VOLUNTARY MANAGEMENT PRACTICES TO REDUCE THE TRANSFER OF AQUATIC NUISANCE SPECIES WITHIN THE GREAT LAKES BY U.S. AND CANADIAN DOMESTIC SHIPPING 2004 EDITION

(Issued January 26, 2001)

Owners and operators of vessels that trade within the Great Lakes and the St. Lawrence Waterway and do not go out beyond the Exclusive Economic Zone (EEZ) recognize their role in reducing the risk of transfer of Aquatic Nuisance Species. Introduction of Aquatic Nuisance Species into the Great Lakes has taken place by ships operating outside the EEZ and has caused ecosystem and economic damage. The endorsers of these voluntary practices will take management action to reduce the risk of transferring these species. These practices will apply to U.S and Canadian vessels that operate entirely within the Great Lakes and St. Lawrence Waterway. Design, construction, and structural criteria on some vessels may require deviation from this management practice; however, effort will be made to comply wherever possible.

FOR ALL VESSELS OPERATING TOTALLY WITHIN THE GREAT LAKES AND ST. LAWRENCE WATERWAY SYSTEM

NONE OF THESE PRACTICES WILL BE UNDERTAKEN IF THE MASTER FEELS THAT SAFETY OF CREW OR SHIP WILL BE COMPROMISED

1) Vessel operators will assist in developing plans, such as the Voluntary Ballast Water Management Plan for the Control of Ruffe in Lake Superior Ports and Alpena, Michigan, should U.S. Fish and Wildlife Service or an equivalent Canadian authority determine a nuisance species has established niche communities in a specific port, providing that these plans will result in substantial prevention of the spread of the species or harmful organism via ballast water.

2) Each vessel will perform annual inspections to assess sediment accumulations. Removal of sediment, if necessary, will be carried out. Records of these actions will be kept onboard the ship.

3) Each company will develop sediment removal policies and plans.

4) When practical and safe, vessels will take only the minimum amount of ballast required to safely depart the dock and will complete ballasting in deeper water. Records of all ballasting operations will be kept onboard the ship.

5) Cooperation will be provided, as mutually agreed upon, for scientific research into sampling and analysis programs that will not interfere with normal and safe ship operations.

6) Cooperation will be provided, as mutually agreed upon, for developing and testing ballast water treatment systems.

7) Cooperation will be provided toward harmonization of regional ballast water practices.

VOLUNTARY BALLAST WATER MANAGEMENT PRACTICES CO-SPONSORED BY:

LAKE CARRIERS' ASSOCIATION

American Steamship Company • Central Marine Logistics, Inc. • Cleveland Tankers Ship Management, Inc.
Grand River Navigation Company, Inc. • Great Lakes Associates, Inc. • Great Lakes Fleet, Inc. / Key Lakes, Inc.
HMC Ship Management, Ltd. • Inland Lakes Management, Inc. • The Interlake Steamship Company • ISG-Burns Harbor, LLC
Oglebay Norton Marine Services Company • Pere Marquette Shipping Company • Soo Marine Supply, Inc.
Upper Lakes Towing Company, Inc. • VanEnkevort Tug & Barge, Inc.

CANADIAN SHIPOWNERS ASSOCIATION

Algoma Central Corporation • The CSL Group Inc. • Groupe Desgagnes Inc. • Rigel Shipping Canada Inc.
Seaway Marine Transport • Upper Lakes Group Inc.

HANNAH MARINE CORPORATION **LOWER LAKES TOWING LTD.**

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GREAT LAKES MARITIME INDUSTRY
VOLUNTARY BALLAST WATER MANAGEMENT PLAN
FOR THE CONTROL OF VIRAL HEMORRAGIC SEPTICEMIA (VHS)
2007 EDITION

(Issued January 2007)

Owners and operators of vessels in the domestic trade on the Great Lakes recognize their role in assisting the governments of the United States and Canada in controlling the spread of VHS infected fish species. We recognize several methods of control, including ballast water management, chemical treatment, fishery management, and other mechanisms. Vessels must use ballast water for safety purposes to provide adequate stability, trim, propulsion, maneuverability, and hull stress control. Recognizing these constraints, the marine industry will do everything within its power, consistent with safety and stability, to decrease possibility of moving VHS infected fish to areas that are believed to be free of infected species. This plan reduces the risk of ballast water as a means of moving infected fish within the Great Lakes, from infected areas, in particular, Lake Huron, Lake St. Clair, Lake Erie, Lake Ontario, the Thousands Islands area of the St. Lawrence River and the Canadian Maritime Provinces, to areas where VHS infections have not been known to exist: Lake Michigan and Lake Superior.

WHAT IS VHS AND HOW IS IT SPREAD?

1) VHS is a virus that can cause fish to hemorrhage and result in large scale fish mortality in a short period of time. It is not native to the Great Lakes but was first found in fish killed in 2003 in Lake St. Clair and resulted in a large fish kill in Lake Ontario in the spring of 2005.
2) VHS can be found in 15 coolwater and 1 coldwater species. It does not affect humans.
3) VHS is primarily transmitted by fish to fish contact via urine, feces and sexual fluids. It enters the new host through the gills or wounds. It may also be possible for the virus to be transmitted by blood sucking parasites or fish eggs.
4) The VHS virus can survive indefinitely in a live host. It is not known how long it can survive outside of a host but may be a couple of days. If in contact with decaying organic matter or a dead fish, the VHS virus could survive longer and perhaps more than a week or two but it is not known for certain.
5) Fishery managers are doing what they can to slow the spread of the virus and account for the increase in natural fish mortality caused by the virus; however, once it is in wild fish populations, it is unlikely to control and impossible to eliminate.
6) Potential vectors for the introduction and spread include: aquaculture, bait fish, recreational boaters, organisms in trade, natural movement of species and unmanaged ballast water.

FOR ***ALL*** VESSELS DEPARTING AREAS KNOWN TO CONTAIN VHS TO UNINFECTED PORTS

1) Annually inspect and replace, as necessary, ballast sea chest screens - document screen inspection by log entry, diver's report, shipyard paperwork, surveyor's report or marine inspection note.. Replace screens with the smallest openings allowed by good engineering practice.
2) During cargo operations, while accounting for boom list, hull stress and bending moments, lighten the ship as much as practical to elevate water intakes before ballasting.
3) Ballast water taken aboard in VHS affected waters should be the minimum needed to ensure the safety of the vessel and crew. Additional ballast water can be taken aboard, once deeper water is reached.
4) If the Master determines that weather and hull stress permits, the ballast should be exchanged as far from shore as possible and in deep water. Ballast should also be exchanged as far as possible from unaffected waters. If the vessel will not leave VHS affected water, it is not necessary to minimize or exchange ballast water.
5) Ballast water should always be taken aboard or discharged via the pumps and never "gravity fed or drained." This ensures any fish that makes it past the screen is pulverized by the high speed, high pressure, and tight tolerance pump.

VOLUNTARY BALLAST WATER MANAGEMENT PLAN CO-SPONSORED BY:

Lake Carriers' Association | Canadian Shipowners Association | Great Lakes Ports Association

WITH CONSULTATION FROM:

United States Coast Guard | Canadian Coast Guard | Great Lakes Fishery Commission | U.S. Department of Agriculture