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翻译

TRANSLATIONS

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Implications of the U.S. Navy's "Sea Base" Construction for Equipment Support in Cross-Sea Landing Operations[1]

By Tan Benhang[2]

Cross-sea landing operations (跨海登陆作战) is one of the primary forms of warfare for which our military is preparing, both for the present and for a period into the future. How to provide timely, reliable, continuous, and efficient equipment support for cross-sea landing operations is a critical matter requiring urgent research. The U.S. military was the first to propose the operational concept of "seabasing" to enable sea-based logistics and equipment support for forward-deployed task forces, thereby providing critical sustainment for out-of-area military operations. This seabasing initiative has important implications and provides a valuable reference for enhancing our military's equipment support capabilities for cross-sea landing operations.

1. Current State of the U.S. Military's "Sea Base" Construction

1.1 The Origins and Development of "Seabasing" Theory

"Seabasing" is a comprehensive and integrated concept for which the primary purpose is to enable U.S. military "sea-to-shore" logistics to support distant-ocean operations (远洋作战) and other military activities. This concept was first proposed in the 1970s. A series of subsequent U.S. military publications such as the *Joint Seabasing Concept* and *Marine Corps Strategy 21* explicitly stated that seabasing should be developed as one of the three core capabilities of the U.S. Marine Corps. In the 21st century, the U.S. Navy released two major documents, the *Navy Transformation Roadmap* and *A Cooperative Strategy for 21st Century Seapower*, again emphasizing the development of seabasing as one of three core capabilities, subsequently driving further U.S. military research into operationalizing the seabasing concept. The U.S. military therefore gradually came to consensus on the seabasing operational approach to "provide sustainable logistics functions at-sea while reducing the footprint ashore."[3]

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[1] 谭本行 [Tan Benhang], 美军"海上基地"建设对跨海登陆作战装备保障的启示 ["Implications of the U.S. Navy's 'Sea Base' Construction for Equipment Support in Cross-Sea Landing Operations"], 国防交通工程与技术 [*Traffic Engineering and Technology for National Defence*], no. 1 (January 2025), pp. 1-3.

[2] **Translator's Note:** When this article was published, author Tan Benhang was a master's degree student at the Armed Police University of Engineering specializing in the study of military armaments.

[3] **Translator's Note:** This quotation likely comes from the *USMC Joint Seabasing Logistics Concept of Operations*.

1.2 The U.S. Military's Existing Seabasing Platforms

The developmental pathway of the U.S. military's seabasing concept and related platforms and equipment can be divided into four phases:

The first phase relates to maritime prepositioning ships, whereby "maritime prepositioning task forces" are established by pairing supply ships with escort vessels and forward deploying these maritime prepositioning task forces for long periods near sensitive hotspots. As soon as a mission is tasked, these vessels can provide assured supply from nearby. However, maritime prepositioning task forces rely heavily on overseas ports and docks, rendering true global deployment impossible.

The second phase is the development of the "Afloat Forward Staging Base."[4] This involves connecting multiple modular semi-submersible support platforms to form a floating forward staging base, enabling sustained and precise logistics support for task forces. However, the "Afloat Forward Staging Base" suffers from drawbacks including large size for targeting, difficult construction, low mobility, weak defensive capabilities, and high cost, making it unsuitable for large-scale deployment.

The third phase is the development of the "Mobile Landing Platform."[5]This refers to large amphibious landing ships equipped with modules including large mooring devices, side ramps, cranes, liquid cargo storage facilities, medical equipment, accommodation modules, vehicle assembly and standby areas, as well as helipads. These vessels, designed after commercial ocean-going oil tankers, offer relatively low construction costs while maintaining outstanding replenishment capabilities. They can also leverage their high mobility to provide accompanying support for distant-ocean military operations, primarily by enabling shore-to-ship and ship-to-shore logistics, conducting maritime support operations, thereby reducing operational reliance on ports and land-based facilities.

The fourth phase is the development of the "Expeditionary Mobile Base Vessel." The "Expeditionary Mobile Base Vessel" is an enhanced "Mobile Landing Platform," equipped with command, control, communications, computer, and intelligence systems, allowing it to function as a traditional maritime base of operations. Currently, the U.S. Navy has three Expeditionary Mobile Base Vessels in service, with two more under construction.[6] The first Expeditionary Mobile Base Vessel, the USS *Lewis B. Puller*, had its first deployment in July 2017, to the Middle East. The commissioning of the "Expeditionary Mobile Base Vessel" marks the realization of the U.S. military's decades-long strategic conceptualization of the sea base. The U.S. Navy, leveraging its robust logistics support capabilities, is gradually reducing or even eliminating its reliance on land bases,

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[4] **Translator's Note:** Now known as the Expeditionary Mobile Base, or ESB.

[5] **Translator's Note:** Now known as the Expeditionary Transfer Dock, or ESD.

[6] **Translator's Note:** As of the author's writing of this article

further enhancing the U.S. military's capabilities for distant-ocean operations. Currently operational mobile landing platforms and expeditionary mobile base vessels in the U.S. fleet are captured in the table below.

Comparison of U.S. Mobile Landing Platforms and Expeditionary Mobile Base Vessels

Type	Name	Deadweight	Full Displacement[7]	Top Speed (knots)	Range	Hull Number	Delivery Date[8]
Mobile Landing Platforms	*Montfort Point*	60,000	83,000	15	9,000	T-ESD-1	05/2013
	John Glenn	60,000	83,000	15	9,000	T-ESD-2	03/2014
Expeditionary Mobile Base Vessels	*Lewis B. Puller*	63,000	86,000	15	9,500	T-ESB-3	06/2015
	Hershel Williams	73,000	90,000	15	9,500	T-ESB-4	07/2017
	Miguel Keith	73,000	90,000	15	9,500	T-ESB-5	02/2018

1.3 Use Cases of U.S. Military Sea Bases

In practice, the U.S. military deployed sea bases to transport personnel and equipment during military operations in Iraq and Afghanistan, successfully achieving the timely deployment of military forces without relying on regional allies or friendly nations for convenience. In non-combat operations, the U.S. military primarily uses these ships to conduct coastal humanitarian assistance and disaster relief operations as well as other non-combat missions, such as rapid deployment of peacekeeping forces, evacuating American citizens, and transshipping supplies. At the same time, the U.S. military participates in over 1,500 military exercises in the Indo-Pacific region annually, with the “Expeditionary Mobile Base Vessels” consistently serving as a rapid deployment force enabler. The U.S. military routinely deploys these vessels to contested maritime areas, leveraging freedom of navigation operations to deter adversaries while stirring up maritime disputes, enabling the U.S. military to swiftly install the capability to intervene and establish dominance when there is a shift in the maritime operational environment, or to address maritime crises.

2. Analysis of the U.S. Military's Sea Base Support Capabilities

2.1 Quick Reaction Capabilities within Operational Time Constraints

The most distinctive features of amphibious landing operations are rapid pacing and high intensity, which necessitates equipment and logistics support to be conducted under emergency conditions. In particular, this gives equipment support departments little time to prepare, making their work extremely urgent. The deployment of the U.S. military's mobile landing platforms and

[7] **Translator’s Note:** Author cited numbers do not appear to match publicly available information from official USN Sources

[8] **Translator’s Note:** Author has conflated delivery, keel, launch dates

expeditionary mobile base vessels has significantly enhanced the operational self-sufficiency of forward task forces and reduced their reliance on fixed military facilities overseas. In combat operations, the U.S. military pre-positions sea bases near the area of operations to ensure it can provide rapid logistics support to any position within the operational area, thereby maintaining the initiative within the battlespace.

2.2 Precision Support Capabilities to Meet Mission Requirements

During cross-sea landing operations, there is often no obvious distinction between phases, and the entire offensive operation is short and intense. This results in extremely high support requirements per unit of time, making it highly difficult to effectively manage the volume and timing of equipment support. The most prominent feature of the mobile landing platform and the expeditionary mobile base vessels is their ability to leverage modular logistics handling and forward deployment to ensure timely and accurate identification and delivery of supplies during operations. This logistics capability is unmatched by land-based logistics and significantly accelerates the pace and efficiency of operations.

2.3 Forward Pre-Positioning Capabilities within Operational Space

The U.S. military's seabasing concept initially took the form of “maritime pre-positioning task forces,” which involved deploying integrated surface action task forces ahead of operations to pre-position supply capabilities. The introduction of the expeditionary mobile base vessels allows the integration of the offensive and defensive capabilities as well as the logistics capabilities of the traditional maritime prepositioning task force into a combined sea base. This combined sea base further reduces operational reliance on forward land bases and significantly enhances operational flexibility, enabling the task force to maximize forward deployment capabilities to any global maritime area. This capability is a critical enabler for timely intervention in regional military operations.

2.4 Sustained Supply throughout the Mission

Cross-sea landing operations are non-stop, high-intensity operations from initial assault to securing the beachhead. Every operational sequence is subject to enemy disruptions and attacks. This reality requires our military's wartime equipment to be continuously supported and may even require around-the-clock support capabilities, to sustain operations in rapidly evolving operational environments. Presently, design concepts for mobile landing platforms and expeditionary mobile base vessels are already quite mature, and their construction costs are relatively low. These platforms can basically provide comprehensive equipment support for landing force operations, making them highly suitable platforms for sustainment in such operations.

3. Implications for Improving Our Military’s Equipment Support for Cross-Sea Landing Operations

3.1 Strengthening Analysis (论证) of Mission Requirements

In developing a seabasing construct tailored to the characteristics of our military, the fundamental concern is addressing the practical considerations for equipment support for future

amphibious landing operations, and mission requirements must guide the development of all aspects of sea base implementation and application. Special emphasis should be placed on

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model standardization, thorough analyses of implementation scale, functional design, and operational scenarios, and ensuring comprehensive validation throughout verification, selection, design, construction to final delivery and application. This will ultimately ensure that the delivered products meet all possible tasks and requirements needed to conduct equipment support for cross-sea landing operations.

3.2 Precision Modularization Capabilities

The development of our military's seabasing can adopt a flexible modular and combinatorial approach, including modular and combinatorial construction. For example, during sea base establishment, modules can be installed or dismantled according to different operational phasing and tasking. For example, a field hospital module can be installed to allow the sea base to function as a maritime hospital ship; when a maintenance module is installed, it can serve as a maritime repair ship; and when a transport module is installed, it can function as a maritime transport and deployment platform. This modular combinatorial approach can maximally adapt to the high-intensity equipment support requirements of cross-sea landing operations.

3.3 Pre-Positioning and Accompanying Support

Seabasing can maximally address the problem of accompanying support (伴随保障) during cross-sea landing operations. During the pre-combat preparations, a sea base can be deployed as close as possible to the area of operations to achieve advance stockpiling of equipment and supplies; after combat operations commence, a sea base can provide close-range logistical support to landing forces; following a successful landing, a sea base can function as the first echelon to expand operational gains and continue providing logistical support along the line of operations, providing timely and effective support for the subsequent force advancement and the consolidation of operational gains, thereby providing the fastest possible equipment and materiel support to operations.

3.4 Focus on Defense to Reduce Losses

When establishing a sea base, our military must also prioritize the issue of the base's defensive capabilities. By leveraging the sea base’s inherent advantages of available deck space and abundant equipment, a maritime defense command center can be established aboard. This command center would not only provide defensive support for the sea base itself but could also serve as the defense command headquarters for the entire landing force, enhancing the base's safety margin, improving sustained support capabilities, and assuring continuous combat operations by the landing force. Additionally, the sea base can extensively employ new technologies, new materials, and decoys to deceive the enemy and protect itself; it can transition from static to mobile operations to enhance maneuverability, evade attacks, effectively disperse enemy fires, and minimize losses to our own forces.

4. Conclusion

The development of seabasing is a crucial pathway toward enhancing our military’s equipment support capabilities for cross-sea landing operations. In the future, our military can draw on the basic theoretical frameworks and practical experiences of the U.S. military's seabasing concept, while aligning with the actual maritime operational requirements of our military activities. The focus should be on reducing reliance on land-based equipment support and improving the efficiency of equipment support, building sea bases that align with our military’s unique characteristics and operational needs.