U.S. Naval Forces' Capabilities for Responding to Small Vessel Threats: Abbreviated Version of a Classified Report

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Abbreviated Version of a Classified Report

At the request of the former Chief of Naval Operations, the National Research Council (NRC) appointed an expert committee to examine U.S. Naval Forces' capabilities for responding to the potential exploitation of small vessels by adversaries. The Department of the Navy determined that the report prepared by the committee is classified in its entirety under Executive Order 13526 and therefore cannot be made available to the public. This abbreviated report provides background information on the full report and the committee that prepared it.

Copies of the report are available to authorized individuals in the government from the NRC's Naval Studies Board (http://sites.nationalacademies.org/DEPS/nsb/index.htm). Other requests for the report should be submitted to the Department of the Navy.

The project that is the subject of this report was approved by the Governing Board of the NRC, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance. The study was supported by a contracting arrangement (ref. Contract No. 04-D-8601) between the National Academy of Sciences and Department of the Navy, and the Johns Hopkins University Applied Physics Laboratory, which provided logistical support in order for the NRC to conduct the study.

BACKGROUND

A 2008 NRC report, conducted under the auspices of the Naval Studies Board (NSB), entitled *Maritime Security Partnerships* noted that "the predominant challenges in the maritime domain today come from a range of hostile actions by nonstate actors, from stealing fish to smuggling drugs, people (including both illegal immigrants and slaves), and weapons of mass destruction (WMD), to piracy. There is also the possibility that extremists or other insurgents and terrorists may attack at sea."[1]

Examples of terrorist attacks at sea include the 2000 attack on the USS Cole in Aden Harbor, Yemen, as well as the 2002 attack on the oil tanker MV Limburg as it awaited a pilot before entering the port in Mukkala, Yemen. Both examples involved the use of small vessels by terrorists in carrying out attacks. Terrorists, however, can use small vessels for other purposes, such as transporting terrorists and resources from the sea prior to an attack on land as evident by the 2008 attack in Mumbai, India. Indeed, as noted by the former Commandant of the U.S. Guard, "terrorists have continued to use small craft to exploit the open expanses of the maritime domain and avoid detection while striking maritime targets when they are most vulnerable."[2]

While the United States and its partners continue to work towards improving security in the maritime domain, adversaries and other parties continue to work towards finding a better means for detection avoidance. For example, self-propelled and semi-submersible (SPSS) vessels are being built and deployed by parties involved in illicit trade. While captured SPSS vessels have been deployed primarily for drug trafficking, "the craft's

[1]National Research Council. 2008. *Maritime Security Partnerships*, National Academies Press, Washington, D.C.
[2]ADM Thad Allen USCG. 2008. "Friend or Foe? Tough to Tell," *U.S. Naval Institute Proceedings*, Washington, D.C., October.

ability to evade detection, capacity to carry tons of any type of cargo thousands of miles, and proximity to the United States pose an ever increasing danger to our national security."[3] Moreover, could an SPSS vessel be used to carry other cargo such as WMD to the U.S. or to another region of interest outside of the United States? As noted in a 2007 NRC report, also conducted under the auspices of the NSB, entitled *The Role of Naval Forces in the Global War on Terror: Abbreviated Version*, "the maritime domain represents an all-too-plausible domain for delivery of terrorists and weapons of mass destruction."[4]

Given the range of plausible small vessel threats, U.S. Naval Forces—the U.S. Navy, Marine Corps, and Coast Guard—have been undertaking various efforts for responding to small vessel threats. For example, a small vessel security strategy was developed in 2008 by the Department of Homeland Security to address, in part, "the risk that small vessels might be used to smuggle terrorists or WMD."[5] Moreover, the small vessel threat is broader than providing force protection for the fleet. For U.S. Naval Forces in particular, responding to small vessel threats will require an ability to understand (1) the various types of small vessel threats; (2) where and how adversaries might consider employing these types of small vessel threats for carrying out their goals; (3) what the Navy, Marine Corps, and Coast Guard articulate and bring in the way of capabilities, in addition to their abilities to work with interagency and intergovernmental partners, for responding to small vessel threats in various regions of the world; and (4) what areas of science and

[3]CAPT Wade Wilkenson, USN, Special Assistant to ADM James Stavridis, Commander, U.S. Southern Command. 2008. *"A New Underwater Threat,"* U.S. Naval Institute Proceedings, Washington, D.C., October.
[4]National Research Council. 2007. *The Role of Naval Forces in the Global War on Terror: Abbreviated Version*, National Academies Press, Washington, D.C.
[5]Department of Homeland Security. 2008. *Small Vessel Security Strategy*, Washington, D.C., April.

technology should be explored by the Navy, Marine Corps, and Coast Guard so as to improve their capabilities in part for responding to the potential exploitation of small vessels by adversaries.

Along these lines, the former Chief of Naval Operations requested that the NSB through the NRC conduct a 15-month study to examine U.S. Naval Forces' capabilities for responding to the potential exploitation of small vessels by adversaries.[6] Subsequent to ensuring that all the necessary contracting and industrial security requirements were met, the NRC Chair appointed the Committee on U.S. Naval Forces' Capabilities for Responding to Small Vessel Threats. The specific terms of reference for the study (i.e., the committee's charge) were as follows:

1. Characterize known and potential small vessel types that could be potentially exploited by terrorists or small groups acting as agents of hostile governments, including the types of threats therein;

2. Identify U.S. regions of interest, both within and outside the continental United States, that could be potentially threatened by the use of small vessels;

3. Review and assess the adequacy of current and planned U.S. Naval Forces' policies, strategies, approaches, and capabilities, including the adequacy of interagency and intergovernmental cooperation in these areas, for responding to these potential small vessel threats in U.S. regions of interest;

4. Identify promising science and technology areas for U.S. Naval Forces' capabilities for responding to these potential small vessel threats in U.S. regions of

[6]ADM Gary Roughead, USN, CNO, letter dated September 2008, to Dr. Ralph Cicerone, President, National Academy of Sciences.

interest, including detection, tracking, and identification research areas and their interface with current and planned intelligence and other national means; and

5. Recommend any other initiatives, excluding budgetary and organizational, that should be undertaken by U.S. Naval Forces in an effort towards improving their overall capabilities for responding to the potential exploitation of small vessels by adversaries.

APPROACH

The committee first convened in August 2010 and held data-gathering and report drafting meetings over a 10-month period.[7] In order to address its charge, in part, the committee received briefings from the Department of Defense, Department of Homeland Security, and Intelligence Community in classified sessions. The committee also met with representatives from non-governmental organizations, as well as individuals from other countries. After deliberating on and preparing its final report in July 2011, the committee submitted its final report for NRC external review in accordance with procedures approved by the NRC's Report Review Committee.

Acknowledgement of Reviewers

National Research Council reports are reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the NRC's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making

[7]After its third full committee meeting in November 2010, the committee prepared a letter report that was reviewed in accordance with procedures approved by the NRC's Report Review Committee. The comprehensive (final) report builds on the letter report.

its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of the draft (final) report:

Dennis Bushnell, NASA Langley Research Center;

Richard A. Games, MITRE;

Ronald L. Luman, Johns Hopkins University, Applied Physics Laboratory;

Joseph L. Nimmich, RADM, USCG (retired), Raytheon Homeland Security;

Nils R. Sandell, Jr., Concord, Massachusetts; and

William O. Studeman, ADM, USN (retired), Reston, Virginia.

Although the reviewers listed above provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final report before release. The review of the draft report was overseen by R. Stephen Berry, University of Chicago. Appointed by the NRC, he was responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of the report rests entirely with the authoring committee and the institution.