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Water Science and Technology Board
Division on Earth and Life Sciences
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Committee on Assessing Numeric Limits for Living Organisms in Ballast Water

EPA and the U.S. Coast Guard have requested the NRC to conduct a study that will significantly inform their efforts to derive environmentally protective numeric ballast water discharge limits in the next Vessel General Permit. The study will take into account estuarine and freshwater systems, including the Great Lakes and other inland navigable waters, as well as the waters of the three-mile territorial sea, considering what implications their differing environmental and ecological conditions might have for the development of allowable concentrations of living organisms in discharged ballast water. Specific tasks are outlined below.

1. Evaluate the state of the science of various approaches that assess the risk of establishment of aquatic nonindigenous species (NIS) given certain concentrations of living organisms in ballast water discharges.
 - What are the advantages and disadvantages of the available approaches?
 - Identify and discuss the merits and practical utility of other additional approaches of which the NRC is aware.
 - How can the various approaches be combined or synthesized to form a model or otherwise more powerful approach?
 - What are the data gaps or other shortcomings of the various approaches and how can they be addressed within the near and long term?
 - Can a “natural invasion rate” (invasion rates based on historic invasion rates), or other “natural” baselines, be reliably established, and if so, how? What utility might such baselines have in informing EPA’s derivation of allowable numeric limits for living organisms in ballast water discharges? Can such baselines be established on a national basis, or would this need to be done on a regional or ecosystem basis?
2. Recommend how these approaches can be used by regulatory agencies to best inform risk management decisions on the allowable concentrations of living organisms in discharged ballast water in order to safeguard against the establishment of new aquatic NIS and to protect and preserve existing indigenous populations of fish, shellfish, and wildlife and other beneficial uses of the nation’s waters.
3. Evaluate the risk of successful establishment of new aquatic NIS associated with a variety of ballast water discharge limits that have been used or suggested by the international community and/or domestic regulatory agencies.

The study is sponsored by the U.S. Environmental Protection Agency and the U. S. Coast Guard. The study director is Laura Ehlers (lehlers@nas.edu), WSTB senior staff officer. An expert committee of 9 members will meet three times over a 14-month period and produce a report in mid-2011; the members of this multidisciplinary committee are:

James T. Carlton, *Chair*, Williams College, Mystic, Connecticut

Gregory M. Ruiz, *Vice-chair*, Smithsonian Environmental Research Center, Edgewater, Maryland

James (Jeb) E. Byers, University of Georgia, Athens

Allegra Cangelosi, Northeast-Midwest Institute, Washington, DC

Fred C. Dobbs, Old Dominion University, Norfolk, Virginia

Edwin D. Grosholz, University of California, Davis

Brian Leung, McGill University, Montreal, Quebec

Hugh J. MacIsaac, University of Windsor, Windsor, Ontario

Marjorie J. Wonham, Quest University, Squamish, British Columbia