

Resource List for the article “Ballast Water and Saltwater Flushing: Closing a Gap in the Protection Framework for the Great Lakes” by David F. Reid, ANS Update, Summer 2008.

Ellis, S. and H.J. MacIsaac. In press. Salinity tolerance of Great Lakes' invaders. *Freshwater Biology*.

Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS). 2008. An on-line database of aquatic nonindigenous species in the Great Lakes maintained by the National Oceanic and Atmospheric Administration (NOAA) and U.S. Geological Survey (USGS).
<http://www.glerl.noaa.gov/res/Programs/ncrais/glansis.html>

International Joint Commission (IJC) and Great Lakes Fishery Commission (GLFC). 1990. Exotic species and the shipping industry: the Great Lakes-St. Lawrence ecosystem at risk. Special Report to the Governments of the United States and Canada. 74 pp.

Johengen, T. D.F. Reid, G.L. Fahnenstiel, H.J. MacIsaac, F.C. Dobbs, M. Doblin, G. Ruiz, and P. T. Jenkins (2005). A Final Report for the Project "Assessment of Transoceanic NOBOB Vessels and Low-Salinity Ballast Water as Vectors for Non-indigenous Species Introductions to the Great Lakes." (NOBOB-A) National Oceanic and Atmospheric Administration, Great Lakes Environmental Research Laboratory, and University of Michigan, Cooperative Institute for Limnology and Ecosystems Research, Ann Arbor, 287 pp.
http://www.glerl.noaa.gov/res/Task_rpts/2001/nsreid10-1.html#final

Reid, D.F., T. Johengen, H.J. MacIsaac, F.C. Dobbs, M. Doblin, L. Drake, G. Ruiz, P. T. Jenkins, S. Santagata, C. van Overdijk, D. Gray, S. Ellis, Y. Hong, Y. Tang, F. Thomson, S. Heinemann, and S. Rondon. (2007). A Final Report for the Project "Identifying, Verifying, and Establishing Options for Best Management Practices for NOBOB Vessels." (NOBOB-B) National Oceanic and Atmospheric Administration, Great Lakes Environmental Research Laboratory, and University of Michigan Cooperative Institute for Limnology and Ecosystems Research, Ann Arbor, 173 pp.
http://www.glerl.noaa.gov/res/Task_rpts/2004/aisreid04-1.html

Ruiz, G. and D. Reid. (2007). Current State of Understanding about the Effectiveness of Ballast Water Exchange (BWE) in Reducing Aquatic Nonindigenous Species (ANS) Introductions to the Great Lakes Basin and Chesapeake Bay, USA: Synthesis and Analysis of Existing Information. National Oceanic and Atmospheric Administration, Technical Memorandum GLERL-142, Great Lakes Environmental Research Lab, Ann Arbor, Michigan USA. September. 127 pp
ftp://ftp.glerl.noaa.gov/publications/tech_reports/glerl-142/tm-142.pdf

Santagata, S., Z.R. Gasiūnaite, E. Verling, J.R. Cordell, K. Eason¹, J.S. Cohen, K. Bacela, G. Quilez-Badia, T.H. Johengen, D.F. Reid, and G.M. Ruiz. 2008. Effect of osmotic shock as a management strategy to reduce transfers of nonindigenous species among low-salinity ports by ships. *Aquatic Invasions*, 3(1), 61-76.
<http://www.aquaticinvasions.ru/2008/index1.html>

The following papers are relevant to the topic, and are available from the web site of Hugh MacIsaac's Invasion Biology Laboratory
<http://web2.uwindsor.ca/courses/biology/macisaac/pages/Publications/index.html>

Bailey, S.A., I.C. Duggan, K. Nandakumar and H.J. MacIsaac. 2007. Sediments and ships: natural biota as biological contaminants. Proceedings of the 6th International Symposium on Sediment Quality Assessment, Antwerp Belgium. *Aquatic Ecosystem Health and Management*, 10:93-100.

Bailey, S.A., K. Nandakumar and H.J. MacIsaac. 2006. Does salt water flushing reduce viability of diapausing eggs in ship ballast sediment? *Diversity and Distributions*, 12:328-335.

Bailey, S.A., I.C. Duggan, P.T. Jenkins and H.J. MacIsaac. 2005a. Invertebrate resting stages in residual ballast sediment of transoceanic ships. *Canadian Journal of Fisheries and Aquatic Sciences*, 62:1090-1103.

- Bailey, S.A., K. Nandakumar, I.C. Duggan, C.D.A. van Overdijk, T.H. Johengen, D.F. Reid and H.J. Maclsaac. 2005b. In situ hatching of invertebrate diapausing eggs from ships' ballast sediment. *Diversity and Distributions*, 11:453-460.
- Bailey, S.A., I.C. Duggan, C. van Overdijk, T.H. Johengen, D.F. Reid and H.J. Maclsaac. 2004. Salinity tolerance of diapausing eggs of freshwater zooplankton. *Freshwater Biology*, 49:286-295.
- Bailey, S.A., I.C. Duggan, C.D.A. van Overdijk, P. Jenkins and H.J. Maclsaac. 2003. Viability of invertebrate diapausing stages collected from residual ballast sediment. 2003. *Limnology and Oceanography*, 48:1701-1710.
- Duggan, I.C., S.A. Bailey, C.D.A. van Overdijk and Maclsaac, H.J. 2006. Invasion risk of active and diapausing invertebrates from residual ballast in ships entering Chesapeake Bay. *Marine Ecology Progress Series*, 324:57-66.
- Duggan, I.C., C.D.A. van Overdijk, S.A. Bailey, P.T. Jenkins, H. Limén and H.J. Maclsaac. 2005. Invertebrates associated with residual ballast water and sediments of cargo carrying ships entering the Great Lakes. *Canadian Journal of Fisheries and Aquatic Sciences*, 62:2463-2474.
- Gray, D.K., T.H. Johengen, D.F. Reid and H.J. Maclsaac. 2007. Efficacy of open-ocean ballast water exchange as a means of preventing invertebrate invasions between freshwater ports. *Limnology and Oceanography*, 52:2386-2397.
- Gray, D.K., S.A. Bailey, I.C. Duggan and H.J. Maclsaac. 2005. Viability of invertebrate diapausing eggs exposed to saltwater: implications for Great Lakes ship ballast management. *Biological Invasions*, 7:531-539.