

Purchase Great Lakes Shipping Education “Treasure Chest” For Your Museum or Education Center – \$500!

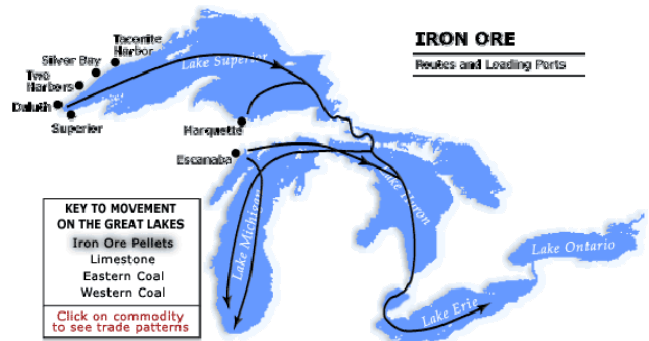


WHY?

The economics and environmental benefits of Great Lakes shipping is becoming more apparent amid rising fuel prices and growing concerns with air quality, atmospheric deposition of pollutants (from vehicle emissions and power plants), and global warming. Industries which rely on moving large quantities of raw materials and/or products to distant markets in a cost-efficient manner are turning to Great Lakes shipping as an attractive alternative to rail or trucking. Yet few teachers, students, and Great Lakes residents have any knowledge of the maritime transportation industry operating on the Great Lakes. The shipping industry plays an essential role in moving 70-90% of the nation’s iron ore used in steel manufacturing, both western and eastern coal used by power plants throughout the Great Lakes basin, salt, and limestone, as well as many oversized items like wind generator parts. These cargoes are used in the manufacture of many household products, as well as for road construction, and to power homes, communities, and industries.

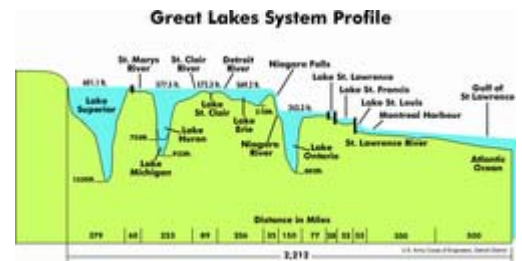
For Whom?

Great Lakes Shipping Education ‘Treasure Chests’ are available to maritime museums and education centers throughout the Great Lakes region: Minnesota, Michigan, Wisconsin, Illinois, Indiana, Ohio, New York, and Pennsylvania that may be used to conduct educational programs on Great Lakes maritime transportation for students and the public.



Successful Applicants will:

1. Host a Great Lakes Maritime Education workshop for formal and non-formal educators that utilizes the lessons and resources in the “treasure chest.”
2. Act as a lending library for educators to use the chest.
3. Utilize the chest to host shipping education programs for K-12 students and community members.
4. Provide a record of users for one year after receiving the chest for grant reporting purposes.



How To Apply?

Complete attached form and provide typed responses to questions on a separate page. Send application by mail, fax, or email.

Coordinated by the Western U.P. Center for Science, Math and Environmental Education at Michigan Tech University with a grant from the Great Lakes Maritime Research Institute to advance public understanding of Great Lakes shipping

www.glmri.org

Great Lakes Shipping Education “Treasure Chest” – ONLY \$500 !

Contact Person _____ Date _____

Organization _____

In which Great Lakes watershed are you located: _____

Shipping Address: (street address required for UPS delivery) _____

City, State, Zip _____

Phone _____ Email: _____

Amount Due: \$500 Payment Method:

____ Cash/Check ____ Purchase Order Credit Card (circle one): Master Discover Visa

Payable to: Michigan Technological University Name on credit card: _____

Credit Card Number _____ Exp. Date _____

Please provide a typewritten response to the following questions on a separate page:

1. Describe your education/outreach program. What is your educational goal? Who is the target audience? How many people (K-12 students and adults) participate in your programs annually?
2. How will the *Great Lakes Shipping Education “Treasure Chest”* fill a niche in your center’s/museum’s programming and/or the services that you provide to educators in your area?
3. Will you be able to serve as a lending site for area educators and maintain a record of use for the first year? Describe your plan for advertising the availability of the *Great Lakes Shipping Chest* to area educators.
4. When do you plan to offer a Great Lakes Maritime Education workshop for educators on Great Lakes shipping using the chest? Would you like help planning and conducting the workshop?

Submit your completed application to:

Joan Chadde, K-12 Education & Outreach Coordinator
Western Upper Peninsula Center for Science, Mathematics & Environmental Education
105 Dillman Hall – Michigan Technological University
1400 Townsend Dr., Houghton, MI 49931
Email: jchadde@mtu.edu Phone: 906-487-3341 Fax: 906-487-1620

What Recipients are saying about the Great Lakes Shipping Education Chest:

We have already used the Great Lakes Shipping chest in one workshop! It's wonderful. Thanks so much!

Wendy W. Smith, Great Lakes Research and Education Center, Indiana Dunes National Lakeshore, Porter, IN

The <chest> has already been used... and the large Great Lakes floor map is a wonderful addition to our programs!

Carolyn Rock, Whitefish Dunes State Park, Sturgeon Falls, WI

The chest is SO AWESOME!!

Wendy Lutzke, Museum Educator, Wisconsin Maritime Museum, Manitowoc, WI

Great Lakes Shipping Education “Treasure Chest” Contents

HANDS-ON TEACHING MATERIALS

Great Lakes Floor Map

15' x 20' canvas floor map of the Great Lakes Basin, including adjacent states and provinces. The map is a great way to teach students of all ages (with shoes off!) about the Great Lakes watershed, shipping, geography, and more. Includes laminated labels for shipping and receiving ports, major rivers, states, provinces, and countries.

Cargo Samples: low-sulfur western coal, iron pellets (taconite), grain, salt, limestone, general cargo

2 sets of Great Lakes playing cards (52 vessels)

Poster of a ‘laker’ & parts’ labels

Foam replica of a Great Lakes ‘laker’ (and ship captain’s hat, if available)

CHILDREN’S LITERATURE

Armbruster, Ann. (1996). *A True Book: St. Lawrence Seaway*

Grades 2-5

Describes the route of ships carrying cargo from Lake Superior to the Atlantic Ocean, including the history, geography, industry, and benefits of shipping on the Seaway.

Barker, Charles Ferguson. (2005). *The Day the Great Lakes Drained Away*

Grades 2-5

What would happen if the Great Lakes drained away? This unique children's book shows the interesting landscape that would be revealed if all the water in the Great Lakes was to suddenly disappear. This book educates children and adults about the geologic features under the Great Lakes, and reminds us never to take the Great Lakes for granted.

Bergel, Colin. (2000). *Mail by the Pail*

Grades K-5

This book illustrates the mail delivery system for Great Lakes freighters. The J. W. Westcott Company operates the mailboat for the U.S. Postal Service marine post office in Detroit-the only mailboat that delivers mail to freighters while they are moving.

Edwards, Jack. (2000). *The Big Fitz*

Grades 1-6

This “big book” measuring 3’ x 2’ is a perfect resource for introducing Great Lakes shipping and the story of the Edmund Fitzgerald. Its large diagrams of Great Lakes freighters facilitate learning about the parts of a ship and the shipping industry.

Gibbons, Gail. (1992). *The Great St. Lawrence Seaway*

Grades K-5.

Explains the history of this great trade route. Early French explorers and fur traders were halted by the treacherous rapids 500 miles upstream and eventually developed a system for carrying their trade canoes and cargoes around the dangerous stretches of the river, reaching the Great Lakes. Eventually, locks were built. The lock system is clearly explained in a series of animated diagrams.

Hertel, Captain Robert. (1999) *The Edmund Fitzgerald: Lost With All Hands*

Grades 3-6

A factual account describing the fate of the Edmund Fitzgerald, including Great Lakes geography, shipping, and theories as to why the ship sank. Also contains a simple maritime glossary.

Holling, Holling Clancy. (1941). *Paddle to the Sea*

Grades 3-5

An Indian boy carves a wooden canoe and sets it into Lake Nipigon to watch it float away. The canoe spends four years on the water, being picked up by loggers, fishermen, and families before finally making it to the ocean. The canoe’s adventures give children a sense of the wonders and diversity in the Great Lakes.

Wargin, Kathy Jo. (2003) *The Edmund Fitzgerald: The Song of the Bell*

Grades K-5

The giant ship leaves Superior, Wisconsin loaded with iron ore. But disaster looms as the storm clouds, known as the ‘gales of November’ gather. This is the story of what happened to the 29 sailors and their ship.

REFERENCES

Lake Carriers Association. *U.S.-Flag Shipping on the Great Lakes* (brochure) and *Map of U.S. and Canadian Great Lakes Ports* (brochure). Describes major cargoes and provides a useful map of shipping and receiving ports.

Great Lakes Watershed Map (2’x3’) by Michigan Sea Grant

Great Lakes Environmental Atlas by U.S. Environmental Protection Agency and Environment Canada. 1995. Maps, history, management, diagrams, facts on the five Great Lakes.

Map of the Great Lakes: from Lake Champlain to Lake of the Woods (NOAA #14500). View at www.irmha.org

VIDEOS / CDs / DVDs

Living on the Edge: Great Lakes-St. Lawrence Shoreline DVD (25 min.) by US Army Corps of Engineers and International Joint Commission. Erosion processes, habitat diversity, commercial shipping, dredging, fluctuating water levels, and recreational boating.

Shipping Out: The Story of America's Seafaring Women (60 min DVD) produced by Maria Brooks (wfsoundings@aol.com) Tells the little-known history of women and seafaring in America. Meet women who hold jobs in commercial shipping, working on container ships, bulk cargo carriers and tankers, as well as coastal tugs, barges, and ferry boats, all on America's waterways. Women were first 'allowed' into maritime academies in 1974. The women who graduated were the first officers to sail on merchant ships in America. While often unwelcome by their male colleagues, and sometimes harassed, they persevered. See Study Guide listed below. The video is appropriate for 8th grade and above.

Steel Starts Here DVD (12:00 minutes) Cleveland Cliffs, Inc. Michigan Operations (2005) www.cleveland-cliffs.com
Follow a hunk of iron ore as it is mined and transformed into a taconite or a pelletized ball that is 60% iron and goes on to become the steel used in automobiles, rail lines, buildings, and many more of our everyday products.

Top Ten Threats to the Great Lakes CD (54 min)

A radio program broadcast by the Great Lakes Radio Consortium in 2005, describes the top ten Great Lakes issues through interviews with scientists, decision-makers, organizational representatives, and concerned citizens. The threats include: water diversions from the Great Lakes, invasive species, polluted beaches, and shipping. See the entire list at: <http://www.gllrc.org/topten.php3>

A Vital Waterway – The Great Lakes St. Lawrence Seaway System Video (10:28 minutes) by St. Lawrence Seaway Development Corporation www.greatlakes-seaway.com. Captures the grandeur and economic importance of *The Great Lakes St. Lawrence Seaway System*--- its bustling ports, comprehensive marine transportation infrastructure, diverse intermodal transportation connections, and scenic vistas which all contribute to the making of North America's premier inland waterway.

CURRICULUM MATERIALS

Exploring the Great Lakes: A Logbook of Adventures by Patricia Westfield and Nan Soper (2003) Ages 8+
Includes information and activities on Great Lakes geography, history, shipping and commerce, folklore, environmental issues, along with mapping activities. CD-ROM includes video selections of Niagara Falls, locks and canals, ships, light-houses, and more.

Lake Rhymes – Folk Songs of the Great Lakes Region CD & Book by Lee and Joann Murdock. (2004)
18-song CD with 71 minutes of Lee Murdock performance, plus 146-page book of musical scores, and over 70 historic photos, maps and illustrations. Focuses on Great Lakes maritime history and traditional folk music, providing the stories behind each song, and ideas for using the songs to teach history, English, music and geography.

Paddle to the Sea Curriculum Activities by Marcia Seager, Rosane Fortner, Timothy Taylor. Ohio State University. Grades 2-6.
Forty activities on Great Lakes geography, shipping, lake ecosystems, and stewardship.

Shipping Out: The Story of America's Seafaring Women Study Guide by Thomas Coons

This booklet is a companion guide to the video, and designed for classroom use by teachers to explore subjects raised in the documentary. It looks at women's roles in our society and how these roles are rapidly changing. The guide offers discussion questions and lists activities for classroom use. It suggests projects that will examine various topics more fully. The booklet provides supporting information not always covered in the video. Each topic is supplemented by a bibliography and a list of websites worthy of further exploration. *Shipping Out*, the video and the guide, will be useful in classes on American history, civics, women's history, maritime history, gender studies, occupational studies, and folklore. The video is appropriate for 8th grade and above.

Notebook of Shipping lessons and *Great Lakes Shipping PowerPoint Presentation on a CD*