

Prevailing without Gunsmoke in the South China Sea

The Sea Services need more and better nonlethal weapons for the competition phase of war.
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The 2021 Interim National Security Strategic Guidance directed development of new capabilities to better compete and deter gray zone strategies and tactics, but the Sea Services are not equipped to counter the threat. However, because of the gap, they have an opportunity to lead the joint force in changing the limiting mindset of nonlethal weapons (NLWs) to intermediate force capabilities (IFCs) to counter parts of China's gray zone threat in the western Pacific.

Chinese strategists call China's challenge to international norms "war without gunsmoke."¹ These actions create dilemmas for the joint force, undermine allied and partner confidence in U.S. resolve, and allow China to incrementally expand positional advantage to contest and, if necessary, strike U.S. vital interests first. IFCs can complement lethality and enable the Sea Services to prevail in a variety of complex scenarios that involve innocents and critical infrastructure across the conflict spectrum.

What Are Intermediate Force Capabilities?

Although a long-standing Department of Defense (DoD) policy directive designates NLWs as a means for deterrence and expanding options for commanders, the Sea Services appear to undervalue NLWs. Typically (and myopically), commanders and staff view NLWs as "rubber bullets and bean bags"—little more than a force protection capability for law enforcement and security forces.² But DoD has well-developed nonlethal capabilities that engage at greater ranges and with more versatility than commonly understood. Systems that use acoustic means, microwaves, millimeter-wave weapons, laser dazzlers, and laser-induced plasma effects are among those in the inventory, assessed operationally, or under development.

As the DoD executive agent for NLWs, the Commandant of the Marine Corps introduced the term intermediate force capabilities in 2020 to drive a discussion that might change perceptions about NLWs' potential.³ IFCs are technologies and systems that provide active and proportional measures between presence and lethal effects to accomplish warfighting

functions. IFCs give naval commanders engagement options beyond the binary choice of lethal force or no force at all, expanding their decision space and time to address threats.

IFCs are important enough to warfare today that the Commandant renamed the Joint Non-Lethal Weapons Directorate, calling it the Joint Intermediate Force Capabilities Office in the 2020 Commandant's Planning Guidance. (One of the authors—Colonel Leimbach—is the director of this office.) While the nondoctrinal term is not officially or directly linked to Force Design 2030, the name change unambiguously signals that the joint force in general and the Sea Services in particular require options for campaign planning and operations between lethality and nothing.

The use of nonlethal means to achieve military and political objectives recognizes that lethal force is not always suitable. IFCs deliver the critical advantages of additional time, increased targeting range, and more decision-making flexibility when dealing with potential threats. IFCs increase opportunities for maritime mission success to best achieve strategic objectives, save lives, and reduce unintended collateral damage. Options for the full spectrum of conflict are essential in campaign planning, and IFCs offer a vibrant arsenal of combat-credible but nonlethal force.

TTPs and Campaigns Below Armed Conflict

Technology and weapons are always evolving. Targeting solutions and projectile guidance systems improve, and standardized combat drills frame the processes that crews use to practice and certify tactics, techniques, and procedures (TTPs) prior to deployment.

Although many of these TTPs are conceived to defeat adversaries with deadly force, most day-to-day missions to which fleets, task forces, squadrons, and ships are assigned do not require lethality. In these cases, IFCs are important to manage escalation throughout the campaign—particularly below the level of armed conflict—even against other great powers.

Unlike the destructive TTPs commanders and crews are certified to employ, many routine naval operations involve encounters where lethal force is not appropriate to “prevent and prevail.” Instead, 21st-century conflict is unfolding across land, sea, and air in a way that requires scalable effects. For the Sea Services, these actions include but are not limited to maritime interdiction operations, embargo enforcement, counterpiracy and counternarcotics operations, high-value vessel escort duties, and conflict deterrence through presence offshore.

China's Maritime Militia Challenge

As part of the “war without gunsmoke” strategic design, China embraces an operational concept that includes the coordinated use of media/public opinion; psychological warfare; and legal warfare to “shape the battlespace by creating a favorable strategic and operational environment prior to hostilities.”⁴ For example, legal warfare (sometimes called “lawfare”) provides the basis for launching an attack, while public opinion warfare delegitimizes the adversary and psychological warfare demoralizes it. When engaged against the United States,

the combination of the three modifies regional expectations and raises doubts about the legitimacy of U.S. presence. The occupations of the Paracels in 1974 and Mischief Reef in 1995 launched the modern three-warfare campaign. Since then, its importance to China's maritime strategy has increased relative to modernization investments in advanced systems.⁵

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China's irregular forces, especially the People's Armed Forces Maritime Militia (PAFMM), are central to enabling this type of unconventional warfare in the Indo-Pacific.⁶ Separate from the People's Liberation Army Navy (PLAN) and the China Coast Guard, the PAFMM comprises citizens who work in the marine economy and are called on to conduct tasks such as border patrol, surveillance, reconnaissance, maritime transport, search and rescue, and auxiliary support for wartime operations.⁷ It includes professional militia vessels and part-time fishing boats recruited using subsidy programs. Ships generally measure 35 to 55 meters or more. Professional ships include explicitly military features, and even subsidized boats have steel hulls suitable for ramming.

As of 21 November 2021, the Asia Maritime Transparency Initiative identified 120 PAFMM vessels, with another 53 likely, plus substantial auxiliaries.⁸ The large number of militia-affiliated vessels in the South China Sea with small radar cross-sections and limited electronic emissions makes identification difficult and enables infiltration into other countries' exclusive economic zones.⁹ The numerous PAFMM fishing vessels are cheap and can use their low signatures to converge to outnumber warships. They pose both a safety hazard and an asymmetric threat by threatening towed sonar arrays and inhibiting flight operations.¹⁰

PAFMM vessels often possess satellite communication terminals and shortwave radio for beyond line-of-sight communications. This permits close integration and communication with irregular and conventional PLAN forces, allowing the PLAN to position and shape conditions for a first-mover advantage.¹¹ Wartime missions for the PAFMM could include ISR, counter-ISR, mine-laying, sabotage, anti-aircraft, raiding, and electronic warfare.¹² Addressing the threat across the full spectrum of conflict requires imagining IFCs as instrumental capabilities for campaigning.

IFCs Can Counter the PAFMM

In 2019, Chief of Naval Operations Admiral John Richardson warned his Chinese counterpart that the U.S. Navy would respond to aggressive acts by the PAFMM "as though they were [committed by] part of [China's] armed forces."¹³ But based on prior and current NLW programming, it seems doubtful the Sea Services have an adequate range of suitable options to meet this threat. Hence, commanders risk using disproportionate or even ineffective lethal force to stop collisions with unarmed vessels or risk an international incident if they misidentify or misinterpret its intent. The result of such incidents would achieve China's goals and strain allied and partner confidence.

In contrast, increasing intermediate force capacity for use in the gray zone could exploit the systemic weaknesses of PAFMM operations and disrupt coordination with the PLAN and China Coast Guard. Leveraging IFCs through directed energy, occlusion, acoustic hailer, and/or ocular interrupter systems as part of a campaign below armed conflict could exacerbate and exploit frictions within China's multilayered maritime system.

Even though one strategy document after another has identified the gray zone's relevance, the sad truth is that current investments are not yielding results. Lethal capabilities are costly, with limited suitability beyond high-end deterrence, easily bypassed by adversary action, and rendered almost irrelevant by the nature of campaigns below armed conflict. Emerging IFC systems—which include highly effective and little-known NLWs—have high utility because they are suitable for employment in all phases of joint operations.

IFCs are low- to mid-cost capabilities applicable anywhere threats are posed by irregular forces, proxies, and civil disturbances involved in gray zone activities. They also can be a hedge for mitigating civilian casualties and resolving ambiguous encounters with regular military forces, such as “shouldering” by naval and coast guard ships. They form part of a layered defense for combat maneuver and logistics forces, interagency assets, bases, joint staging areas, military deception activities, and lines of communication. In addition, IFCs can help shield maritime forces from ISR collection and disruptive incursions of maritime militia and civilian proxies. Finally, they enable measured responses in nonattributable ways to conceal and conserve capabilities prioritized for armed conflict.

Deterring the PAFMM

A range of nonlethal IFC options could help deter various adversarial forces, but especially the PAFMM:

- Long-range acoustic hailers with built-in translation devices permit clear verbal instructions or warnings at a distance.
- High-power microwave directed-energy systems disrupt electronics and shut off vessel engines without harm to occupants.
- Millimeter-wave directed-energy active-denial systems physically—but nonlethally—repel personnel to prevent activities topside, inducing withdrawal.
- Eye-safe optical interrupters or dazzling lasers, which originally were handheld short-range devices commonly used at vehicle checkpoints in Iraq and Afghanistan, now can deliver visual warnings and provide obscuring glare at longer range to personnel, windshields, and the optics of approaching manned or unmanned vehicles or vessels.
- Nonlethal flash-bang munitions or developmental nonlethal laser-induced plasma effects provide long-duration effects instead of lethal shots across the bow, with smaller munitions for dangerously close encounters.
- Occlusion technology under development (sometimes called “synthetic slime” because it is based on hagfish slime) expands to temporarily hinder small-boat propellers.

Winning the War, without Gunsmoke

China is engaged in a campaign of low-level coercion to control disputed spaces by using a steady progression of incremental steps while avoiding armed conflict to secure its aims. While DoD understandably prioritizes closing gaps and increasing readiness to deter or fight high-end conflict, its hesitancy to confront and counter coercive and subversive activities may not provide the range of options leaders need to achieve national objectives while avoiding armed conflict.

IFCs can deny or dislodge adversary assets with minimal risk of casualties, disproportionality, or miscalculation leading to irreversible escalation. This provides joint, interagency, allied, and partner forces with nondestructive means to mitigate an adversary's first-mover advantage. It also affords a secondary informational advantage by shaping local, international, and adversary perceptions of U.S. responses to gray zone activities. Investment in intermediate force capabilities can be strategic risk mitigation for the Sea Services, complementing deterrence and allowing for active measures to counter asymmetric coercive behavior when presence alone is insufficient.

Currently, however, the Sea Services lack sufficient options to conduct significant campaigns below armed conflict other than presence operations. Employing IFCs to deliver enough force to counter the asymmetric effects of maritime militia by compelling their withdrawal would fill this gap. IFCs expand maneuver space and flatten the curve of adversary combat power generation by restricting and potentially reversing the physical and psychological advantages China has gained from prior gray zone actions.

The Non-Lethal Weapons Program, administered by the Joint Intermediate Force Capabilities Office, provides a framework to aid the Sea Services—and the entire joint force—by pioneering capabilities that can enable assertive gray zone responses and dissuade adversary operations. IFCs can impose costs, deny success, and create dilemmas for the adversary to concede or divert resources or escalate at a disadvantage. Integrating these technologies with manned or unmanned platforms and autonomous systems and in concert with nonlethal/nonkinetic effects such as information operations, electronic warfare, cyber, and other capabilities compounds effects at scale and range in the area of operations. Current and future Sea Service on-scene commanders will benefit by having additional options to determine and respond to hostile intent more effectively and achieve victory—without a smoking gun.

1. Andrew Erickson, "The South China Sea's Third Force: Understanding and Countering China's Maritime Militia," House Armed Services Committee Seapower and Projection Forces Subcommittee Hearing (Washington, DC: U.S. Congress, 12 September 2016), 1.
2. Department of Defense Non-lethal Weapons Program, Intermediate Force Capabilities: Bridging the Gap Between Presence and Lethality, Executive Agent's Planning Guidance, March 2020, 1–2.
3. DoD Non-lethal Weapons Program, Intermediate Force Capabilities, 1–2.

4. David Knoll, Kevin Pollpeter, and Sam Plapinger, "China's Irregular Approach to War: The Myth of a Purely Conventional Future Fight," *Modern War Institute*, 27 April 2021.
5. Derek Grossman and Logan Ma, "A Short History of China's Fishing Militia and What It May Tell Us," *Maritime Issues*, 6 April 2020.
6. Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020* (Washington, DC: Department of Defense, 2020), v–vi.
7. Andrew Erickson, "Fact Sheet: The People's Armed Forces Maritime Militia," *China Analysis from Original Sources*, 29 April 2019.
8. Gregory Poling, Tabitha Grace Mallory, and Harrison Prétat, *Pulling Back the Curtain on China's Maritime Militia* (Washington, DC: Center for Advanced Defense Studies, November 2021), 50–60.
9. Shuxian Luo and Jonathan Panter, "China's Maritime Militias and Fishing Fleets: A Primer for Operational Staffs and Tactical Leaders," *Military Review* 101, no. 1 (January–February 2021): 16–17.
10. Luo and Panter, "China's Maritime Militias and Fishing Fleets."
11. Elsa Kania, "Minds at War: China's Pursuit of Military Advantage through Cognitive Science and Biotechnology," *PRISM* 8, no. 3 (Washington, DC: National Defense University, January 2020): 84.
12. Knoll, Pollpeter, and Plapinger, "China's Irregular Approach to War."
13. James Kraska, "China's Maritime Militia Vessels May Be Military Objectives During Armed Conflict," *The Diplomat*, 7 July 2020.