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Navy Medium Landing Ship (LSM) Program: Background and Issues for Congress

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SUMMARY

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Ronald O'Rourke
Specialist in Naval Affairs

Navy Medium Landing Ship (LSM) Program: Background and Issues for Congress

The Navy's Medium Landing Ship (LSM) program, previously called the Light Amphibious Warship (LAW) program, envisions procuring a class of 18 to 35 new amphibious ships to support the Marine Corps, particularly in implementing a new Marine Corps operational concept called Expeditionary Advanced Base Operations (EABO). The Navy's proposed FY2025 budget requested $268.1 million to procure the first ship in the program.

The EABO concept was developed with an eye toward potential conflict scenarios with China in the Western Pacific. Under the concept, the Marine Corps envisions, among other things, having reinforced-platoon-sized Marine Corps units maneuver around the theater, moving from island to island, to fire anti-ship cruise missiles (ASCMs) and perform other missions so as to contribute, alongside Navy and other U.S. military forces, to U.S. operations to counter and deny sea control to Chinese forces. The LSMs would be instrumental to these operations, with LSMs embarking, transporting, landing, and subsequently reembarking these small Marine Corps units.

LSMs would be much smaller and individually much less expensive to procure and operate than the Navy's current amphibious ships. Under the Navy's FY2025 budget submission, the first LSM would be procured in FY2025 at a cost of $268.1 million, the second LSM would be procured in FY2026 at a cost of $200.0 million, the third and fourth LSMs would be procured in FY2027 at a combined cost of $349.5 million (i.e., an average cost of about $174.7 million each), the fifth and sixth LSMs would be procured in FY2028 at a combined cost of $305.1 million (i.e., an average of about $152.5 million each), and the seventh and eighth LSMs would be procured in FY2029 at a combined cost of $311.5 million (i.e., an average of about $155.7 million each). The first LSM would cost more than subsequent ships in the program because the procurement cost of the first LSM would include much or all of the detailed design/nonrecurring engineering (DD/NRE) costs for the class. (It is a traditional Navy budgeting practice to include much of all of the DD/NRE costs for a class of ship in the procurement cost of the lead ship in the class.)

The LSM as outlined by the Navy could be built by any of several U.S. shipyards. The Navy's baseline preference is to have a single shipyard build all the ships, but the Navy is open to having them built in multiple yards to the same design if doing so could permit the program to be implemented more quickly and/or less expensively. The Navy's FY2025 budget submission states that the contract for the construction of the first LSM would be awarded in March 2025, and that the ship would be delivered in February 2029.

On April 7, 2025, the Navy issued a presolicitation notice for Bollinger Shipyards to build the first LSM using a nondevelopmental Israeli Logistics Support Vessel (ILSV) design. The Navy issued the notice using the authority granted in Section 128 of the FY2025 National Defense Authorization Act (NDAA) (H.R. 5009/P.L. 118-159 of December 23, 2024). On April 8, 2025, the Navy issued a presolicitation notice for the procurement of the technical data package and associated rights for the Landing Ship Transport 100 (LST-100) design from the Dutch shipbuilder Damen Naval.

The LSM program poses a number of potential oversight matters for Congress. The issue for Congress is whether to approve, reject, or modify the Navy's annual funding requests and envisioned acquisition strategy for the program. Congress's decisions regarding the program could affect Navy and Marine Corps capabilities and funding requirements and the U.S. shipbuilding industrial base.

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Introduction

This report provides background information and issues for Congress on the Navy's Medium Landing Ship (LSM) program, previously called the Light Amphibious Warship (LAW) program. The LSM program envisions procuring a class of 18 to 35 new amphibious ships to support the Marine Corps, particularly in implementing a new Marine Corps operational concept called Expeditionary Advanced Base Operations (EABO). The Navy's proposed FY2025 budget requested $268.1 million to procure the first ship in the program.

The LSM program poses a number of potential oversight matters for Congress. The issue for Congress is whether to approve, reject, or modify the Navy's annual funding requests and envisioned acquisition strategy for the program. Congress's decisions regarding the program could affect Navy and Marine Corps capabilities and funding requirements and the U.S. shipbuilding industrial base.

A separate CRS report discusses the Navy's programs for building much-larger LPD-17 Flight II and LHA-class amphibious ships.[1] Other CRS reports provide an overview of Navy force structure and shipbuilding plans[2] and the Marine Corps' overall plan for redesigning its units and equipment to meet future mission demands, called Force Design (previously called Force Design 2030),[3] of which the LSM program is a part.[4]

Background

U.S. Navy Amphibious Ships

Roles and Missions

Navy amphibious ships are operated by the Navy, with crews consisting of Navy personnel. They are battle force ships, meaning ships that count toward the quoted size of the Navy. The primary function of Navy amphibious ships is to lift (i.e., transport) embarked U.S. Marines and their weapons, equipment, and supplies to distant operating areas, and enable Marines to conduct expeditionary operations ashore in those areas. Although amphibious ships can be used to support Marine landings against opposing military forces, they are also used for operations in permissive or benign situations where there are no opposing forces. Due to their large storage spaces and their ability to use helicopters and landing craft to transfer people, equipment, and supplies from

[1] CRS Report R43543, *Navy LPD-17 Flight II and LHA Amphibious Ship Programs: Background and Issues for Congress*, by Ronald O'Rourke.

[2] CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

[3] See, for example, Irene Loewenson, "Marine Leaders Drop '2030' from Name of Ambitious Overhaul Plan," *Marine Corps Times*, February 1, 2024.

[4] CRS Insight IN11281, *New U.S. Marine Corps Force Design Initiative: Force Design 2030*, by Andrew Feickert.

ship to shore without need for port facilities,[5] amphibious ships are potentially useful for a range of combat and noncombat operations.[6]

On any given day, some of the Navy's amphibious ships, like some of the Navy's other ships, are forward-deployed to various overseas operating areas. Amphibious ships typically are forward-deployed in multiship formations called amphibious groups (ARGs). Amphibious ships are also sometimes forward-deployed on an individual basis, particularly for conducting peacetime engagement activities with foreign countries or for responding to smaller-scale or noncombat contingencies.

Current Types of Amphibious Ships

The Navy's current amphibious-ship force consists entirely of large amphibious ships, including the so-called "big-deck" amphibious assault ships, designated LHA and LHD, which look like medium-sized aircraft carriers, and the smaller (but still quite sizeable) amphibious ships, designated LPD or LSD, which are sometimes called "small-deck" amphibious ships.[7] As mentioned earlier, a separate CRS report discusses the Navy's current programs for procuring new LHA- and LPD-type ships.[8] The LSMs discussed in this CRS report would be much smaller than the Navy's current amphibious ships.

Amphibious Ship Force-Level Goal Under Navy's 381-Ship Plan

The Navy's Battle Force Ship Assessment and Requirement (BFSAR) study, which was provided to the congressional defense committees in June 2023, calls for achieving a future fleet of 381 manned battle force ships, including 31 larger amphibious ships (i.e., LHAs, LHDs, LPDs, and LSDs) and 18 LSMs.[9] A Navy table outlining the 381-ship goal, however, includes a table note stating: "The [Department of the Navy's] 2022 Amphibious Force Requirements Study determined an initial capacity goal of 18 LSM[s], with a total requirements [sic] of 35."[10]

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[5] Amphibious ships have berthing spaces for Marines; storage space for their wheeled vehicles, their other combat equipment, and their supplies; flight decks and hangar decks for their helicopters and vertical take-off and landing (VTOL) fixed-wing aircraft; and in many cases well decks for storing and launching their landing craft. (A well deck is a large, garage-like space in the stern of the ship. It can be flooded with water so that landing craft can leave or return to the ship. Access to the well deck is protected by a large stern gate that is somewhat like a garage door.)

[6] Amphibious ships and their embarked Marine forces can be used for launching and conducting humanitarian-assistance and disaster-response (HA/DR) operations; peacetime engagement and partnership-building activities, such as exercises; other nation-building operations, such as reconstruction operations; operations to train, advise, and assist foreign military forces; peace-enforcement operations; noncombatant evacuation operations (NEOs); maritime-security operations, such as anti-piracy operations; smaller-scale strike and counter-terrorism operations; and larger-scale ground combat operations. Amphibious ships and their embarked Marine forces can also be used for maintaining forward-deployed naval presence for purposes of deterrence, reassurance, and maintaining regional stability.

[7] U.S. Navy amphibious ships have designations starting with the letter L, as in amphibious *landing*. LHA can be translated as landing ship, helicopter-capable, assault; LHD can be translated as landing ship, helicopter-capable, well deck; LPD can be translated as landing ship, helicopter platform, well deck; and LSD can be translated as landing ship, well deck. Whether noted in the designation or not, almost all these ships have well decks. The exceptions are LHAs 6 and 7, which do not have well decks and instead have expanded aviation support capabilities. For an explanation of well decks, see footnote 5. The terms "large-deck" and "small-deck" refer to the size of the ship's flight deck.

[8] CRS Report R43543, *Navy LPD-17 Flight II and LHA Amphibious Ship Programs: Background and Issues for Congress*, by Ronald O'Rourke.

[9] U.S. Navy, *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2025*, March 2024, p. 4 (Table 1).

[10] U.S. Navy, *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2025*, March 2024, p. 4 (Table 1, note 5).

Increasing the LSM total from 18 to 35 would change the Navy's overall force-level goal from 381 manned battle force ships to 398 manned battle force ships.

While the Biden Administration did not explicitly endorsed the Navy's 381-ship goal or any other force-level goal for the Navy, 10 U.S.C. 8062 requires the Navy to include not less than 31 larger amphibious ships.[11] The Marine Corps supports procuring a total of 35 LSMs and summarizes its preferred amphibious ship force-level goal as "31+35," meaning 31 larger amphibious ships and 35 LSMs. A total of 35 would include nine operational LSMs for each of three envisioned Marine Littoral Regiments (MLRs),[12] plus eight additional LSMs to account for factors such as a certain number of LSMs being in maintenance at any given moment.[13]

Medium Landing Ship (LSM) Program

Overview

As discussed above, the LSM program is to include 18 to 35 ships. LSMs would be much smaller and individually much less expensive to procure and operate than the Navy's current amphibious ships.

Program Name and Class Name

As noted earlier, the LSM program was previously called the Light Amphibious Warship (LAW) program.

On January 16, 2025, the Navy announced that the first ship in the envisioned class, LSM-1, would be named *McClung* in honor of Major Megan M. L. McClung, a Marine Corps Public Affairs Officer who was killed in action in Iraq in 2006.[14] McClung was the first female Marine officer to be killed in the Iraq war and the first female graduate of the U.S. Naval Academy to be killed in the line of duty. Ships in the class will henceforth be referred to as McClung-class ships. The Navy's announcement about the naming of LSM-1 did not state a naming rule for the class.

Procurement Schedule

The Navy wants to procure the first LSM in FY2025, the second in FY2026, the third and fourth in FY2027, the fifth and sixth LSMs in FY2028, the seventh and eighth in FY2029, and at least 10 more in fiscal years beyond FY2029. On May 17, 2023, the Navy released a Request for Information (RFI) regarding the LSM program asking interested firms to reply to the following questions, among others:

> Do you have the resources and production capacity available to be awarded four (4) [LSM] ships per fiscal year?... If so, how can your shipyard support production of 4 [LSM] hulls per year?... If not, what is the maximum number of [LSM] ships that can begin production

[11] For more on the Navy's 381-ship goal, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke. For a review of earlier amphibious ship force structure requirements, see Appendix A of archived CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

[12] For more on the MLRs, see CRS In Focus IF12200, *The U.S. Marine Corps Marine Littoral Regiment (MLR)*, by Andrew Feickert, The U.S. Marine Corps Marine Littoral Regiment (MLR), by Andrew Feickert.

[13] See, for example, U.S. Marine Corps, *Force Design 2030 Annual Update*, June 23, p. 9.

[14] U.S. Navy, "SECNAV Del Toro Names Future Medium Landing Ship LSM 1," Navy news article dated January 16, 2025.

> each year?... If not, are there investment or shipyard improvements that can be done to enable increasing production capacity to 4 [LSM] hulls per year?[15]

The Navy's FY2025 budget submission states that the contract for the construction of the first LSM would be awarded in March 2025, and that the ship would be delivered in February 2029.

Procurement Cost

Under the Navy's FY2025 budget submission, the first LSM would be procured in FY2025 at a cost of $268.1 million, the second LSM would be procured in FY2026 at a cost of $200.0 million, the third and fourth LSMs would be procured in FY2027 at a combined cost of $349.5 million (i.e., an average cost of about $174.7 million each), the fifth and sixth LSMs would be procured in FY2028 at a combined cost of $305.1 million (i.e., an average of about $152.5 million each), and the seventh and eighth LSMs would be procured in FY2029 at a combined cost of $311.5 million (i.e., an average of about $155.7 million each). The first LSM would cost more than subsequent ships in the program because the procurement cost of the first LSM would include much or all of the detailed design/nonrecurring engineering (DD/NRE) costs for the class. (It is a traditional Navy budgeting practice to include much of all of the DD/NRE costs for a class of ship in the procurement cost of the lead ship in the class.)

By way of comparison, the Navy's most recently procured LHA-type amphibious ship has an estimated unit procurement cost in the Navy's FY2025 budget submission of about $3.8 billion, and LPD-17 Flight II amphibious ships have unit procurement costs of about $2.0 billion.

Operational Rationale, Including EABO

To improve their ability to perform various missions in coming years, including a potential mission of countering Chinese forces in a possible conflict in the Western Pacific, the Navy and Marine Corps want to implement a new operational concept called Distributed Maritime Operations (DMO).[16] DMO calls for U.S. naval forces (meaning the Navy and Marine Corps)[17] to operate at sea in a less concentrated, more distributed manner, so as to complicate an adversary's task of detecting, identifying, tracking, and targeting U.S. naval forces, while still being able to bring lethal force to bear against adversary forces.

In parallel with DMO, and with an eye toward potential conflict scenarios in the Western Pacific against Chinese forces, the Marine Corps has developed two supporting operational concepts, called Littoral Operations in a Contested Environment (LOCE) and Expeditionary Advanced Base Operations (EABO). Under the EABO concept, the Marine Corps envisions, among other

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[15] Naval Sea Systems Command (NAVSEA), *Medium Landing Ship (LSM) Request for Information (RFI)*, undated, attached to "Medium Landing Ship (LSM) Detail Design and Construction (DD&C) Request for Information (RFI)," SAM.gov, May 17, 2023, posted at https://sam.gov/opp/20cdcdcb321b4f6e9571a3dc68e0b57c/view. See also Rich Abott, "Navy Seeks Info From Potential LSM Amphib Builders, Wants Four Annually," *Defense Daily*, May 23, 2023.

[16] For additional discussion, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke, and CRS Report RL33153, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*, by Ronald O'Rourke.

[17] Although the term *naval* is often used to refer specifically to the Navy, it more properly refers to both the Navy and Marine Corps, because both the Navy and Marine Corps are naval services. Even though the Marine Corps sometimes operates for extended periods as a land fighting force (as it has done in recent years, for example, in Afghanistan and Iraq), and is often thought of as the country's second land army, it nevertheless is, by law, a naval service. 10 U.S.C. §8001(a)(3) states, "The term 'member of the naval service' means a person appointed or enlisted in, or inducted or conscripted into, the Navy or the Marine Corps." DON officials sometimes refer to the two services as the Navy-Marine Corps team. For additional discussion, see CRS In Focus IF10484, *Defense Primer: Department of the Navy*, by Ronald O'Rourke.

things, having reinforced-platoon-sized Marine Corps units maneuver around the theater, moving from island to island, to fire anti-ship cruise missiles (ASCMs) and perform other missions so as to contribute, alongside Navy and other U.S. military forces, to U.S. operations to counter and deny sea control to Chinese forces.

More specifically, the Marine Corps states that the EABO concept includes, among other things, establishing and operating "multiple platoon-reinforced-size expeditionary advance base sites that can host and enable a variety of missions such as long-range anti-ship fires, forward arming and refueling of aircraft, intelligence, surveillance, and reconnaissance of key maritime terrain, and air-defense and early warning,"[18] The use of Marine Corps units to contribute to U.S. sea-denial operations against an opposing navy by shooting ASCMs would represent a new mission for the Marine Corps.[19]

LSMs would be instrumental to these operations, with LSMs embarking, transporting, landing, and subsequently reembarking these small Marine Corps units. An August 27, 2020, press report states, "Maj. Gen. Tracy King, the director of expeditionary warfare on the chief of naval operations' staff (OPNAV N95), said today that LAW was perhaps the most important investment the Marine Corps was making to optimize itself for expeditionary advance base operations (EABO)."[20] A February 2021 Marine Corps tentative manual on EABO states

> Littoral maneuver will rely heavily on surface platforms such as the light amphibious warship (LAW) and a range of surface connectors, as well as aviation assets. The LAW is envisioned as the principal littoral maneuver vessel of the littoral force.…
>
> The LAW supports the day-to-day maneuver of stand-in forces operating in the LOA [littoral operations area]. It complements L-class amphibious ships[21] and other surface connectors. Utilizing the LAW to transport forces of the surface reduces the impacts of tactical vehicles on the road network, increases deception, and allows for the sustainment of forces during embarkation. The range, endurance, and austere access of LAWs enable the littoral force to deliver personnel, equipment, and sustainment across a widely distributed area. Shallow draft and beaching capability are keys to providing the volume and agility to maneuver the required capabilities to key maritime terrain.

[18] Emailed statement from Marine Corps as quoted in Shawn Snow, "New Marine Littoral Regiment, Designed to Fight in Contested Maritime Environment, Coming to Hawaii," *Marine Times*, May 14, 2020. See also David H. Berger, "Preparing for the Future, Marine Corps Support to Joint Operations in Contested Littorals," *Military Review*, April 2021, 8 pp.

[19] For press articles discussing these envisioned operations, see, for example, Jeff Schogol, "Inside the US Military's Modern 'Island Hopping' Campaign to Take on China," *Task and Purpose*, June 16, 2022; Justin Katz, "Marines' New Warfighting Concept Focuses on Small, Agile Forces with an Eye on China," *Breaking Defense*, December 1, 2021; Bill Gertz, "Marine Commandant Reveals New Mission Preparing for China Conflict," *Washington Times*, April 21, 2021; Megan Eckstein, "CMC Berger Outlines How Marines Could Fight Submarines in the Future," *USNI News*, December 8, 2020; David Axe, "Meet Your New Island-Hopping, Missile-Slinging U.S. Marine Corps," *Forbes*, May 14, 2020; Shawn Snow, "New Marine Littoral Regiment, Designed to Fight in Contested Maritime Environment, Coming to Hawaii," *Marine Times*, May 14, 2020; William Cole (Honolulu Star-Advertiser), "The Marine Corps Is Forming a First-of-its-Kind Regiment in Hawaii," *Military.com*, May 12, 2020; Joseph Trevithick, "Marines To Radically Remodel Force, Cutting Tanks, Howitzers In Favor Of Drones, Missiles," *The Drive*, March 23, 2020; Chris "Ox" Harmer, "Marine Boss's Audacious Plan To Transform The Corps By Giving Up Big Amphibious Ships," *The Drive*, September 5, 2019.

[20] Megan Eckstein, "Marines Already In Industry Studies for Light Amphibious Warship, In Bid to Field Them ASAP," *USNI News*, August 27 (updated August 28), 2020. See also Paul McLeary, "'If It Floats, It Fights:' Navy's New Small Ship Strategy," *Breaking Defense*, August 28, 2020.

[21] The term *L-class amphibious ships* refers to the Navy's LHA/LHD- and LPD-type amphibious ships, whose designation begins with the letter L in reference to amphibious *landing*.

> LAW employment requires reconnaissance and prior planning relating to the bathymetry of the littoral environment. Effective LAW employment relies on knowledge of the beach makeup, slope, currents, tidal effects, and other environment factors.
>
> As envisioned and when properly postured, LAWs possess the range, endurance, speed, sea-keeping, and C4ISR capabilities to support and conduct complementary operations with, but not as part of, US Navy tactical groups, including an expeditionary strike group (ESG) or amphibious ready group (ARG). Forward-positioned LAWs may augment the capabilities of deploying ARG/MEUs during regional engagement and response to crises or contingencies.
>
> The LAW with embarked forces, generates and/or enables the following effects:
>
> - Rapidly maneuver forces from shore-to-shore in a contested environment
> - Sustain a combat-credible force ashore
> - Conduct enduring operations
> - Enable persistent joint-force operations and power projection
> - Provide increased and capable forward presence[22]

The survivability of LSMs would come from their ability to hide among islands and other sea traffic, from defensive support they would receive from other U.S. Navy forces, and from the ability of their associated Marine Corps units to fire missiles at Chinese ships and aircraft that could attack them with their own missiles (which can be viewed as an application of the notion that the best defense is a good offense).

As a key platform for implementing EABO, the LSM program forms a part of Force Design, the Marine Corps' overall plan for plan for redesigning its units and equipment to meet future mission demands.[23]

Ship Design

Envisaged Design Features

The Navy and Marine Corps want LSMs to be relatively simple and relatively inexpensive ships with the following design features:

- a length of 200 to 400 feet;
- a draft of 12 feet;
- a crew of about 70 sailors;
- a capacity for carrying 50 Marines and 648 short tons (about 579 long tons) of equipment;
- 8,000 square feet of deck cargo space;
- a transit speed of 14 knots and a cruising range of 3,500 nautical miles;
- a roll-on/roll-off beaching capability for beaches with a 1:40 grade;[24]
- a helicopter landing pad;

[22] Department of the Navy, Headquarters, U.S. Marine Corps, *Tentative Manual for Expeditionary Advanced Base Operations*, February 2021, pp. 7-9 to 7-10.

[23] For more on Force Design, see CRS Insight IN11281, *New U.S. Marine Corps Force Design Initiative: Force Design 2030*, by Andrew Feickert.

[24] A 1:40 grade means the surface of the beach rises 1 foot higher for every 40 feet closer that the ship gets to the shore.

- two 30 mm guns and six .50-caliber guns for self-defense; and
- a 20-year service life.[25]

A ship fitting the requirements listed above would be only a fraction as large as the Navy's current amphibious ships. The Navy's LHA/LHD-type ships are 844 to 855 feet long and have a full load displacements between 40,000 and 45,000 tons, while its and LPD-17 class ships are 684 feet long and have a full load displacement of 24,900 tons. Given the design features listed above, an LSM might have a displacement of up to 4,000 tons, which would be about 1/10th or 1/11th the displacement of an LHA/LHD-type ship, and about 1/6th the displacement of an LPD-17 class ships.

The above-listed draft of 12 feet is intended to permit the ship to transit shallow waters on its way to and from landing beaches. The above-listed transit speed of about 14 knots would be less than the approximate 22-knot maximum sustained speed of larger U.S. Navy amphibious ships, but would be a relatively fuel-efficient speed for moving ships through water,[26] which would permit the ship to be equipped with a less powerful and consequently less expensive propulsion plant. The above-listed 20-year expected service life is less than the 30- to 45-year expected service lives of larger U.S. Navy amphibious ships—a difference that could reduce the LSM's construction cost for a ship of its type and size—and closer to the 25-year expected service life of the Navy's Littoral Combat Ships (LCSs).[27]

The Navy and Marine Corps reportedly discussed and debated some of LSM's design features, with a key issue being the amount of combat survivability to be incorporated into the LSM's design, and the impact this would have on the LSM's unit procurement cost.[28]

Navy Notional LSM Design Concept

Figure 1 and **Figure 2** show a Navy notional LSM design concept. The LSM design eventually selected for procurement could differ from this notional concept.

Potential Builders

The LSM as outlined by the Navy could be built by any of several U.S. shipyards.

[25] Source: Navy brochure on the LSM released at an August 31, 2023, LSM industry day meeting, posted at *Inside Defense* on September 11, 2023, and reprinted in Sam LaGrone, "Draft Proposal for 'Affordable' Medium Landing Ship Out to Shipbuilders," *USNI News*, October 16, 2023. See also Nick Wilson, "Navy to Open LSM Competition within Calendar Year 2023," *Inside Defense*, September 11, 2023.

[26] Due to the density of water, fuel consumption for moving monohull ships through the water tends to increase steeply for speeds above 14 to 16 knots.

[27] For more on the LCS program, see CRS Report RL33741, *Navy Littoral Combat Ship (LCS) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[28] See, for example, Megan Eckstein, "Landing Ship Medium Requirements in Final Approvals with Navy, Marines," *Defense News*, April 4, 2023; Jennifer Hlad, "Leased Ship Will Shape USMC Amphib Requirements," *Defense One*, February 28, 2023; Mallory Shelbourne, "Marines to Test Prototype Landing Ship to Support New Force Design," *USNI News*, February 27 (updated March 1), 2023; Rich Abott, "Navy And Marine Corps Compromised On Medium Amphibs Requirements And Will Go Into Contested Environments, Officials Say," *Defense Daily*, February 24, 2023; Jennifer Hlad and Lauren C. Williams, "Marines to Begin Testing Leased Vessel for Pier-less Operations," *Defense One*, February 22, 2023; Rich Abott, "Marine Official Dismisses Medium Amphib Survivability Concerns," *Defense Daily*, February 17, 2023 Megan Eckstein, "Marines, Navy Near Agreement on Light Amphibious Warship Features," *Navy Times*, October 5, 2022; Mallory Shelbourne, "Marine Corps, Navy Remain Split Over Design, Number of Future Light Amphibious Warship, Divide Risks Stalling Program," *USNI News*, September 14 (updated September 15), 2022.

Figure 1. Navy Notional LSM Design Concept

Computer rendering

Source: Cropped version of screenshot at 5:08 from "Marine Corps Ship Requirements | Does the Marine Corps Have Ships?" Video posted by Combat Development & Integration on February 14, 2023, at https://www.youtube.com/watch?v=adlIHQqLU-c.

Acquisition Strategy

Overview

The Navy's baseline preference is to have a single shipyard build all the ships in the LSM program, but the Navy is open to having LSMs built in multiple yards to the same design if doing so could permit the program to be implemented more quickly and/or less expensively.[29] As noted

[29] The Q&A document from the Navy's April 9, 2020, industry day on the LAW program (see footnote 25) states

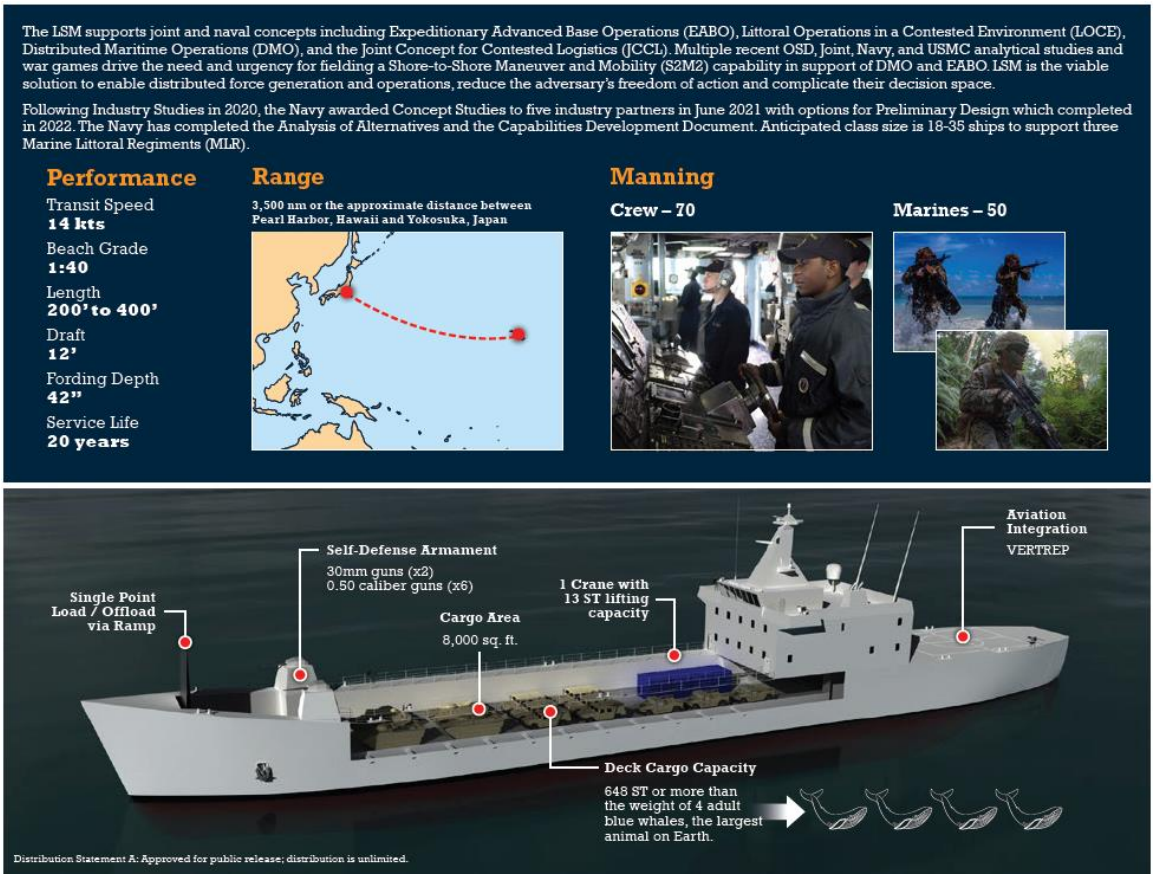
> Q [from industry]: Once [the industry] studies are done, what is the likelihood of [the Navy making] multiple [contract] awards [for the next stage]?
>
> A [from Navy]: When the [industry] studies are done, there will be multiple [contract] awards for preliminary design [work]. Then [the Navy will] down select for a [preferred] prototype. [There is] No plan for [building the ships at] multiple [ship]yards and [building them to multiple] designs like [the] LCS [Littoral Combat Ship program]. It's too hard of a logistics tail [to provide lifecycle support for ships built to multiple designs]. But options are open if it is cheaper/faster.
>
> Q [from industry]: Do you envision something similar to LCS variance [sic: variants]? Multiple

(continued...)

earlier, the Navy's FY2025 budget submission states that the contract for the construction of the first LSM would be awarded in March 2025.

Figure 2. Navy Notional LSM Design Concept

Cutaway computer rendering



Source: Navy brochure on the LSM released at an August 31, 2023, LSM industry day meeting, posted at *Inside Defense* on September 11, 2023, and reprinted in Sam LaGrone, "Draft Proposal for 'Affordable' Medium Landing Ship Out to Shipbuilders," USNI News, October 16, 2023.

Reported July 2020 Contract Awards

An October 6, 2020, press report stated that the Navy in July 2020 awarded contracts for LSM concept design studies to 15 firms, with the studies due in November 2020. According to the press report, the 15 companies awarded contracts included Austal USE, BMT Designers, Bollinger Shipyards, Crescere Marine Engineering, Damen, Hyak Marine, Independent Maritime Assessment Associates, Nichols Brothers Boat Builders, Sea Transport, Serco, St John Shipbuilding, Swiftships, Technology Associates, Thoma-Sea, and VT Halter Marine. The studies

yards and designs?

A [from Navy]: No, it involves too much logistics and O&S [operation and support costs]. This drives overall costs initially [i.e., locks higher life-cycle support costs into the program from the outset of the program] and we're not trying to go down that path. As we've said before, if studies tell us we are wrong, if it's affordable and fields faster, then we won't ignore it. The data and cost drivers will help us decide. The Government wants to field [the ships] as rapidly as possible, and we believe that using multiple yards is not the best and most affordable path.

reportedly were intended to help inform concepts of operation, technical risk, and cost estimates for the LSM program, in support of a planned lead-ship contract award in FY2022.

An August 27, 2020, press report states

> The Navy and Marine Corps' new Light Amphibious Warship program is already in industry studies, with the service pushing ahead as quickly as possible in an acknowledgement that they're already behind in their transformation of the force.
>
> Maj. Gen. Tracy King, the director of expeditionary warfare on the chief of naval operations' staff (OPNAV N95), said today that LAW was perhaps the most important investment the Marine Corps was making to optimize itself for expeditionary advance base operations (EABO).
>
> "Having these LAWs out there as an extension of the fleet, under the watchful eye of our Navy, engaging with our partners and allies, building partner capacity, is what I think we need to be doing right now. I think we're late to need with building the Light Amphibious Warship, which is why we're trying to go so quickly," he said, saying that N95 was copying the surface warfare directorate's playbook from the frigate program, which moved quickly from requirements-development to design to getting under contract thanks to the use of mature technology and designs from industry.[30]

October 2020 Request for Information (RFI)

On October 16, 2020, the Navy released a request for information (RFI) to solicit industry input on draft versions of documents relating to an eventual solicitation for conducting design work on the ship.[31]

November 2020 Press Report About Concept Designs

A November 9, 2020, press report stated that, as part of its LSM industry studies, the Navy had received nine LSM concept designs from 16 design firms and shipyards, some of which have paired into teams. The report quoted a Navy official as stating that the following firms were participating in the industry studies: Austal USA, BMT Designers, Bollinger Shipyards, Crescere Marine Engineering, Damen, Hyak Marine, Independent Maritime Assessment Associates, Nichols Brothers Boat Builders, Sea Transport, Serco, St. John Shipbuilding, Swiftships, Technology Associates Inc., Thoma-Sea, VT Halter Marine and Fincantieri.[32] A November 19, 2020, press report stated that "about six industry teams are working with the sea services [i.e., the Navy and Marine Corps] after two industry days and industry studies over the summer.[33]

A January 11, 2021, press report stated

[30] Megan Eckstein, "Marines Already In Industry Studies for Light Amphibious Warship, In Bid to Field Them ASAP," *USNI News*, August 27 (updated August 28), 2020. See also Rich Abott, "Marine Corps In Industry Studies For Light Amphibious Warship, Trying To Move Quickly," *Defense Daily*, August 28, 2020.

[31] See "RFI: DRAFT US Navy Light Amphibious Warship Preliminary Design/Contract Design Statement of Work," Beta.sam.gov, accessed November 23, 2020, at https://beta.sam.gov/opp/c1c8a3900504442fa5ad3bac48cec001/view?index=opp. See also Rich Abott, "Navy Issues RFI For Light Amphibious Warship Preliminary Design," *Defense Daily*, October 19, 2020; Aidan Quigley, "Navy Solicits Light Amphibious Warship Preliminary Designs," *Inside Defense*, October 19, 2020.

[32] Aidan Quigley, "Nine Concept Designs Submitted for LAW Industry Studies," *Inside Def*ense, November 9, 2020.

[33] Megan Eckstein, "Navy Officials Reveal Details of New $100M Light Amphibious Warship Concept," *USNI News*, November 19, 2020.

> The Navy and Marine Corps are quickly seeking new ideas that allow Marines to support the Navy in sea control and other maritime missions, including the rapid acquisition of a light amphibious ship and a movement toward using Marine weapons while at sea.
>
> Maj. Gen. Tracy King, the director of expeditionary warfare on the chief of naval operations' staff (OPNAV N95), told USNI News during a Jan. 8 media call that the services are moving quickly to buy their first light amphibious warship (LAW) in Fiscal Year 2022, as outlined in the recent long-range shipbuilding plan.
>
> "We're moving out at flank speed; I got a chance to brief the CNO and the commandant recently, and they told me to maintain course and heading," he said during the media call ahead of the annual Surface Navy Association symposium.
>
> "We're going through the formal JCIDS (Joint Capabilities Integration and Development System) process right now. [Naval Sea Systems Command] has completed its second industry studies, and we're working on all those documents."
>
> For now, 10 or 11 industry teams remain involved in the NAVSEA competition, which recently held a second round of industry studies. NAVSEA is working with those teams to help iterate what King called "novel" designs, to ensure they were the right size and could achieve cost and performance requirements. Mid next year, he said, NAVSEA would downselect to three teams for full design, and then would downselect to just one to build the first LAW in late FY2022.
>
> "My suspicion is that we'll begin [research, development, test and evaluation] next year, and then we are aiming at lead ship construction in FY '22, it's going to be late in FY '22, but I still consider that pretty fast," King said.
>
> "We're just going to build one, get that out and start playing with it. We'll probably build one the next year because we've got to get the doctrine right. The [Marine Littoral Regiments] are going to start coming online at about the same time – first one's in Hawaii, we'll get it out there and let them play with it. And then we'll go into a build profile of, I don't know, probably four or five a year or something like that is what we're going to aim for."[34]

June 2021 Contract Awards

A June 17, 2021, press report states

> The Navy this week issued "concept design" contracts to five companies for the Light Amphibious Warship ahead of the Fiscal Year 2023 design selection, a service spokesman confirmed to USNI News.
>
> Fincantieri, Austal USA, VT Halter Marine, Bollinger and TAI Engineers were selected for the contracts, Naval Sea Systems Command spokesman Alan Baribeau said.
>
> "A Concept Studies (CS) contract has been awarded to five offerors with a follow-on option for Preliminary Design (PD)," Baribeau said in a statement. "The CS/PD efforts include engineering analyses, tradeoff studies, and development of engineering and design documentation defining concepts studies/preliminary designs."

[34] Megan Eckstein, "Marines, Navy Moving Quickly on Light Amphib, Anti-Ship Missiles to Create More Warfighting Options," *USNI News*, January 11, 2021. Material in brackets as in original. See also Rich Abott, "Kilby Outlines Factors Leading To Faster New Light Amphib Development," *Defense Daily*, February 5, 2021.

> The Navy did not disclose the amount of money each company received to perform the work, but Baribeau confirmed to USNI News that the total combined amount of the contracts was less than $7.5 million.[35]

A February 10, 2022, press report states

> Moving ahead, the services [i.e., the Navy and Marine Corps] expect a "full and open competition" once they issue the request for proposals for the detail[ed] design and construction phase, according to Tom Rivers, the executive director of the amphibious, auxiliary and sealift office within the Program Executive Office for Ships.
>
> After issuing five companies "concept design" contracts last year, those same five companies recently received options for the preliminary design phase, Rivers said. The companies working on the preliminary design are Fincantieri, Austal USA, VT Halter Marine, Bollinger and TAI Engineers.
>
> "So LAW—the initial thought process is based upon parent designs [i.e., existing ship designs from which the design for LAW could be derived] that are already out there in the world today to, again, to reduce our risks," Rivers said at the conference. "As new requirements are generated out of the Pentagon, we actually are sharing those with the shipyards so they can kind of see what we're thinking about how it evolves over time and then they can kind of build that into the—and they come back to us and say, 'hey here's the impact of that particular change on our configuration.' Either it's small or large and then we take that in consideration into the final requirements."
>
> This type of process is helping the Navy determine what it can do with the various parent designs, Rivers said.[36]

January 2024 Request for Proposals (RFP)

A January 10, 2024, press report stated

> The U.S. Navy is seeking proposals for its Landing Ship Medium program, which one Marine Corps leader called a top priority for the Navy-Marine amphibious team.
>
> The services are "on pace to procure in '25, deliver it in 2029," Maj. Gen. Marcus Annibale, the director of expeditionary warfare on the chief of naval operations' staff, said Wednesday [January 10] at the Surface Navy Association's annual conference.
>
> The Navy released the request for proposals [RFP] on Jan. 5. The contract would cover up to six vessels, according to the SAM.gov contracting website. Offers are due May 9[, 2024].[37]

December 2024 Press Report on Navy Decision to Pull RFP Due to Bid Costs Being Much Higher than Anticipated

In December 2024 it was reported that the Navy had cancelled its January 2024 RFP for the LSM program due to bid costs that were much higher than anticipated. A December 17, 2024, press report stated

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[35] Mallory Shelbourne, "Navy Awards 5 Companies Light Amphibious Warship 'Concept Design' Contracts," *USNI News*, June 17, 2021.

[36] Mallory Shelbourne and Sam LaGrone, "Navy, Marines Want the Light Amphibious Warship to Haul 75 Marines for $150M or Less," *USNI News*, February 10, 2022. See also Aidan Quigley, "Five Shipbuilders Emerge as Leading Light Amphibious Warship Contenders," *Inside Defense*, February 2, 2022.

[37] Megan Eckstein, "Navy Accepting Landing Ship Medium Proposals for FY25 Contract Award," *Defense News*, January 10, 2024.

> The development of a new landing ship key to the Marines Corps' island-hopping strategy in the Western Pacific is on hold due to Navy concerns over cost, USNI News has learned.
>
> After receiving bids from industry, the Navy canceled the request for proposals for the Landing Ship Medium, a beachable platform crucial to how the Marine Corps envisions itself operating in a conflict with China in the Indo-Pacific under its Force Design plans.
>
> "We had a bulletproof—or what we thought [was a bulletproof]—cost estimate, [one that was] pretty well wrung out design in terms of requirements, [and] independent cost estimates," Assistant Secretary of the Navy for research, development and acquisition Nickolas Guertin said at an American Society of Naval Engineers symposium last week.
>
> "We put it out for bid and it came back with a much higher price tag," he added. "We simply weren't able to pull it off. So we had to pull that solicitation back and drop back and punt."
>
> A Marine Corps spokesman acknowledged the difficulty in developing an affordable platform that can effectively shuttle Marines around islands and shorelines. For now, to quickly get the Marines a ship that can move them around the region, the Navy plans to buy a "non-developmental vessel" while it works on the requirements, Lt. Col. Eric Flanagan told USNI News last week.
>
> "The Marine Corps and Navy are currently working to create an acquisition way ahead for LSM Block I that includes a schedule, cost estimate, and detailed requirements," Flanagan said. "Affordability and delivery schedule are key factors in pursuing littoral maneuver in support of [stand-in forces]. As with all modernization efforts, our capabilities must be pursued within affordability constraints."[38]

January 2025 Request for Information (RFI) on Non-Developmental Landing Ship

On January 6, 2025, the Navy released a Request for Information (RFI) on a non-developmental landing ship. Responses to the RFI were due by February 7, 2025. The RFI states in part

> As part of this Request for Information (RFI) Naval Sea Systems Command (NAVSEA) is seeking to understand the commercial availability of a NON-DEVELOPMENTAL Landing Ship design and the current capacity of a shipyard in the United States to build one (if the responder is a shipyard).
>
> The definition of a Landing Ship is a vessel which can conduct shore to shore beaching operations and can offload/onload cargo directly to a beach.
>
> For the purpose of this RFI, the government seeks landing ship designs with a minimum cargo capacity of 300 short tons and less than 400 feet length overall.
>
> The government defines a non-developmental item (NDI) as a commercial product that requires only minor modifications to meet the requirements of a government agency or a product that was developed exclusively for governmental use:
>
> - A product previously developed by a government agency or military service
> - A product that is already in use by a government agency
> - A commercially available and demonstrated item

[38] Mallory Shelbourne, "Landing Ship Medium Program Stalled Over Price, Navy Cancels Industry RFP," *USNI News*, December 17 (updated December 18), 2024. See also Nick Wilson, "Navy Punting LSM Award Due to Pricier-than-Expected Bids," *Inside Defense*, December 11, 2024.

> The terms "commercial items" and "non-developmental items" are defined in Part 2 of the Federal Acquisition Regulation (FAR).
>
> For further clarification, in terms of this RFI a Non-Developmental Vessel is a ship design that is complete, i.e., past functional design and is under contract to be built or has been built previously.[39]

April 7, 2025, Presolicitation Notice for Construction of LSM Using Israeli Logistics Support Vessel (ILSV) Design

On April 7, 2025, the Navy issued a presolicitation notice for Bollinger Shipyards to build the first LSM using a nondevelopmental Israeli Logistics Support Vessel (ILSV) design. The Navy issued the notice using the authority granted in Section 128 of the FY2025 National Defense Authorization Act (NDAA) (H.R. 5009/P.L. 118-159 of December 23, 2024).[40] The notice states:

> The Naval Sea Systems Command intends to issue Solicitation N00024-25-R-2415 to Bollinger Shipyards Lockport, L.L.C. (Bollinger), 8365 Highway 308 S, Lockport, LA 70374 for the construction of the LSM Block 1 lead ship using Bollinger's commercial/non-developmental ILSV design. The Government intends to solicit and negotiate the proposed contract action with Bollinger under the authority of 10 U.S.C. § 3204(a)(5) as implemented in Federal Acquisition Regulation (FAR) 6.302-5. Per FAR 6.302-5(a)(2)(i), which states "full and open competition need not be provided for when [a] statute expressly authorizes or requires that the acquisition be made through another agency or from a specified source." Section 128 of the National Defense Authorization Act of 2025 authorizes the Navy to exempt the contract for the lead ship of the LSM program from full an open competition if such ship is a commercial or non-developmental item. All parties interested in subcontracting opportunities should contact Bollinger directly.[41]

An April 17, 2025, press report about the notice states:

> The Navy wants a Louisiana shipyard to build the first hull for the Landing Ship Medium program as part of a plan to find an off-the-shelf design to support the Marine Corps' new island-hopping regiments, a Navy official told USNI News. The Navy also wants the data rights for a Dutch tank landing ship used by international navies.
>
> On April 7, Naval Sea Systems Command issued a pre-solicitation to Bollinger Lockport Shipbuilding ahead of a sole-source award for a single hull based on the Israeli Logistics Support Vessel (ILSV) under a provision included in the Fiscal Year 2025 National Defense Authorization Act….
>
> Bollinger Mississippi Shipbuilding, originally VT Halter Marine, delivered two ILSVs for the Israeli Navy based on the U.S. Army's legacy 4,200-ton Frank S. Besson LSV design.

[39] "Non-Developmental Landing Ship Request for Information (RFI)," Sam.gov, January 6, 2025, accessed January 23, 2025, at https://sam.gov/opp/f6591692f9c64548ab3cafa1a922580d/view. See also Geoff Ziezulewicz, "Navy Now Seeking Commercial Ship Design To Propel Its Long-Delayed Medium Landing Ship Program Forward," *The War Zone*, January 15, 2025.

[40] Section 128 of H.R. 5009/P.L. 118-159 prohibits the Navy from entering into a contract or other agreement that includes a scope of work, including priced or unpriced options, for the construction, advance procurement, or long-lead material of the lead ship of the LSM program until the Navy certifies that basic and functional design with respect to the ship is complete, unless the ship is a commercial or nondevelopmental item, in which case the certification condition does not apply and the Navy may additionally exempt a contract or other agreement for the lead ship from the requirements of full and open competition under 10 U.S.C. 3201.

[41] "Construction of the Medium Landing Ship (LSM) Block 1 (Israeli Logistics Support Vessel (ILSV) Design)," SAM.gov, April 7, 2025, accessed April 21, 2025, at https://sam.gov/opp/8665608dc5704014b6861532e850eac7/view.

> Using the authority from the NDAA language, the Navy is moving out on a sole-source bid on the first hull, a Navy official told USNI News Thursday [April 17].[42]

April 8, 2025, Presolicitation Notice for Procurement of Dutch LST-100 Landing Ship Design

On April 8, 2025, the Navy issued a presolicitation notice for the procurement of the technical data package and associated rights for the Landing Ship Transport 100 (LST-100) design from the Dutch shipbuilder Damen Naval.[43] An April 17, 2025, article about the notice (the same article quoted in the previous section) states that

> [Acting Assistant Secretary of the Navy for Research, Development and Acquisition Brett] Seidle directed the Navy to secure the technical data package for the Dutch shipbuilder Damen's LST-100 tank landing ship, and NAVSEA issued the notice on April 8. The LST-100 is in wide use around the world and most recently selected for Australian Defense Force's Landing Craft Heavy and will be built by Austal in Western Australia, the ADF announced late last year.
>
> The LST-100 displaces about 4,000-tons with a range of more than 4,000 nautical miles with a top speed of about 15 knots.[44]

FY2025 Funding Request

The Navy's proposed FY2025 budget requested $268.1 million to procure the first ship in the program.

Issues for Congress

The LSM program poses a number of potential oversight matters for Congress, including those discussed briefly in the sections below.

Cost, Schedule, and Technical Risk

Accuracy of Unit Procurement Cost Estimate

One issue for Congress concerns the accuracy of the Navy's unit procurement cost estimate for the LSM. In considering this issue, points to consider include but are not necessarily limited to the following:

- The table in the Navy's FY2025 30-year (FY2035-FY2054) shipbuilding plan that presents requested and programmed funding for the procurement of Navy

[42] Sam LaGrone, "Navy Wants Bollinger to Build First Landing Ship Medium Hull, Seeks Data Package for Dutch Tank Landing Ship," *USNI News*, April 17, 2025.

[43] "Medium Landing Ship (LSM) Block 1 Design (LST-100)," SAM.gov, April 8, 2025, accessed April 21, 2025, at https://sam.gov/opp/3fb4f153ecc24365a2606c43c9142e37/view.

[44] Sam LaGrone, "Navy Wants Bollinger to Build First Landing Ship Medium Hull, Seeks Data Package for Dutch Tank Landing Ship," *USNI News*, April 17, 2025. See also Nick Wilson, "Navy Taps Dutch Shipbuilder Damen for Landing Ship Design amid Reevaluation of LSM Requirements," *Inside Defense*, April 8, 2025. Damen's fact sheet on the LST-100 design is posted at https://medialibrary.damen.com/m/ec144623765d250/original/product-sheet-landing-ship-transport-100.pdf. Another Damen design—the Damen Stan 4708 patrol vessel—served as the basis for the design of the Coast Guard's new Fast Response Cutters (FRCs). For more on the FRC program, see CRS Report R42567, *Coast Guard Cutter Procurement: Background and Issues for Congress*, by Ronald O'Rourke.

ships in FY2025-FY2029 includes a table note for two ship types, including the LSM, that states: "These future platforms are under development. As the platform and capabilities are further defined, the procurement costs will be refined."[45]

- The Navy's FY2025 budget submission shows the estimated average unit procurement cost of the 2nd through 8th ships in the program (i.e., the LSMs programmed for procurement in FY2026-FY2029) as about $166.6 million in then-year dollars, and the estimated average unit procurement cost of the 9th through 18th ships in the program (i.e., the LSMs to be procured in fiscal years after FY2029) as about $242.5 million in then-year dollars,[46] a figure that is about 46% higher, or as about $298.7 million in then-year dollars,[47] a figure that is about 79% higher. Some of the 46%-79% difference is due to the impact of inflation on the costs in then-year dollars of the LSMs to be procured in fiscal years after FY2029. The remaining part of the 46%-79% difference could be viewed as suggesting that the estimated costs of the 2nd through 8th ships might be too low and/or the estimated costs of the 9th through 18th ships might be too high.
- As detailed by the Congressional Budget Office (CBO)[48] and the Government Accountability Office (GAO),[49] lead ships in Navy shipbuilding programs in many cases have turned out to be more expensive to build than the Navy had estimated.
- An April 2024 CBO report estimates the average procurement cost for 18 LSMs as $340 million to $430 million per ship in constant (i.e., inflation-adjusted) FY2024 dollars, compared to the Navy's estimate for the first 8 LSMs of roughly $150 million per ship in constant FY2024 dollars. CBO's estimate is roughly 127% to 187% higher than the Navy's estimate.[50]
- As discussed earlier, in December 2024 it was reported that the Navy had cancelled its January 2024 RFP for the LSM program due to bid costs that were much higher than anticipated.

June 2024 GAO Report

A June 2024 GAO report—the 2024 edition of an annual GAO report assessing major DOD acquisition programs—stated the following about the LSM program:

Current Status

[45] U.S. Navy, *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2025*, March 2024, p. 16 (Table A1-1, note 5). The other class included in this note is the Navy's envisioned Light Replenishment Oiler (TAOL). For more on the TAOL program, see CRS In Focus IF11674, *Navy Light Replenishment Oiler (TAOL) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[46] *Department of Defense, Fiscal Year (FY) 2025 Budget Estimates, Navy, Justification Book Volume 1 of 1, Shipbuilding and Conversion, Navy*, March 2024, p. 329.

[47] *Department of Defense, Fiscal Year (FY) 2025 Budget Estimates, Navy, Justification Book Volume 2 of 5, Research, Development, Test & Evaluation, Navy, Budget Activity 4*, March 2024, p. 438.

[48] Congressional Budget Office, *An Analysis of the Navy's Fiscal Year 2024 Shipbuilding Plan*, October 23, p. 34 (Figure 10).

[49] Government Accountability Office, *Navy Shipbuilding[:] Past Performance Provides Valuable Lessons for Future Investments*, GAO-18-238SP, June 2018, p. 8.

[50] Congressional Budget Office, *Acquisition Costs of the Navy's Medium Landing Ship*, April 2024, p. 1.

The LSM program plans to award a detail design and construction contract in 2025, 2 years later than initially planned. MLRs became operational in 2023, so the ships are late to need. The Navy is developing a bridging strategy to use other ships for the MLRs until LSM achieves initial operational capability. The Navy has yet to determine the total cost of this bridging strategy but expects to spend approximately $304 million through 2029. LSM is at risk of additional delays—due to issues such as requirements instability—which could increase bridging costs. Navy and Marine Corps leadership reached initial agreement on LSM's key attributes in February 2023. The Navy approved these requirements in February 2024, but DOD leadership had yet to validate LSM's requirements as of March 2024. We previously found that leading companies focus on the minimum acceptable requirements and balance requirements with schedule to deliver useful capability more quickly.

The Navy is trying to leverage commercial ship designs for LSM, but existing commercial designs require significant modifications to meet LSM's requirements. For example, none of the commercial designs the Navy assessed provide needed cargo fuel capacity or meet beachability requirements—the ability to drive the ship on shore. Vulnerability and recoverability improvements are also needed to increase LSM's survivability. These modifications have significant bearing on LSM's costs, with per hull cost estimates varying by more than $115 million, depending on the modifications included.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. It provided technical comments, which we incorporated as appropriate. It stated that the Navy and Marine Corps have collaboratively finalized the best mix of industry-informed requirements to efficiently and affordably procure LSM. The program noted that it achieved Navy endorsement of requirements in October 2023 and system specification approval in November 2023, and released a detailed design and construction request for proposal in January 2024. It stated that it is on track for a fiscal year 2025 award to support fiscal year 2029 lead ship delivery, and is exploring alternate approaches to more rapidly procure LSMs.[51]

Analysis of Alternatives (AOA)

Another issue for Congress concerns the analysis of alternatives (AOA) for the LSM program. An AOA is a formal study that examines broad options for meeting a mission requirement, determines whether that requirement would be best met through the procurement of a new weapon system or platform (e.g., ship or aircraft), and if so, what the general features of that new weapon system or platform should be. A June 2023 GAO report assessing selected DOD weapon acquisition programs stated the following in its entry on the LSM program (which the GAO report refers to as the LAW program):

Current Status

Since our last review, the Navy delayed the detail design and construction contract award for LAW from fiscal year 2023 to fiscal year 2025. According to Navy officials, this change was due to ongoing efforts to engage with industry and refine program requirements, as well as delays in gaining approval of the program's analysis of alternatives (AOA)—a key document to help DOD and the Navy decide if a new ship class is needed. As of January 2023, the Office of the Secretary of Defense had yet to approve the AOA, which is at least a 19-month delay in the planned approval since our last review.

Although an approved AOA has yet to confirm the need for LAW, the program continues to work toward a detail design and construction contract award and is looking for

[51] Government Accountability Office, *Weapon Systems Annual Assessment[:] DOD Is Not Yet Well-Positioned to Field Systems with Speed*, GAO-24-106831, June 2024, p. 162.

opportunities to shorten LAW's development time. For example, the program plans to modify an existing parent ship design, instead of creating a new one, and has been assessing potential designs with five companies since 2021. The program also plans to seek approval to streamline its schedule by eliminating certain early acquisition oversight reviews. We previously found that eliminating such reviews can increase the risk that senior acquisition and warfighting leaders lack information needed for sound investment decisions.

Currently, several key program elements remain undefined. In particular, the Navy is still determining LAW's requirements. In alignment with leading principles for iterative development, the Navy is making changes to draft requirements based on industry feedback and ongoing AOA efforts. DOD has also yet to determine LAW's total procurement quantities. The Marine Corps suggested 35 ships, but the Navy proposed acquiring only 18. The Navy cannot estimate LAW's costs until it defines requirements and quantities.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. It stated that the Navy is following a deliberate requirements process to determine its needs for the LAW program. It noted that the Navy endorsed the AOA in March 2022 and is awaiting the sufficiency review by the Office of the Secretary of Defense. It added that it is incorporating the analysis results and feedback from the five industry preliminary designs into the upcoming Capabilities Development Document.[52]

Force Design and EABO Operational Concept

Another potential oversight issue for Congress concerns the merits of Force Design and the EABO operational concept that the LSM is intended to help implement. Debate on the merits of Force Design and the EABO concept has been vigorous and concerns issues such as

- whether Force Design and the EABO concept are focused too exclusively on potential conflict scenarios with China at the expense of other kinds of potential Marine Corps missions;
- the ability of Marine forces to gain access to the islands from which they would operate;
- the ability to resupply Marine forces that are operating on the islands;
- the survivability of Marine forces on the islands and in surrounding waters;
- how much of a contribution the envisioned operations by Marine forces would make in contributing to overall U.S. sea-denial operations; and
- potential alternative ways of using the funding and personnel that would be needed to implement EABO.[53]

Potential oversight questions for Congress include the following:

- What are the potential benefits, costs, and risks of the EABO concept?

[52] Government Accountability Office, *Weapon Systems Annual Assessment[:] Programs Are Not Consistently Implementing Practices That Can Help Accelerate Acquisitions*, GAO-22-106059, June 2023, p. 171.

[53] For a CRS report on Force Design, see CRS Insight IN11281, *New U.S. Marine Corps Force Design Initiative: Force Design 2030*, by Andrew Feickert. See also CRS In Focus IF12200, *The U.S. Marine Corps Marine Littoral Regiment (MLR)*, by Andrew Feickert, *The U.S. Marine Corps Marine Littoral Regiment (MLR)*, by Andrew Feickert. For examples of articles published since April 2021 discussing the merits of Force Design and the EABO concept, see the **Appendix**.

- What work have the Navy and Marine Corps done in terms of analyses and war games to develop and test the concept?
- Would EABO be more cost effective to implement than other potential uses of the funding and personnel?

Potential Alternative of Adapting Existing Army LSVs

Another potential issue for Congress is whether at least some portion of the operational requirements for the LSM program could be met cost effectively met by adapting existing U.S. military ships rather than building new LSMs. Some observers, for example, argue that at least some portion of the operational requirements for the LSM program could be met more cost-effectively by transferring existing Army watercraft known as Logistics Support Vessels (LSVs) (**Figure 3**) to the Navy and adapting these LSVs to the LSM mission.

Figure 3. Besson-Class Logistics Support Vessel (LSV)

Source: Cropped version of photograph accompanying Walker D. Mills and Joseph Hanacek, "The US Navy and Marine Corps Should Acquire Army Watercraft," *Defense News*, June 22, 2020. The caption to the photograph credits the photograph to the U.S. Navy and states, "U.S. Navy sailors conduct a simulated disaster relief supply offload from a General Frank S. Besson-class logistics support vessel at Joint Base Pearl Harbor-Hickam on July 10, 2016."

A June 22, 2020, opinion piece discussing this idea states

> The Navy intends to acquire up to 30 new light amphibious warships, or LAW, to support new Marine Corps requirements.… Rather than accepting a new amphibious design built from the ground up, however, decision-makers should take advantage of the fact that many key requirements of the new vessels are very similar to the capabilities of vessels operated by U.S. Army Transportation Command.
>
> The Navy and Marine Corps should delay any new construction and immediately acquire some of these existing vessels to drive experimentation and better inform their requirements for the LAW program….

> U.S. Army Transportation Command has over 100 vessels, and dozens have similar capabilities to those required of the LAW. The Army's LCU-2000s, also called the Runnymede-class large landing crafts, are smaller, with roughly half of the cargo space designed for the LAW and slightly slower, but they boast nearly double the range. The Runnymede-class vessels have nearly 4,000 square feet of cargo space and can travel 6,500 miles when loaded and at 12 knots; and they can unload at the beach with their bow ramp.
>
> The Army's General Frank S. Besson-class logistics support vessels are larger than the future LAW, at 273 feet in length but can claim 10,500 square feet of cargo space and a 6,500-mile range loaded to match the LCU-2000. These vessels also have both a bow and stern ramp for roll-on/roll-off capability at the beach or ship-to-ship docking at sea. The version built for the Phillipine military also has a helipad.
>
> Army Transportation Command has 32 Runnymede-class and eight General Frank S. Besson-class vessels in service. Mostly built in the 1990s, both classes of vessel have many years left in their life expectancy and more than meet the Navy's 10-year life expectancy for the LAW.
>
> These vessels are operable today and could be transferred from the Army to the Navy or Marine Corps tomorrow. In fact, the Army was attempting to divest itself of these watercraft less than a year ago, which underscores the importance of this opportunity even further. Congress is firmly set against the Army getting rid of valuable, seaworthy vessels and has quashed all of the Army's efforts to do so thus far, but transferring this equipment to the Navy is a reasonable course of action that should satisfy all parties involved….
>
> By acquiring a watercraft that meets most of their requirements from the Army, the Navy and Marine Corps simultaneously fill current capability gaps and obtain an invaluable series of assets they can use to support the evaluation and experimentation of new designs and concepts. This will allow Navy and Marine leaders to give their units the maximum amount of time to evaluate and experiment with new designs to get a better idea of what they need both in future amphibious craft as well as operational and support equipment….
>
> Often overlooked, the availability of surplus vessels is absolutely critical to the process of developing new technologies, developing the tactics to employ them, conducting training, and providing decision-makers the requisite capacity to remain flexible in the face of unexpected challenges….
>
> [The Navy and Marine Corps have] long been in need of a boost in their amphibious capabilities so as to be better positioned to meet the demands of today and prepare for the challenges of tomorrow, and taking possession of the Army's Runnymede- and Frank S. Benson-class vessels is a solution on a silver platter.[54]

In a May 2022 update to its Force Design plan, the Marine Corps stated that it would "Provide and sustain bridging solutions for littoral mobility for MLR experimentation and training until the LAW is fielded," and that

> While we await the delivery of LSM, which post-dates the planned operational readiness of our MLRs, we will explore a family of systems bridging plan—including, Expeditionary Transfer Dock (ESB), Expeditionary Fast Transport (T-EPF), Landing Craft Utility (LCU), and leased hulls—that can provide a basic level of mobility. Although not optimal, such

[54] Walker D. Mills and Joseph Hanacek, "The US Navy and Marine Corps Should Acquire Army Watercraft," *Defense News*, June 22, 2020. See also William Cole, "Army Vessels Could Be Transferred To Marines To Counter China Threat," *Honolulu Star-Advertiser*, February 7, 2022; Chris Bernotavicius, Michelle Macander, Danielle Ngo, and John Schaus, "You Go to War with the Watercraft You Have," *War on the Rocks*, July 26, 2022.

> vessels will provide both operational capability and a sound basis for live experimentation and refining detailed requirements for the LSM program.[55]

In June 2022, the Marine Corps stated that pending the delivery of the first LSMs, it will likely use three civilian stern landing vessels to inform the design of the LSM hull form and experiment with and confirm operational concepts for the LSM program.[56]

Potential questions for Congress include the following:

- How many of these watercraft would be available for transfer to the Navy for use in meeting the operational requirements of the LSM program?
- How do the capabilities of these watercraft compare with those required for the LSM?
- How much remaining service life do these watercraft have?
- Given the number of these watercraft that would be available for transfer to the Navy, their operational capabilities, and their remaining service life, what portion of the LSM program's operational requirements could transferred watercraft meet? How many LSMs, if any, would still need to be built to fully or substantially meet the LSM program's operational requirements?
- How do the acquisition and operation and support (O&S) costs of these watercraft compare to the estimated acquisition and O&S costs of the LSMs they would replace?
- Taking into account capabilities, acquisition costs, and O&S costs, how does the cost effectiveness of an approach involving the transfer of these watercraft compare to that of the Navy's baseline approach of meeting the LSM program's requirements through the acquisition of 24 to 35 new LSMs?
- What would be the potential industrial-base implications of using transferred watercraft to meet at least some portion of the LSM program's operational needs?

Industrial-Base Implications

Another potential oversight issue for Congress concerns the potential industrial-base implications of the LSM program. In recent years, all Navy amphibious ships have been built by the Ingalls shipyard of Pascagoula, MS, a part of Huntington Ingalls Industries (HII/Ingalls). As noted earlier, LSMs could be built by multiple U.S. shipyards.[57] Potential oversight questions for Congress include the following:

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[55] U.S. Marine Corps, *Force Design 2030, Annual Update*, May 2022, pp. 8 and 15. See also Megan Eckstein, "The Light Amphibious Warship Is Delayed, but the Marine Corps Has a Temporary Solution," *Defense News*, May 10, 2022; Mallory Shelbourne, "Marines Look to EPFs, ESBs as Interim Solution for Light Amphibious Warship," *USNI News*, May 10 (updated May 11), 2022.

[56] Audrey Decker, "Smith: Marine Corps Likely to Contract Three Stern Landing Vessels," *Inside Defense*, June 16, 2022.

[57] 10 U.S.C. §8679 requires that, subject to a presidential waiver for the national security interest, "no vessel to be constructed for any of the armed forces, and no major component of the hull or superstructure of any such vessel, may be constructed in a foreign shipyard." In addition, the paragraph in the annual DOD appropriations act that makes appropriations for the Navy's shipbuilding account (the Shipbuilding and Conversion, Navy account) typically contains these provisos: " … *Provided further*, That none of the funds provided under this heading for the construction or conversion of any naval vessel to be constructed in shipyards in the United States shall be expended in foreign facilities for the construction of major components of such vessel: *Provided further*, That none of the funds provided under this heading shall be used for the construction of any naval vessel in foreign shipyards…."

- What implications might the LSM program have for the distribution of Navy shipbuilding work among U.S. shipyards?
- How many jobs would the LSM program create at the shipyard that builds the ships, at associated supplier firms, and indirectly in surrounding communities?
- In a situation of finite defense resources, what impact, if any, would funding the procurement of LSMs have on funding available for procuring other types of amphibious ships, and thus on workloads and employment levels at HII/Ingalls, its associated supplier firms, and their surrounding communities?[58]

Legislative Activity for FY2025

Summary of Congressional Action on FY2025 Procurement Funding Request

Table 1 summarizes congressional action on the FY2025 procurement funding request for the LSM program.

Table 1. Congressional Action on FY2025 Procurement Funding Request

Millions of dollars, rounded to nearest tenth

		Authorization			Appropriation		
	Request	HASC	SASC	Enacted	HAC	SAC	Enacted
LSM procurement	268.1	268.1	30.1	253.1	29.7	268.1	29.7
Medium-sized landing vessel procurement	0	0	238.0	0	0	0	0

Source: Table prepared by CRS based on Navy's FY2025 budget submission, committee and conference reports, and explanatory statements on FY2025 National Defense Authorization Act and FY2025 DOD Appropriations Act.

Notes: HASC is House Armed Services Committee; **SASC** is Senate Armed Services Committee; **HAC** is House Appropriations Committee; **SAC** is Senate Appropriations Committee.

FY2025 National Defense Authorization Act (H.R. 8070/S. 4638/H.R. 5009/P.L. 118-159)

House

The House Armed Services Committee, in its report (H.Rept. 118-529 of May 31, 2024) on H.R. 8070, recommended the funding level shown in the HASC column of **Table 1**. (Page 426)

Section 136 of H.R. 8070 states

> SEC. 136. LIMITATION ON AVAILABILITY OF FUNDS FOR MEDIUM LANDING SHIP PENDING CERTIFICATION AND REPORT.
>
> None of the funds authorized to be appropriated by this Act or otherwise made available for fiscal year 2025 for the Navy may be obligated or expended to procure a Medium

[58] Two observers argue that shifting the Navy to a fleet architecture that includes a larger proportion of smaller ships would have beneficial impacts on U.S. shipbuilding industry's ability to support Navy shipbuilding needs. See Bryan Clark and Timothy A. Walton, "Shipbuilding Suppliers Need More Than Market Forces to Stay Afloat," *Defense News*, May 20, 2020.

> Landing Ship until the date on which the Secretary of the Navy submits to the congressional defense committees—
>
> (1) a certification from the Secretary confirming that not more than 35 percent of the design requirements for the Medium Landing Ship are based on military specifications (as determined based on the capabilities development document for the ship); and
>
> (2) a report that includes a comparison of the difference in construction costs and delivery timelines, on a per vessel basis, between—
>
> (A) constructing the Medium Landing Ship using military specifications; and
>
> (B) constructing such ship using commercial standards and commercial design elements.

Senate

The Senate Armed Services Committee, in its report (S.Rept. 118-188 of July 8, 2024) on S. 4638, recommended the funding levels shown in the SASC column of **Table 1**. The recommended reduction of $238.0 million in LSM procurement funding is for "Medium Landing Ship lead ship reduction," and the recommended increase of $238.0 million for medium-sized landing vessel is for "Medium-sized landing vessel." (Page 444)

S.Rept. 118-188 states

> **Medium Landing Ship lead ship reduction**
>
> The budget request included $268.1 million for Shipbuilding and Conversion, Navy (SCN), in line number 21 Medium Landing Ship. The committee recommends a decrease of $68.0 million for SCN line 21 [sic: the funding table on page 444 of S.Rept. 118-188 shows a recommended reduction of $238.0 million] as early to need for construction of the lead ship in advance of achieving a mature design and better cost estimates for the program.
>
> **Medium-sized landing vessel**
>
> The committee recommends an increase of $68.0 million for Shipbuilding and Conversion, Navy (SCN), in line number 21A Medium-sized Landing Vessel [sic: the funding table on page 444 of S.Rept. 118-188 shows a recommended increase of $238.0 million], a new budget line for the procurement, leasing, or chartering of a minimally-modified commercial or non-developmental landing ship and associated materials. (Page 17)

Section 123 of S. 4638 would prohibit the award of a contract that includes a scope of work for the construction of the lead ship of the LSM program until the Navy certifies that basic and functional design for the ship is complete.

Regarding Section 123, S.Rept. 118-188 states

> **Limitation on the construction of the Landing Ship Medium (sec. 123)**
>
> The committee recommends a provision that would prohibit the Secretary of the Navy from awarding a contract for the Landing Ship Medium program, including construction of the lead ship, until basic and functional design are certified to be complete.
>
> The committee recognizes the importance of the requirement for the U.S. Marine Corps to have adequate operational sealift to maneuver three Marine Littoral Regiments. However, the U.S. Navy has not developed a comparable landing ship in several decades, and smaller shipyards expected to participate in the contract solicitation have limited design resources and experience. Moreover, the U.S. Navy intends to award a contract for detailed design and construction of the lead ship on a fixed price basis with fixed price options for five additional ships. The committee believes that such an acquisition strategy places undue risk on the contractor before the design reaches a maturity level when confidence in cost and schedule estimates is achieved. The Congressional Budget Office estimates that the

> Landing Ship Medium program could cost between two-times and three-times more than the amount for which the U.S. Navy is budgeting. Recent examples of shipbuilding programs with a similar acquisition strategy have met with significant cost and schedule challenges, putting the contractor and the program at risk, include the Constellation-class frigate, the Navajo-class rescue and salvage ship, the Polar Security Cutter, and the Landing Craft Utility (LCU) 1700.
>
> The committee believes that maturing the design prior to construction of the Landing Ship Medium will not delay the program compared to a more realistic schedule and may avoid costly rework associated with design changes that have plagued past shipbuilding efforts. (Pages 7-8)

Section 124 would provide authority for procuring, leasing, or chartering a commercial or nondevelopmental medium-sized landing vessel and associated materials.

Regarding Section 124, S.Rept. 118-188 states

> **Authority for the procurement, leasing, or chartering of a medium-sized landing ship (sec. 124)**
>
> The committee recommends a provision that would authorize the Secretary of the Navy to enter into a contract or other agreement for the procurement, leasing, or chartering of a commercial or non-developmental ship that meets core U.S. Marine Corps requirements for operational sealift and landing troops, equipment, and supplies to a beach. The committee recognizes that the Landing Ship Medium program will be late to need for Marine Littoral Regiment campaigning and seeks to ensure that U.S. Marine Corps capability gaps are addressed while a final solution is developed.
>
> The committee appreciates efforts undertaken by the U.S. Navy and U.S. Marine Corps, collectively referred to as the Littoral Maneuver Bridging Solution (LMBS), that leverage existing assets such as the Expeditionary Fast Transport and minimally modified commercial solutions such as the Stern Landing Vessel. This practice is in keeping with section 3453 of title 10, United States Code, which creates a preference for commercial and non-developmental items and defines requirements in a way that maximizes the opportunity for their incorporation. Moreover, it also conforms with section 875 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) requiring the use of commercial or nongovernment standards unless no practical alternative exists to meet user needs.
>
> The committee encourages the U.S. Navy and U.S. Marine Corps to expand the LMBS with a focus on rapidly delivering mature systems. The committee notes that there are viable domestically produced solutions, including one that has recently been produced for export, and divested U.S. Army watercraft solutions that are not currently part of the LMBS but could be added. The committee recognizes that the Department of the Navy may prefer alternative solutions that could require a prior approval reprogramming action and encourages the submission of a reprogramming request should it be necessary. (Page 8)

Enacted

The joint explanatory statement for the House-Senate agreement on H.R. 5009/P.L. 118-159 of December 23, 2024, recommends the funding level shown in the authorization final column of **Table 1**. The recommended net reduction of $15.0 million includes a reduction of $238.0 million (almost the entire requested amount) for "Medium Landing Ship lead ship reduction," and an increase of $223.0 million for "Nondevelopmental LSM." The effect of the mark is to recommend $223.0 million for the procurement of a nondevelopmental LSM—a ship using a design that does not require further development work.

Section 128 of H.R. 5009 prohibits the Navy from entering into a contract or other agreement that includes a scope of work, including priced or unpriced options, for the construction, advance procurement, or long-lead material of the lead ship of the LSM program until the Navy certifies that basic and functional design with respect to the ship is complete, unless the ship is a commercial or nondevelopmental item, in which case the certification condition does not apply and the Navy may additionally exempt a contract or other agreement for the lead ship from the requirements of full and open competition under 10 U.S.C. 3201.

FY2025 DOD Appropriations Act (H.R. 8774/S. 4921/H.R. 1968/P.L. 119-4)

House

The House Appropriations Committee, in its report (H.Rept. 118-557 of June 17, 2024) on H.R. 8774, recommended the funding level shown in the HAC column of **Table 1**. The recommended reduction of $238.4 million is for "Program adjustment." (Page 129)

H.Rept. 118-557 states

> MEDIUM LANDING SHIP
>
> The Committee remains supportive of the Marine Corps implementation of the Expeditionary Advanced Base Operations concept to support military operations in a contested maritime environment. However, the Committee is concerned that the Medium Landing Ship program faces risk in both requirements and design stability. The Committee notes the negative impacts to shipbuilding programs in cases where the Navy has underestimated the requirements and stability of design for lead ship construction, resulting in significant cost increases, schedule delays, and instability in the shipbuilding industrial base. Therefore, the Committee recommendation includes $29,668,000 for the Medium Landing Ship to allow for the program to focus on achieving design stability and solidify requirements before making contractual commitment that funds construction of the lead ship. (Page 132)

Senate

The Senate Appropriations Committee, in its report (S.Rept. 118-204 of August 1, 2024) on S. 4921, recommended the funding level shown in the SAC column of **Table 1**. (Page 130)

Enacted

Section 1404 of the Full-Year Continuing Appropriations and Extensions Act, 2025 (H.R. 1968/P.L. 119-4 of March 15, 2025), a full-year continuing resolution (CR), provides the funding figures shown in the appropriation enacted column of **Table 1**.

Appendix. Articles Regarding Debate on Merits of Force Design and EABO

This appendix presents examples of articles published since April 2021 discussing the merits of Force Design 2030 and the EABO concept, starting with the most recent on top.

Gary Anderson, "A Chinese View of Marine Corps Force Design," *Real Clear Defense*, November 25, 2024.

Walter Boomer, James Conway, and Anthony Zinni, "To Remain Relevant the Marines Must Adapt to a Changing World," *Real Clear Defense*, September 24, 2024.

James Holmes, "Marine Corps Force Design: A Smart U.S. Plan to Counter China," *National Interest*, September 3, 2024.

Mike Glenn, "Marine Commandant Stands By Corps Overhaul as Best Way to meet China Challenge," *Washington Times*, July 2, 2024.

Walter Boomer and James Conway, "Force Design 2030: Operational Incompetence," *Real Clear Defense*, June 15, 2024.

Anthony Zinni and Jerry McAbee, "Marine Corps Stand-In Forces: A House of Cards," *Real Clear Defense*, May 28, 2024.

Gary Anderson, "The Marine Corps That Should Have Been," *Real Clear Defense*, May 4, 2024.

Gary Anderson, "Biden Has Allowed the Marine Corps to Become Irrelevant," *American Spectator*, April 21, 2024.

Grant Newsham, "U.S. Marine Corps' Force Design 2030. A Well-Intentioned Act of Self-Harm," *Sunday Guardian*, March 10, 2024.

Grant Newsham, "US Marine Force Design 2030: Hatred and Hubris," *Asia Times*, March 5, 2024.

C. Travis Reese, Ian Brown, Zach Ota, Travis Hord, Leo Spaeder, and Brian Strom, "Trends in Maritime Challenges Indicate Force Design 2030 Is the Proper Path," *War on the Rocks*, January 29, 2024.

Charles Krulak, Charles Wilhelm, Anthony Zinni, and James Conway, "Four Retired Marine Generals on How to Rebuild America's Crisis Response Force," *The Hill*, January 15, 2024.

Michael R. Gordon and Nancy A. Youssef, "The Marines Transformed to Take On China. Will They Be Ready for Everything Else?" *Wall Street Journal*, December 28, 2023.

Bruce Stubbs, "Ten Challenges to Implementing Force Design 2030," Atlantic Council, November 25, 2023.

Bill Mullen, "Gen. Berger Knew What He Was Doing with His Transformation of the Marine Corps," *Military.com*, August 11, 2023.

Kenneth J. Braithwaite, "Braithwaite: Recognizing Gen. David Berger's Faithful Career to the Corps," *Military.com*, August 9, 2023.

Gary Anderson, "The Games the Marine Corps Plays," *Military.com*, June 16, 2023.

Jerry Hendrix and Mark Montgomery, "Marines Need to Move beyond Their Amphibious-Assault Past," National Review, June 15, 2023.

James Holmes, "Three Cheers For The New U.S. Marine Corps, None For The Old," *19FortyFive*, June 4, 2023.

Robert Work, "Marine Force Design: Changes Overdue Despite Critics' Claims," *Texas National Security Review*, Summer 2023.

Christopher Owens, "The Radical Redesign and Restructuring of the United States Marine Corps," *Real Clear Defense*, May 13, 2023.

Christopher Owens, "Congress Must Restore Order to the Navy's Amphibious Ship Program," *Defense News*, February 6, 2023.

Bryan McGrath, "The Navy Put Its Next Amphib on Hold. Good," *Defense One*, January 20, 2023.

Martin Steele, "A better plan for the Marine Corps and the nation: Vision 2035," *Marine Corps Times*, January 4, 2023.

J. Noel Williams, "What Force Design 2030 Really Does," *U.S. Naval Institute Proceedings*, January 2023.

Justin Katz, "The Year the Marine Corps' Force Design 2030 Came into Its Own: 2022 in Review," *Breaking Defense*, December 22, 2022.

Terrence R. Dake and Charles E. Wilhelm, "Reduce the Risk to National Security: Abandon 'Force Design 2030,'" *The Hill*, December 21, 2022.

Paul Van Riper, "This Is the Marine Corps Debate We Should Be Having," *Marine Corps Times*, December 7, 2022.

Harry W. Jenkins, "The Ugly Truth: Can the Light Amphibious Warship Survive War with China?" *The Hill*, November 2, 2022.

Dakota Wood, "The U.S. Marine Corps Has a Choice: Transform or Die," *Defense One*, October 16, 2022.

Stephen Baird and Timothy Wells, "Why Marine Corps Forces Are Becoming Less Relevant to Combatant Commanders," *The Hill*, October 13, 2022.

Paula Thornhill, "Civilians Will Choose the Marine Corps' Future—and Soon, And They Will Do It by Selecting the Next Commandant and Other Four- And Three-Star Generals," *Defense One*, October 13, 2022.

Gary Anderson, "Can Congress Save the Marine Corps from Itself?" *Military.com*, October 5, 2022.

John Sattely and Jason A. Paredes, "Sustainment of the Stand-In Force," *War on the Rocks*, September 12, 2022.

Jonathan Lehrfeld, "Former Marine Officials, Experts Praise Force Design 2030," *Defense News*, August 26, 2022.

Gary Anderson, "Creating a Real Deterrent to Defend Taiwan," *Military.com*, August 25, 2022.

James A. Warren, "If the Marine Corps Isn't Broken—and It Isn't—Why Fix It?" *Daily Beast*, August 20 (updated August 21), 2022.

Richard R. Burgess, "Navy's Light Amphibious Warship Will Be A 'Great Enabler' for Marine Littoral Regiments, General Says," *Seapower*, August 19, 2022.

Franz J. Gayl, "The Marine Corps' New Plan Will Not Beat China in a Fight for Taiwan," *Marine Corps Times*, August 4, 2022.

Gary "GI" Wilson, William A. Woods, and Michael D. Wyly, "Send in the Marines? Reconsider Force Design 2030 Beforehand," *Defense News*, August 4, 2022.

Michelle Macander Grace Hwang, "Marine Corps Force Design 2030: Examining the Capabilities and Critiques," Center for Strategic and International Studies (CSIS), July 22, 2022.

Max Boot, "The Top Marine Faces Unprecedented Opposition. He Says That's 'Positive.'" *Washington Post*, July 20, 2022.

Scott Cuomo, "On-the-Ground Truth and Force Design 2030 Reconciliation: A Way Forward," *War on the Rocks*, July 12, 2022.

John F. Schmitt, "The Marine Corps' Latest Idea for Countering China Has Major Problems," *Task and Purpose*, July 7, 2022.

Mark Cancian, "Analyzing the Biggest Changes in the Marine Corps Force Design 2030 Update," *Breaking Defense*, June 14, 2022.

Worth Parker, "How the Marine Corps Went to War with Itself over the Next War," *Task and Purpose*, June 10, 2022.

Jesse Schmitt, "When Only a Chisel Will Do: Marine Corps Force Design for the Modern Era," *Center for International Maritime Security (CIMSEC)*, June 2, 2022.

Stuart Scheller, "The Marine Corps' Debate with Its Generals Is Amusing, but Dangerous," *Marine Corps Times*, June 1, 2022.

Brent Stricker, "Marine Corps Metamorphosis: Legal Considerations," *Center for International Maritime Security (CIMSEC)*, May 31, 2022.

Charles C. Krulak, "Whose Marine Corps? Why a Force Design Battle Is Losing Sight of the Basics," *Marine Corps Times*, May 27, 2022.

Owen West, "Are the Marines Inventing the Edsel or the Mustang?" *War on the Rocks*, May 27, 2022.

David E. Johnson, "Ending the Civil War over the Future of the US Marine Corps," *Breaking Defense*, May 24, 2022.

Elliot Ackerman, "A Whole Age of Warfare Sank With the Moskva, A Fierce Debate Is Raging within the U.S. Marine Corps about What Comes Next." *Atlantic*, May 22, 2022.

CDR Salamander, "Force Design 2030: Futurism, Imbroglio, or Creative Friction?" *CDR Salamander*, May 17, 2022.

Todd South, "Lethal and Survivable or Irrelevant and Vulnerable? Marine Redesign Debate Rages," *Marine Corps Times*, May 16, 2022.

Robert Work, "USMC Force Design 2030: Threat Or Opportunity?" *19FortyFive*, May 15, 2022.

Tom Hanson, "Rather Than Wreck It, Berger's Vision Will Save the Marine Corps from Itself," *Marine Corps Times*, May 10, 2022.

John Vandiver, "Marines Unveil Force Structure Update amid Opposition from Retired Generals about Service's Direction," *Stars and Stripes*, May 10, 2022.

Will McGee, "Forcing Design or Designing Force? The Reinvention of the Marine Corps," *Small Wars Journal*, May 7, 2022.

Howard Altman, "Marines Based Inside China's Striking Distance Key To Deterrence General Says," *The Drive*, May 5, 2022.

Audrey Decker, "Heckl: Force Design 2030 Will Make It 'Damn Hard' for China to Make a Move," *Inside Defense*, May 4, 2022.

Mallory Shelbourne, "Marines Committed to New Force Design, Despite Criticism From Retired Generals," *USNI News*, May 4, 2022.

Gary Anderson, "The Marine Corps' Intellectual Civil War," *Military.com*, April 28, 2022.

Charles Krulak, Jack Sheehan, and Anthony Zinni, "War Is a Dirty Business. Will the Marine Corps Be Ready for the Next One?" *Washington Post*, April 22, 2022.

P. K. Van Riper, "The Marine Corps' Plan to Redesign the Force Will Only End Up Breaking It," *Task and Purpose*, April 20, 2022.

Anthony Zinni, "What Is the Role of the Marine Corps in Today's Global Security Environment?" *Task and Purpose*, April 19, 2022.

Philip Athey, "First to Fight: Is This the End of the Corps as America's 911 Force?" *Marine Corps Times*, April 12, 2022.

Otto Kreisher, "Controversial EABO Concept Has Potential but Will Be Vetted, Speakers Say," *Seapower*, April 5, 2022.

Konstantin Toropin, "After a Barrage of Editorials and Critiques, Marine Leaders Defend Restructuring Plan," *Military.com*, April 5, 2022.

Craig Hooper, "Let The Marine Corps Build The New Light Amphibious Warship," *Forbes*, April 3, 2022.

Mallory Shelbourne, "Navy and Marines Divided Over the Amphibious Fleet's Future as Delays and Cancellations Mount in FY 2023 Budget Request," *USNI News*, April 3, 2022.

Paul McLeary and Lee Hudson, "How Two Dozen Retired Generals Are Trying to Stop an Overhaul of the Marines," *Politico*, April 1, 2022.

Noel Williams, "Insights for Marine (and Beyond) Force Design from the Russo-Ukrainian War," *War on the Rocks*, March 31, 2022.

Jim Webb, "Momentous Changes in the U.S. Marine Corps' Force Organization Deserve Debate," *Wall Street Journal*, March 25, 2022.

Paul K. Van Riper, "Jeopardizing National Security: What Is Happening to Our Marine Corps?" *Marine Corps Times*, March 21, 2022.

John M. Doyle, "Navy, Marine Corps Labs Exploring How to Keep Advanced Bases Supplied and Safe," *Seapower*, February 10, 2022.

John M. Doyle, "Berger Says Supporting a Widely Distributed Maritime Force Will Be a Challenge," *Seapower*, May 14, 2021.

Yasmin Tadjdeh, "Light Amphibious Warships Face Survivability Questions," *National Defense*, April 23, 2021.

Author Information

Ronald O'Rourke
Specialist in Naval Affairs

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