

RESEARCH NOTE

# International Submarine Rescue: A Constructive Role for China?

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## EXECUTIVE SUMMARY

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This article highlights the opportunity available for the Chinese navy to participate in international efforts to improve and coordinate cooperation in the rescue of disabled submarines.

### MAIN FINDINGS

- Submarine accidents that leave vessels disabled and crews trapped underwater are a common risk facing all navies with submarine fleets. International cooperation on rescue efforts is often necessary to ensure that the equipment and personnel necessary for a successful rescue are able to reach a disabled submarine in time to rescue its crew.
- China's submarine rescue capabilities are modest, especially relative to the country's increasingly modern submarine force, and the PLA Navy now recognizes the need to increase modernization efforts in this area.
- Many nations now regularly practice multilateral rescue exercises and coordinate their capabilities through the International Submarine Escape and Rescue Liaison Office (ISMERLO). Though a member of ISMERLO, China could become much more active in this organization by taking several steps to increase and improve participation in international rescue cooperative mechanisms.

### POLICY IMPLICATIONS

The institutionalized contacts and increased transparency engendered by such cooperation in submarine rescue would fit with broader trends toward increasing openness and participation in international organizations by the Chinese military and could constitute an important confidence-building mechanism between China and the region.

China is emerging as a significant maritime power. Sovereignty and commercial concerns along China's maritime periphery have given impetus to an ambitious program of naval modernization, at the center of which is a rapidly developing submarine force. This rapid modernization and obvious emphasis on undersea warfare have aroused the suspicions of regional states as well as those of the traditional East Asian maritime powers, including the United States.

Beijing has undertaken a number of measures designed to ease fears of the consequences of China's increasing power. China's new diplomatic efforts feature a variety of bold and almost unprecedented (in the Chinese context) multilateral initiatives, such as the Shanghai Cooperation Organization. Perhaps spurred in part by China's increasing stature as a global trade juggernaut, Chinese commercial aircraft and ships have increasingly conformed to global operating and safety standards. In the context of U.S.-China relations, this process has been manifested in some new initiatives and agreements. For example, China has led other nations in cooperating with the U.S. Container Security Initiative (CSI) in an attempt to take adequate port security measures without hindering the efficiency of maritime trade.<sup>1</sup>

Regarding military-to-military cooperation, the Military Maritime Consultative Agreement (MMCA) that was signed between Beijing and Washington in 1998 has served to "promote safe maritime practices and establish mutual trust [such] as search and rescue, communications procedures when ships encounter each other, interpretation of the Rules of the Nautical Road and avoidance of accidents-at-sea." The agreement includes annual meetings as well as working groups for the two sides' naval professionals to discuss specific topics.<sup>2</sup> Small-scale but historically significant bilateral search and rescue exercises in the fall of 2006 were an important result of these efforts. "Operationalizing" confidence-building measures beyond search and rescue exercises would further enhance military-to-military engagement. Furthermore, broadening the scope of cooperative efforts to include multilateral organizations would increase transparency and demonstrate China's commitment to becoming a stakeholder in an important

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<sup>1</sup> For background on this cooperative initiative, see "China Implements Container Security Initiative at Port of Shanghai to Target and Pre-screen Cargo Destined for U.S.," U.S. Customs and Border Protection, press release, April 28, 2005 ~ [http://www.cbp.gov/xp/cgov/newsroom/news\\_releases/archives/2005\\_press\\_releases/042005/04282005.xml](http://www.cbp.gov/xp/cgov/newsroom/news_releases/archives/2005_press_releases/042005/04282005.xml).

<sup>2</sup> See Charles A. Meconis, "U.S.-China Confidence-building More Important than Detargeting," Global Beat Issue Brief, no. 39, July 14, 1998 ~ <http://www.bu.edu/globalbeat/pubs/ib39.html>. Though many cooperative activities were suspended following the April "EP-3 incident," a concerted U.S. Navy effort has been underway since 2005 to reengage the People's Liberation Army (PLA).

arena. China's leadership recognizes this; during a recent U.S.-China naval search and rescue exercise, the deputy chief of staff of the People's Liberation Army Navy (PLAN) spoke of China's desire to add "momentum" to the growing cooperative relationship between the two navies.<sup>3</sup>

This article examines the potential of submarine rescue as one method of increasing China's participation in international military cooperative mechanisms. One focus of this article is to describe the recent history and evolution of international cooperation in this area. Submarine accidents are disturbingly common and exceedingly dangerous for the crews involved. Rescues are possible, but success requires highly specialized equipment to reach the stricken vessel quickly. For sailors, cooperation between militaries can be the difference between life and death. This was indeed the case in two recent Russian incidents detailed in this article. Submarining nations have learned from these experiences and initiated a number of activities meant to improve and institutionalize international cooperation on underwater search and rescue.

A second focus of this article is to evaluate China's potential participation in and view of such cooperative efforts. China has a long experience with domestic submarine accidents. Though improving, China's rescue capabilities do not meet the standards required of an expanding navy. A recent tragedy, the loss of the Ming 361, may have led to a shift in thinking among top thinkers in the PLAN. This shift in attitude has been accompanied by a growing willingness to participate in international military exercises.

The article is divided into three parts:

- ≈ pp. 170–77 describe the recent history and evolution of international cooperation in submarine search and rescue
- ≈ pp. 177–82 examine China's participation in and evolving views of such cooperative efforts
- ≈ p. 183 summarizes the findings of this article

## INTERNATIONAL SUBMARINE RESCUE COOPERATION

### *The Nature of Submarine Accidents*

The permanent members of the UN Security Council have all suffered fatal submarine disasters. Russia has the sad distinction of experiencing the

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<sup>3</sup> Adam R. Cole, "Juneau, 31st MEU Arrive in Zhanjiang," Marine Corps News, November 15, 2006  
 ≈ <http://www.marines.mil/marinelink/mcn2000.nsf/lookup/20061116224611>.

most. The United Kingdom lost four diesel-powered submarines during the Cold War. France lost two Daphne-class diesel submarines and their entire crews. The United States suffered two submarine losses in the 1960s: the USS *Thresher*, a nuclear powered attack submarine, sunk during sea trials in the Gulf of Maine in 1963; and the USS *Scorpion* was lost near the Azores in 1967. Since 1945 at least twelve countries have lost submarines and their crews through accidents during peacetime.<sup>4</sup>

Potentially catastrophic submarine accidents are more common than is usually realized. A Canadian submarine, the HMCS *Windsor*, for example, recently suffered a small electrical fire.<sup>5</sup> Newspapers would have never reported the accident had not the HMCS *Chicoutimi* suffered a fire that killed a crewmember only thirteen months earlier.<sup>6</sup> Other accidents, however, avoid becoming major disasters by the narrowest of margins. The USS *Dolphin*, formerly the U.S. Navy's only diesel submarine, suffered major flooding in May 2002 and almost sank. Most recently, while operating submerged at high speed several hundred miles south of Guam in January 2005, the USS *San Francisco* struck an undersea mountain, killing one crewmember.<sup>7</sup>

A relatively minor submarine accident that had the potential to be a major disaster occurred in September 2005 when a Turkish freighter struck the USS *Philadelphia* as the surfaced submarine was entering Bahrain. The nature of the damage, though relatively minor, suggests the submarine could easily have sunk.<sup>8</sup> For even the most accomplished practitioners of undersea warfare, submarining is simply a dangerous business. Unlike air crashes, submarine accidents frequently have survivors, which makes the imperative to develop rescue capabilities even more acute. As the professionalism of China's navy increases, submarine accidents will become even more of a major concern.

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<sup>4</sup> Smaller countries have also suffered submarine accidents and losses. Peru lost the *Pacocha* in 1988, Israel the *Dakar* in 1968, Turkey the *Dumlupinar* in 1953, and Spain the *C4* in 1946. See Edwyn Gray, *Disasters of the Deep* (Annapolis: United States Naval Institute Press, 2003), 282–89.

<sup>5</sup> Kelly Toughill, "Blaze Damages Navy's Last Working Submarine," *Toronto Star*, November 1, 2005.

<sup>6</sup> "Canadian Dies of Injuries from Submarine Fire," *CBC News*, October 7, 2004 ~ <http://www.cbc.ca/story/canada/national/2004/10/06/saunders041006.html>. This incident was reported in China's most important naval publication. See Liu Linkun, "Cong e jia qianting jiu yuan shibai kan qianting jiu yuan" [Examining Submarine Rescue from the Perspective of the Recent Russian and Canadian Submarine Rescue Failures], *Dangdai Haijun*, December 2004, 58–59.

<sup>7</sup> The USS *San Francisco* accident was covered extensively in the Chinese military press. See, for example, Qi Yaojiu, "Jiu jinshan hao heqianting chujiao shigu de zai sikao" [Reflecting Again on the San Francisco Nuclear Submarine Collision Accident], *Xiandai Jianchuan*, July 2005, 39–42; and Zhi Ge, "Jiu jinshan hao heqianting shigu fenxi" [Analysis of the San Francisco Nuclear Submarine Accident], *Jianchuan Zhishi*, March 2005, 59.

<sup>8</sup> Robert A. Hamilton, "Sources: Sub Not at Fault in Collision," *New London Day*, September 7, 2005; and Robert A. Hamilton, "Damage to Groton-based Sub is Worse than Expected," *New London Day*, September 10, 2005.