Op-Ed

Countering China's Maritime Threat Will Require a Larger U.S. Submarine Force

By Pat Wiedorn

In recent decades, China has worked to develop the capability to exercise full military control over its near seas. During an invasion of Taiwan, this capability would be used to deny enemies the ability to deploy troops or ships to the area. To counter this threat the United States needs a larger number of smaller, mission-focused submarines.

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Recently, the People's Liberation Army (PLA) showcased weapons that are linchpins of this strategy, including hypersonic missiles purportedly capable of overcoming U.S. missile defenses to attack ships and land targets.[1] China has also been expanding its maritime capability by building aircraft carriers and improved ships.[2] Though some analysts doubt the current capabilities of the PLA's weapon systems,[3] the direction it intends to pursue is clear—and with China's resources I have no doubt it will achieve its technological goals.

U.S. Chief of Naval Operations Admiral Jonathan Greenert and People's Liberation Army Navy Commander in Chief Admiral Wu Shengli return ashore following tours of a Type-39B submarine and Type 22 Houbei missile boat on Lushun Naval Base in 2014. Greenert's visit came at the mutual request of U.S. and Chinese leadership to strengthen existing military relations between the two navies through additional military exercises, port visits and exchanges to advance maritime cooperative efforts in the Asia-Pacific. Photo by the U.S. Navy/Chief Mass Communication Specialist Peter D. Lawlor.

In the event of a large maritime war, the only platforms able to overcome China's anti-access capabilities will be U.S. submarines. China will be able to immediately attack any detectable target, especially surface ships, with overwhelming barrages of missiles. American ships have robust anti-missile defense systems, but the easiest way to defeat a ship with ten anti-missile systems is to fire eleven missiles at it. Submarines, however, would be able to enter areas otherwise denied by Chinese missile systems. In 2010, a modern Republic of Korea ship, Cheonan, was torpedoed and sunk by a North Korean mini-sub while Cheonan was actively searching for submarines.[4] The fact that a North Korean submarine was able to sink a South Korean ship undetected despite South Korea's technological advantage demonstrates the inherent stealth capabilities of the submarine platform.

China has been proactive in countering the U.S. submarine threat. It is reportedly developing advanced submarine-detection satellites[5] and deploying an underwater "great wall" of sensors.[6] However, any sensor potentially capable of detecting a submarine is definitely capable of detecting a surface ship. Thus, a nuclear-powered submarine remains much less vulnerable to missile attacks. It is a truism in the submarine force that it takes a submarine to combat another submarine. China has not lost sight of this strategic point; it already has a force of seventy submarines and is building more.[7]

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A maritime war with China is therefore likely to become a submarine war. A submarine war, in turn, will be a deadly numbers game. During the fight against Japan in World War II, the U.S. submarine force saw the highest casualty rate of any service, losing upwards of 20 percent of the total ships deployed.[8] I see no reason to assume a lower casualty rate during a war with China; the fundamentals of submarine warfare remain unchanged. A small fleet will be crippled after suffering casualty rates that high.

Unfortunately, since the end of the Cold War, U.S. submarines have become larger and more expensive.[9] The current class of fast-attack submarines cost $3.2 billion each, and the next class are expected to cost as much as $6 billion each. The expensive cost of each submarine has led to a decrease in fleet size. Over the next decade the U.S. submarine force will shrink to forty-two ships, its smallest size since World War II.

The United States cannot rely on the superiority of U.S. submarines to compensate for reduced numbers. Even if you optimistically assume U.S. submarines are twice as good as their Chinese counterparts, a Chinese fleet twice as large as the U.S. fleet returns China to tactical parity. And it will be a deadly mistake to assume a Chinese submarine with an experienced captain will only be half as good as a U.S. ship.

The solution, therefore, is to build more submarines. The Navy's budget is unlikely to increase enough to fund more of the current classes of submarines. In a pair of articles for the Center for International Maritime Security, Duane Truitt instead describes a smaller and cheaper ship that would be ideal for a submarine-centered strategy to counter China.[10] He compares his proposed ship to previous classes that cost $700 million each in 2019 dollars. These cost savings result from improved reactor designs and shedding land-attack missiles, leaving a submarine narrowly focused on sea control and attacks upon surface and subsurface units. These would, effectively, give more bang for the buck against enemy submarines.

If China invades Taiwan, its main priority will be to deny enemy units the ability to operate in its near seas. China will use missiles, surface units, and subsurface units to protect its supply lines between the mainland and Taiwan. The American response will be, in turn, to breach these defenses and destroy as many of China's warships and shipping fleet as possible. This battle will see high casualties on both sides, and the only thing that will ensure the fleet's survival will be the size of the fleet at the beginning of the war. Without an unlimited budget, the only effective way to increase the size of the submarine fleet will be to build a larger number of smaller, cheaper ships. This is a strategic imperative to ensure the United States can provide an effective check on Chinese aggression in the Western Pacific. ■

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Pat Wiedorn graduated from the United States Naval Academy in 2011 with a B.S. in chemistry. After commissioning as a submarine officer, he qualified to operate naval nuclear reactors and then reported to the USS Oklahoma City (SSN-723), a fast-attack submarine then stationed in Guam. As a submarine officer, Pat lead sailors and conducted missions vital to national security in the western Pacific. After resigning his commission, Pat served as a Peace Corps Volunteer in Zambia. There, he taught fish farming and integrated farming techniques to rural farmers. At Yale, Pat focuses his studies on international development.

ENDNOTES

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