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Small Boats

Marines and the future of littoral warfare

by Capt Walker Mills

The Marine Corps has a problem: as the Service reorients to focus on littoral and distributed operations, it does not have enough platforms capable of performing strike, sensing, and logistics roles in the maritime domain. There is no platform for operating in shallow seas or inland waterways, but these are the battlespace of tomorrow. In *Fleet Tactics and Coastal Combat*, Wayne Hughes asserts, "Littoral waters will be the arena of modern fleet actions."[1] Recent commentary notes a full 30 percent of the world's land borders are rivers, totaling approximately 30,000 miles—many of which are contested.[2] Fortunately, there is an answer: small surface combatants. In conjunction with the Navy, the Marine Corps should develop battalion-sized squadrons of small craft for littoral and riverine operations.

Such a unit is the ideal force for operating *inside* an adversary's anti-access/area-denial (A2/AD) network as part of what the *2018 National Defense Strategy* terms the "Blunt" and "Contact" layers. In *Naval Strategy and Operations in Narrow Seas,* naval theorist Milan Vego wrote:

> The 100-400 ton combat craft form perhaps the optimal platforms for carrying out offensive and defensive tasks in the typical narrow sea … Their small size, high speed, excellent maneuverability and high combat power makes them ideal for employment in coastal waters and especially along the archipelago type of coast.[3]

These small craft are easily distributable and capable of operating from austere and dispersed, advanced bases while performing a variety of roles. They can be a decisive component of a "forward deployed defense-in-depth, anchored on naval forces" that then-Commandant Robert B. Neller argued for.[4]

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Armed with Naval Strike Missiles or Harpoon Missiles, the squadron would be able to overwhelm and destroy much larger surface vessels at a small cost. Small combatants have a successful history with fleets around the world because they are a cost-efficient way of providing flexible combat power in the littorals. Armed with ship killing weapons, they can threaten even the largest carriers and cruisers—giving maritime commanders more options for distribution, maneuver, and force protection. By employing a squadron of small, fast, and lethal vessels, we are flipping the script and using a successful naval tactic our adversaries have often used against us.

Small combatants are also ideal for assault support and raiding operations. They are small enough to use terrain and weather to mask their radar signature and are fast enough for insertion while being able to carry both a small raid force and offensive armaments. *Littoral Operations in a Contested Environment* specifically calls for the creation of a "littoral raid force" that employs "high-speed, long-range, low-signature combatant craft."[5] Today, this is a yawning capability gap for the Marine Corps. As *War on the Rocks* authors Douglas King and Brett Friedman argue:

LCUs are not survivable in contested operations. *(Photo by LCpl Kyle Bunyl.)*

> The Navy does not currently have a ship able to fill a wide variety of smaller but no less vital maritime tasks. The maritime services also need a platform that can embark troops and supplies while depending on speed and its smaller size to avoid detection by adversary forces … The required vessel is a fighting connector.[6]

The LCUs and LCACs currently attached to MEUs are not survivable in a contested environment. Neither are the expeditionary fast transport vessels leased by Military Sealift Command. Just ask anyone who saw the photos of the former USNS *Swift* after it was completely destroyed at sea by Houthi rebels off the coast of Yemen. It is no secret that raiders and irregular warriors favor small, fast ships for millennia; additionally, small boats have been a smuggler's choice platform for centuries. Even in the Caribbean, the United States has difficulty preventing small and fast craft from operating among the islands and within our territorial waters. Imagine our military turning to those same smuggling tactics to resupply and support distributed advanced expeditionary bases. Fast craft can use speed, stealth, and masking terrain to move fuel, munitions, and aircraft parts throughout the Philippine Archipelago and the First Island Chain when conventional airlift is unable to operate freely in the contested airspace.

They could also serve a key link in the logistical chain between advanced bases or between larger ships that are necessarily kept outside the enemy's A2/AD envelope. A recent CSBA study, *Resilient Naval Logistics in a Contested Environment*, argues the Navy does not have the capacity to adequately perform all of its logistics functions in a contested environment—like littoral waters around the First Island Chain—without considering the increased demand that expeditionary advanced bases would put on the logistics enterprise.[7] An earlier study by the Center for Strategic and International Studies decried,

> The magnitude of unmet demand for [amphibious shipping] has forced a shift in mindset from one of what regional commanders need to what the "system can reliably provide."[8]

A Mk VI with Naval Coastal Riverine Group 1 during training in Guam. *(Photo by SSgt John Ewald.)*

This capability gap will only increase if the Army continues to divest from their fleet over-the-shore logistics and transport ships as they were doing as recently as July 2019.[9] A flotilla of small craft can help alleviate the strain even though they are not dedicated logistics vessels. In the past, small combatant craft have repeatedly demonstrated extreme value and versatility in the Navy. Curtis Nelson's book, *Hunters in the Shallows,* describes the flexibility of the patrol torpedo boats in the Second World War:

> Judging from the varied uses to which the PT boats were put, the Navy came to look upon them as miniature versions of virtually every ship in the United States Naval arsenal. Whenever the real thing was unavailable, too-deep draft or too big a target for enemy planes, the PTs were there.[10]

Historian W.J. Viegele seconded the notion,

> As PCs [patrol craft] displayed their capabilities, Navy leaders developed many other missions for PCs as new and unexpected needs of combat appeared during the war.[11]

Small craft are ideal platforms for modern sensor suites and UAS platforms, serving as the eyes of a force ashore or a joint force. The Navy has already integrated unmanned reconnaissance and minesweeping capability onto their Mk VI patrol boats. In fact, the Mark VI has been advertised as an ideal platform for an optionally-manned configuration which allows more room for anti-ship missiles, sensors, or cargo. Employing unmanned small boats also dramatically expands the roles they can play because they are not limited by the same risk to operator as manned vessels. Such boats could be sent on what might be considered suicide missions for manned craft, or they could be left at sea as pickets for weeks at a time—much longer than would be possible for a manned crew on such a vessel.

Small craft are valuable across the range of military operations. Self-mobile across a theater, they are an ideal asset for theater security cooperation exercises. Every major nation in the Western Pacific has coastal or riverine patrol craft the squadron could exercise and train with. The craft is capable of supporting forces ashore, transporting forces, and participating in any number of types of exercises without requiring outside lift or support. Small enough for operations on rivers and inland waterways, small craft can even exercise with land forces and countries that do not have capable maritime forces. Since each squadron is comprised of several relatively cheap craft compared to traditional surface

combatants, it is a low-cost way to increase the United States' presence across the region. The squadron can disaggregate and conduct simultaneous operations across the theater in a way a single large surface combatant could never do, thus increasing our presence across the region. This presence and mobility are key weapons against grey zone aggression and *fait accompli* actions we have previously been unable to adequately address.

There is a long and storied history of small craft operations in the Navy and Marine Corps. Sailors and Marines operating from small boats made decisive contributions in early American history. John Paul Jones, the father of the American Navy, cut his teeth as a raider in Canadian waters with a 70-foot sloop and a mixed crew of sailors, soldiers, and Marines.[12] In the early nineteenth century, President Jefferson spurred the Navy to build a fleet of littoral gunboats. Small craft saw frequent action in the Second World War and Vietnam, becoming all-purpose craft when our Nation needed them. In the 1990s, the Marine Corps created a small craft company that deployed in Panama and Iraq until it was disbanded in 2005.[13] In *Small Boats and Daring Men,* Benjamin Armstrong argues, "Naval irregular warfare is not irregular at all; it has always been a critical aspect of American sea power." Internationally, small littoral craft and fast missile boats have been decisive platforms in Asia, Africa, and South America—all places where our military has interests. But despite their value, the need for small craft has been historically filled in an *ad hoc* nature as the need arose in conflicts, including World War II, Vietnam, and for South and Central American security operations. There is an inherent, enduring need for small craft capability in the Navy and Marine Corps. It is at our own peril that we continue to ignore small craft.

> Stealth and new hull technologies, together with user-friendly weapons such as ever smaller vertical launch missiles, fired from silos rather than bulky trainable launchers, will allow the small warship of the future to hide and survive, while carrying a very worthwhile offensive and defensive battery.[14]

Boats like the Mk VI and the Swedish CB90 have demonstrated speeds in excess of 40 knots, a 600-mile range, and are still capable of fitting into the well deck of an L-Class ship.[15] In 2016, a group of students at the Naval Post Graduate School designed a missile boat capable of carrying up to 15 Marines or operators as well as 8 Harpoon anti-ship missiles for only $100 million.[16] The Mark VI patrol boat costs only eight million dollars as currently configured. With modifications to existing designs that leverage advances in surface-to-surface missiles, engine technology, and signature management, the Marine Corps can develop an impressively lethal craft or could rapidly acquire proven and tested designs from our allies. Just months ago, LtCol Colin D. Smith argued for integrating small, but capable, corvettes into the Navy's numbered fleets:

> There are numerous off-the-shelf platforms available to the US Navy in the near term and limitless potential to modify the size, range, and autonomy of missile corvettes in the future. The technology already exists and the cost is a fraction of new capital ships.[17]

However, our adversaries have also taken note. At IDEX 2019 in Abu Dhabi, the Chinese delegation unveiled a 15-meter fast attack craft capable of 42 knots and sporting anti-surface missile systems.[18] They have also produced nearly 100 of the *Type 022 Houbei* class

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The future is bright for small combatants. New ship classes being designed and built in Norway, Sweden, Finland, and Taiwan are a testament to the enduring potential small combatants. In his book on coastal defense ships, George Paloczi-Horvath summarizes:

Marines from 1st Recon Bn, Force Recon Company, and the Norwegian Coastal Ranger Commando conduct CB90-class fast assault craft drills in Norway. *(Photo by Sgt Tayler Schwamb.)*

fast attack craft in the last decade, a potent ship armed with eight long-range anti-ship missiles on a high-speed catamaran hull.

Multi-role, small-combatant craft can again become a work horse in the Pacific as key facilitators of new Navy and Marine concepts like *Expeditionary Advanced Base Operations* and *Distributed Maritime Operations*. In fact, the current and projected operating environment will make these craft an even more valuable asset than they have ever been. These capabilities are being called for in *War on the Rocks*.[19] Calls for new classes of small combatants echo across the pages of *Proceedings*.[20] Even Marine leadership, including the Commandant, has been vocal in their interest in "getting back in the boat business."[21] In his new *Commandant's Planning Guidance*, Commandant Berger has asked the Marine Corps to seek out "a new fleet of smaller, more lethal and more risk-worthy platforms."[22] He continues, challenging the Corps to

> engage in a robust discussion regarding naval expeditionary forces and capabilities not currently resident in the Marine Corps such as coastal/riverine forces.[23]

A small combatant craft unit is the capability we need, addressing the requirement to "reinvigorate naval maneuver warfare, linking sea control and power projection in order to win current and future fights" expressed by MajGen David Coffman, Director of Expeditionary Warfare for the Marine Corps.[24] In the words of former-President John F. Kennedy, "This need for small, fast, versatile, strongly armed vessels does not wane."[25]

Notes

1. Wayne Hughes, Fleet *Tactics and Coastal Combat*, (Annapolis, MD: Naval Institute Press, 2000).

2. Kevin Rowlands, "Riverine Warfare," *Naval War College Review,* (Newport, RI: 2018).

3. Milan Vego, *Naval Strategy and Operations in Narrow Seas*, (Abindon, UK: Routledge, 2003).

4. U.S. Congress, *Statement of Gen Robert B. Neller, then-Commandant of the Marine Corps* before the House Appropriations Committee Subcommittee on Defense Concerning the Posture of the United States Marine Corps, (Washington, DC: April 2019).

5. Headquarters Marine Corps, *Littoral Operations in a Contested Environment*, (Washington, DC: 2017).

6. Douglas King and Brett Friedman, "Why the Navy Needs a Fighting Connector," *War on the Rocks*, (Online: November 2018), available at https://warontherocks.com.

7. Timothy A. Walton, Harrison Schramm, and Ryan Boone, "Sustaining the Fight: Resilient Maritime Logistics for a New Era," (Washington, DC: Center for Strategic and Budgetary Assessments, April 2019).

8. Mareen Leed, "Amphibious Shipping Shortfalls: Risks and Opportunities to Bridge the Gap," report, (Washington, DC: Center for Strategic and International Studies, 2014).

9. Matthew Cox, "Army Halts Plan to Scuttle It's Fleet of Watercraft," *Military.com,* (Online: August 2019), available at https://www.military.com.

10. Curtis L. Nelson, *Hunters in the Shallows: A History of the PT Boat*, (Washington, DC: Brasse's, 2003).

11. William Viegele, *Patrol Craft of the Second World War: A History of the Ships and Their Crews*, (Santa Barbara, CA: Astral Publishing Co, 1998).

12. Benjamin Armstrong, *Small Boats and Daring Men: Maritime Irregular Warfare and the Early American Navy*, (Norman, OK: University of Oklahoma Press, 2019).

13. Jason Scheffer, "The Rise and Fall of the Brown Water Navy," thesis, (U.S. Army Command and Staff College, 2005).

14. George Paloczi-Horvath, *From Monitor to Missile Boat: Coastal Defense Ships and Coastal Defense Since 1860*, (Annapolis, MD: Naval Institute Press, 1996).

15. Ben Werner, "Mark VI Patrol Boats Sail 500 Nautical Miles in Record Transit," *USNI News*, (Online: January 2019), available at https://news.usni.org. The Swedish made CB-90 is in service with several countries, including Norway and the United Kingdom. It is armed and has the capability to travel at over 40kts and carry 18 combat loaded troops. Additional information regarding the CB-90 is available at https://www.naval-technology.com.

16. Naval Postgraduate School, "Minuteman Class: Answering the Call of the Sea," (Monterey, CA: 2016), available at https://wiki.nps.edu.

17. Colin D. Smith, "Corvette Carriers: A New Littoral Strategy," *Proceedings*, (Newport, RI: June 2019).

18. David B. Larter, "China Is Working on Killer Robot Ships of Its Own," *Defense News*, (Online: February 2019), available at https://www.defensenews.com.

19. Douglas King and Brett Friedman, "Why the Navy Needs a Fighting Connector," *War on the Rocks*, (Online: November 2017), available at https://warontherocks.com.

20. Steven Coughlin, "Good Things Come in Small Packages," *Proceedings*, (Newport, RI: January 2010); Edmund Hernandez, "Fifty Tons of Fury," *Proceedings*, (Newport, RI: September 2018); and George Worthington, "Combatant Craft Have a Role in Littoral Warfare," *Proceedings*, (Newport, RI: August 1994).

21. Hope Hodge Seck, "Marine Corps Wants Hundreds More Small Boats for Coastal Operations," *Military.com,* (Online: December 2017), available at https://www.military.com.

22. General David H. Berger, *Commandant's Planning Guidance*, (Washington, DC: July, 2019).

23. Ibid.

24. Megan Eckstein, "Marines' Next High-End Fight Could Call for Larger Formations, Tougher Amphibs," *USNI News,* (Online: January 2019), available at https://news.usni.org.

25. Alan Janigan, "The Navy Needs a Modern PT Boat," *Proceedings*, (Newport, RI: September 2017).