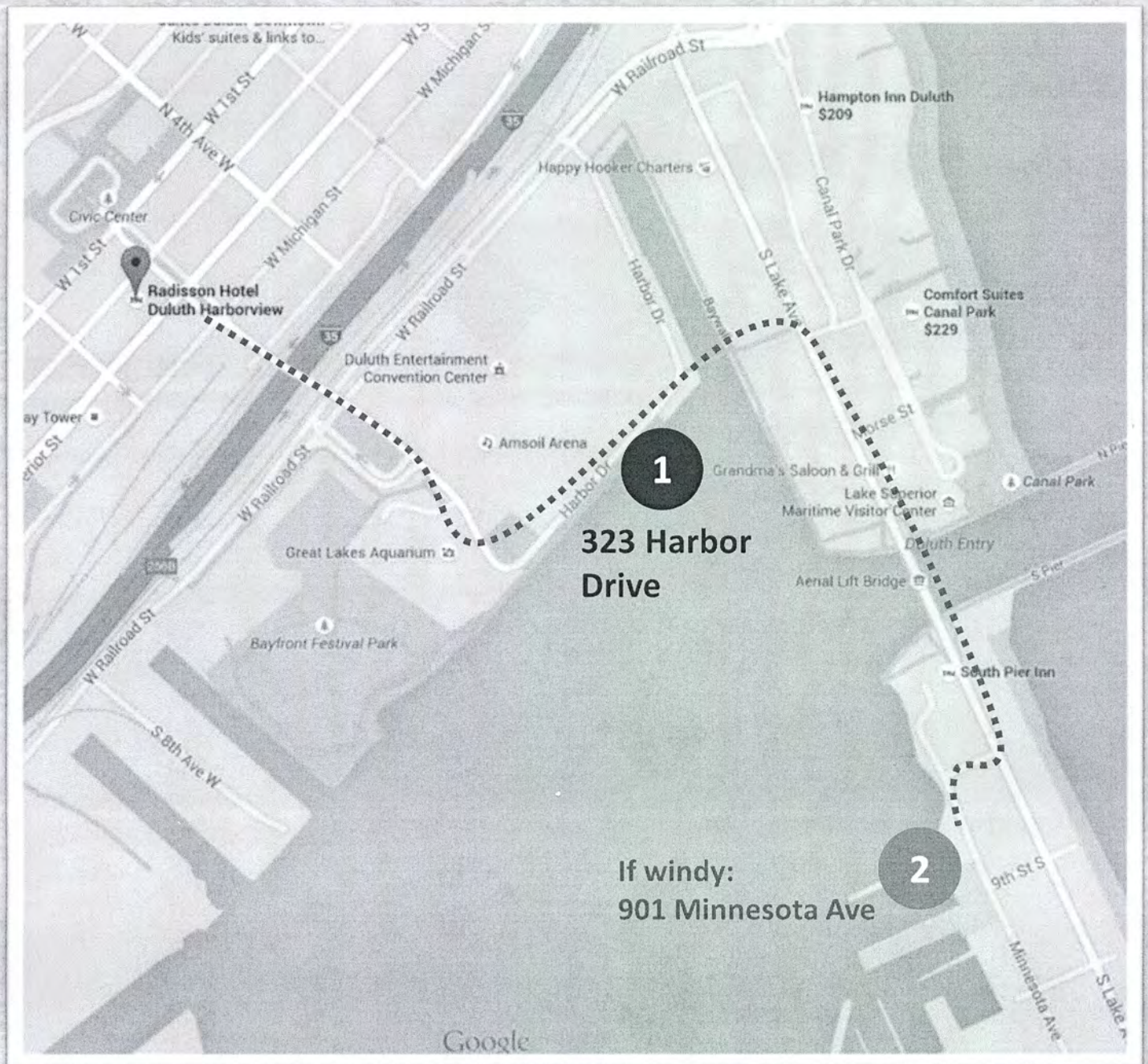
**RSVP** by June 23 to [joshuamiller@usgs.gov](mailto:joshuamiller@usgs.gov)



For:  
Directors  
Fish Chiefs  
CLC Members  
Federal Agencies



# Walking Directions To *Kiwi* Docking Locations







## Lake Superior Biological Station

**T**he USGS Great Lakes Science Center is dedicated to providing scientific information for restoring, enhancing, managing, and protecting living resources and their habitats in the Great Lakes region. The USGS Great Lakes Science Center is headquartered in Ann Arbor, Michigan, and has biological stations and research vessels located across the Great Lakes Basin.



### The Station

Lake Superior Biological Station (LSBS), located in Ashland, Wisconsin, is a field station of the USGS Great Lakes Science Center (GLSC). LSBS was established by congressional action in 1957 as part of the GLSC. Initially supervised by the U.S. Fish and Wildlife Service, the GLSC and LSBS transferred to the USGS in 1996. LSBS serves the needs of resource managers as defined in a memorandum of understanding between the GLSC and the Council of Lake Committees.

LSBS is the primary federal agency for applied fisheries science excellence in Lake Superior. In the early 1900s, overharvest, sea lamprey predation, and habitat degradation led to the collapse of many native Lake Superior fish populations, including lake trout and their prey fishes. Information provided by LSBS was essential to a coordinated effort by the United States and Canada to recover and manage native fish populations. Through a combination of sea lamprey abatement, fish stocking, and fish harvest control, lake trout populations recovered and are now

considered fully restored. Lake trout recovery in Lake Superior is a success story of native fish restoration in the Great Lakes.

### Research

Research at LSBS focuses on a wide array of issues important to state, federal, tribal, and Canadian natural resource managers throughout the Great Lakes.

LSBS provides information on the status and trends of nearly all Lake Superior fish species. This information is primarily used to develop management plans for lake trout, cisco, short-jaw cisco, and lake whitefish. The station also conducts annual fish, zooplankton, and water temperature surveys in nearshore and offshore waters of Lake Superior as well as targeted research projects in response to emerging questions.

Current research projects include evaluating the biology, population and community dynamics, and yield prediction of Lake Superior fishes, including lake trout, cisco, and prey fishes. Information gathered from this research is critical for understanding changes in fish







population abundances and the potential effects of invasive species and climate change. The station also maintains vast archives of historical fish, zooplankton, and water temperature data as well as fish aging structures dating back to the 1930s. These resources allow researchers worldwide to study past, present, and future trends in the Lake Superior ecosystem.

### Facilities & Vessels

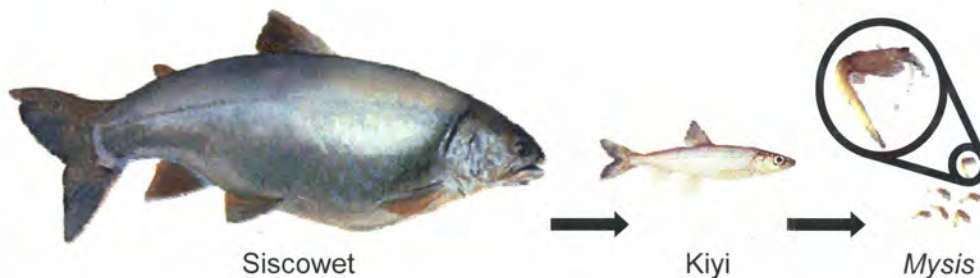
LSBS is co-located with the U.S. Fish and Wildlife Service - Ashland Fish and Wildlife Conservation Office, National Park Service - Great Lakes Inventory and Monitoring Network, and Indian Health Service. The station includes offices, laboratories, a work shop, and multiple storage facilities.

The R/V *Kiyi* is the keystone platform to LSBS deepwater science activities. The *Kiyi* is a large, 107 ft vessel that provides exceptional lakewide sampling capabilities on a modern research platform. The *Kiyi*

is capable of deploying gillnets, mid-water and bottom trawls, hydroacoustics, limnological instruments, and plankton and bottom samplers in the deepest parts of the lake. LSBS also operates several smaller vessels for research in nearshore waters.

### Partners

LSBS collaborates with a diversity of management and research partners. The principle partners of LSBS are the Great Lakes Fishery Commission and the Council of Lake Committees, including the Lake Superior Committee and Lake Superior Technical Committee. Lake Committee partners work cooperatively to manage Lake Superior fish stocks and their environments, and to identify information needs and research priorities. LSBS also has established research and monitoring relationships with local, state, national and international resource agencies, as well as tribal interests and universities.



*Lake Superior Biological Station conducts research on the Lake Superior food web, including top predator fishes and their prey resources. Siscowet are a deepwater morphotype of lake trout, and are an important top predator fish in Lake Superior. Siscowet consume the native preyfish, Kiyi, which in turn rely on invertebrates, such as Mysis (a native freshwater shrimp), as prey. Food web studies are important to management of Lake Superior fishes and for understanding the effects of invasive species and climate change.*

