



August 2017

# NAVY READINESS

## Actions Needed to Maintain Viable Surge Sealift and Combat Logistics Fleets

This Report was revised on October 31, 2017 to correct footnote 38 on page 19.

# GAO Highlights

Highlights of [GAO-17-503](#), a report to congressional committees

## Why GAO Did This Study

Military Sealift Command ships perform a wide variety of support services and missions, including transporting military equipment and supplies in the event of a major contingency (performed by the surge sealift fleet) and replenishing fuel and provisions for U.S. Navy ships at sea (performed by the combat logistics force). An aging surge sealift fleet in which some ships are more than 50 years old, and a combat logistics force tasked with supporting more widely distributed operations (i.e., the employment of ships in dispersed formations across a wider expanse of territory), present several force structure and readiness challenges.

House Report 114-537 included a provision for GAO to assess the readiness of the Military Sealift Command. This report (1) describes the readiness trends of the surge sealift and combat logistics fleets since 2012, (2) evaluates the extent to which the Navy has plans to address an aging surge sealift fleet, and (3) evaluates the extent to which the Navy has assessed the effects of widely distributed operations on the combat logistics force. GAO analyzed 3 to 5 years of readiness, maintenance, and exercise data, based on available data; visited surge sealift and logistics ships; and interviewed Navy, U.S. Transportation Command, and Maritime Administration officials.

## What GAO Recommends

GAO recommends that the Navy incorporate leading practices for capital planning in a comprehensive sealift recapitalization plan and assess the effects of widely distributed operations on the combat logistics force. The Navy concurred with GAO's recommendations.

View [GAO-17-503](#). For more information, contact John Pendleton at (202) 512-3489 or [pendletonj@gao.gov](mailto:pendletonj@gao.gov)

August 2017

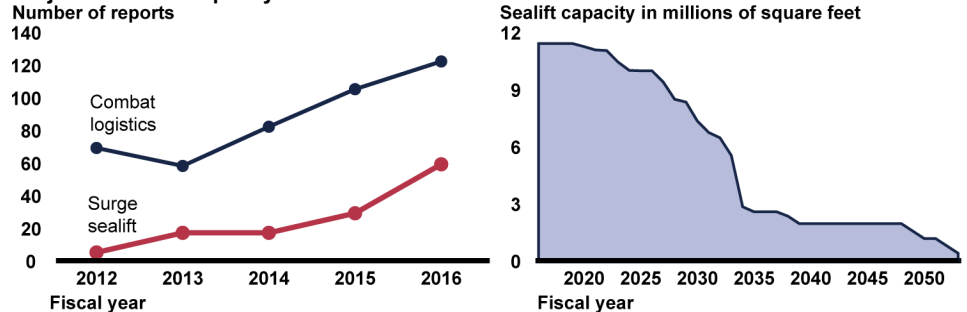
## NAVY READINESS

### Actions Needed to Maintain Viable Surge Sealift and Combat Logistics Fleets

## What GAO Found

The readiness of the surge sealift and combat logistics fleets has trended downward since 2012. For example, GAO found that mission-limiting equipment casualties—incidents of degraded or out-of-service equipment—have increased over the past 5 years, and maintenance periods are running longer than planned, indicating declining materiel readiness across both fleets (see fig.).

**Surge Sealift and Combat Logistics Fleet Historical Mission-Limiting Casualty Reports and Projected Sealift Capacity over Time**



Source: GAO analysis of Department of Defense and Maritime Administration data. | GAO-17-503

The Navy has started to develop a long-term plan to address recapitalization of the aging surge sealift fleet, but this plan has not been finalized. The average age of the ships in the surge sealift fleet is nearly 40 years, and the number of surge sealift ships reaching the end of their programmed service lives over the next 10 years will reduce sealift capacity by over 25 percent. The Navy has not finalized these plans, and officials acknowledged that these efforts do not fully incorporate leading practices for capital investment planning. For example, Navy officials told us that the plan does not include a needs assessment or project prioritization comparing the costs and benefits of proposed investments to each other. Without effective capital planning to ensure the availability of surge sealift capability, the equipment and supplies needed by the Army, Marine Corps, and other forces may not arrive when needed, potentially hindering U.S. operations.

The Navy has not assessed the effects of widely distributed operations, which could affect the required number and type of combat logistics ships. The Navy released its new operational concept of more widely distributed operations—ships traveling farther distances and operating more days to support a more distributed fleet—in 2017. The Navy has not assessed the effects that implementing this concept will have on the required number and type of combat logistics ships. These effects could be exacerbated in the event that the Navy is less able to rely on in-port refueling—which has comprised about 30 percent of all refuelings over the past 3 years—placing greater demand on the combat logistics fleet. Given the fleet's dependence on the combat logistics force, waiting until 2019 or 2020 to conduct an assessment, as planned, could result in poor investment decisions as the Navy continues to build and modernize its fleet. Furthermore, without assessing the effects of widely distributed operations on logistics force requirements and modifying its force structure plans accordingly, the Navy risks being unprepared to provide required fuel and other supplies.

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### **Abbreviations**

DOD	Department of Defense
MARAD	Maritime Administration
MSC	Military Sealift Command

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August 22, 2017

### Congressional Committees

More than 90 percent of U.S. warfighters' equipment and supplies travels by sea, and the Military Sealift Command (MSC) provides ocean transportation for all of the military services.<sup>1</sup> With over 100 active and reserve ships in its fleet, MSC performs a wide variety of support services and other missions, including moving military equipment and supplies to deployed U.S. forces (performed by the sealift fleet) and replenishing fuel and provisions for U.S. Navy ships at sea (performed by the combat logistics force). MSC's sealift fleet consists of both active and reserve ships—MSC active sealift ships move military equipment and supplies on a daily basis, while MSC reserve sealift ships remain in reduced operating status to be activated in the event that additional capacity is necessary to assist in a major contingency.<sup>2</sup> The Maritime Administration (MARAD) also maintains a reserve sealift fleet to meet the needs of a major contingency. MSC's and MARAD's reserve fleets are collectively referred to as the surge sealift fleet and are expected to be a ready source of shipping and provide millions of square feet of cargo carrying capacity to transport Army, Marine Corps, and other force equipment and supplies. However, the surge sealift fleet is aging and some of its ships are more than 50 years old, raising questions about the fleet's readiness to respond if it is called to support a major contingency.

MSC's combat logistics force consists of auxiliary ships that rearm, refuel, and re-provision Navy combatant ships at sea during what are known as underway replenishment operations. Underway replenishments allow Navy ships to stay at sea as long as needed during peacetime and wartime, rather than requiring a return to port to refuel and resupply. Recently, the Navy has called for its surface fleet to conduct more widely distributed operations—a concept of operations referred to as distributed lethality that entails more widely dispersing combatant ships to improve the Navy's offensive and defensive capabilities.<sup>3</sup> Widely distributed

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<sup>1</sup>Military Sealift Command, *The U.S. Navy's Military Sealift Command 2016 Handbook* (April 2016).

<sup>2</sup>A ship in reduced operating status has a small crew onboard to assure the readiness of propulsion and other primary systems if the need arises to activate the ship.

<sup>3</sup>See, for example, Commander, Naval Surface Force, *Surface Force Strategy: Return to Sea Control* (January 2017).

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operations will require MSC's combat logistics force of fast combat support ships, oilers, and dry cargo ships to adapt to resupplying combatant ships over greater distances and potentially performing more underway replenishments, because under this new operating concept the Navy may not be able to refuel in port.

The House Armed Services Committee report accompanying a bill for the National Defense Authorization Act for Fiscal Year 2017 included a provision for us to assess the readiness of MSC.<sup>4</sup> This report (1) describes the readiness trends of the surge sealift and combat logistics fleets since 2012, (2) evaluates the extent to which the Navy has plans to address an aging surge sealift fleet, and (3) evaluates the extent to which the Navy has assessed the effects of widely distributed operations on the combat logistics force. We also issued a classified report on MSC's offshore petroleum discharge system in June 2017.<sup>5</sup>

To describe the readiness trends of the surge sealift and combat logistics fleets, we analyzed data on ship age, time in maintenance, and equipment condition to assess the readiness of the fleets to fulfill their missions; interviewed MSC and MARAD officials to understand trends in personnel, maintenance, materiel condition indicators such as ship readiness rates and casualty reports; and examined related documentation.<sup>6</sup> We also reviewed reports on the results of rapid activation and sea trial exercises from 2012 through 2016 and interviewed U.S. Transportation Command, MSC, and MARAD officials to discuss surge sealift readiness and the ability to activate these ships within required time frames. We selected time frames for each of the data series—primarily 5 years of historical data—after assessing their availability and reliability to maximize the amount of data available for us to determine any trends. We assessed the reliability of each data source from the Navy, MSC, MARAD, and U.S. Transportation Command by reviewing relevant documentation and discussing with cognizant officials the structure of systems, data-collection processes and procedures, and data-quality controls. We determined that the data we had obtained from these sources were sufficiently reliable for the purposes of reporting

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<sup>4</sup>H.R. Rep. No. 114-537, at 126-127 (2016).

<sup>5</sup>GAO, *Offshore Petroleum Discharge System: The Navy Has Not Mitigated Risk Associated with System Limitations*, [GAO-17-531C](#) (Washington, D.C.: June 22, 2017).

<sup>6</sup>Casualty reports reflect equipment malfunctions that affect a ship's ability to support required mission areas and suggest a deficiency in mission-essential equipment.

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trends in readiness, maintenance, replenishment, and rapid activation for the surge sealift and combat logistics force ships.

To evaluate the extent to which the Navy has plans to address an aging surge sealift fleet, we reviewed MSC and MARAD force structure and the programmed service life—the number of years the Department of Defense (DOD) expects a ship to be militarily useful—of all MSC and MARAD ships. We visited MSC and MARAD surge sealift ships at fleet locations with a range of ship types—Norfolk, Portsmouth, and Newport News, VA, and San Francisco, Alameda, and Benicia, CA—where we interviewed ship leadership, crews, and shore personnel to gather perspectives on current readiness challenges and the state of the aging surge sealift fleet. We interviewed MSC, MARAD, and Navy officials to discuss actions that had been taken to mitigate readiness challenges that had been identified in the surge sealift fleet and the status of plans to recapitalize the ships in this fleet.<sup>7</sup> Finally, we interviewed senior Navy officials responsible for drafting a recapitalization plan for the surge sealift fleet and assessed the plan using leading practices for capital investment planning.<sup>8</sup>

To determine the extent to which the Navy has assessed the effects of widely distributed operations on the combat logistics force, we analyzed information on the current and future structure of the combat logistics force; interviewed MSC and Navy officials to understand trends in underway replenishments and the use of in-port refueling; and examined

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<sup>7</sup>For the purposes of this report, recapitalization refers to the rebuilding or replacing of assets. GAO has previously reported on recapitalization efforts for various fleets. See, for example, *Coast Guard Acquisitions: Better Information on Performance and Funding Needed to Address Shortfalls*, [GAO-14-450](#) (Washington, D.C.: June 5, 2014).

<sup>8</sup>At the time of our review, the recapitalization plan was in draft form and being reviewed within the Navy. Capital planning is part of the capital-asset life cycle, which links budgeting, managing, and long-range planning of the capital-asset portfolio to meet the goals and objectives in the strategic and annual plan. See Office of Management and Budget Circular No. A-11, *Preparation, Submission, and Execution of the Budget, and its supplement entitled Capital Programming Guide* (July 2017). We have previously evaluated the implementation of the concepts that underlie the capital planning best practices. See, for example, GAO, *Facilities Modernization: DOD Guidance and Processes Reflect Leading Practices for Capital Planning*, [GAO-15-489](#) (Washington, D.C.: July 27, 2015) and GAO, *VA Real Property: Realignment Progressing, but Greater Transparency about Future Priorities Is Needed*, [GAO-11-197](#) (Washington, D.C.: Jan. 31, 2011).

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related documentation.<sup>9</sup> We also interviewed ship leadership and shore personnel from the combat logistics force to gather perspectives on current readiness and the effects of more distributed operations. Finally, we interviewed Navy officials to discuss widely distributed operations and the use of in-port refueling and any actions the Navy has taken to assess and analyze their effects on the size and composition of the combat logistics force, including wargaming and related assessments. We evaluated the Navy's plans against criteria in federal standards for internal control, which state that agencies should use quality information to achieve objectives, make informed decisions, and evaluate performance in achieving key objectives and addressing risks.<sup>10</sup>

We conducted this performance audit from June 2016 to August 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

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### Structure of Military Sealift Command

MSC, located within the Department of the Navy, provides ocean transportation for all military services and maintains 120 active and reserve ships, which operate worldwide. MSC reports through three separate chains of command, depending on the type of service or mission it is performing. It reports to the Assistant Secretary of the Navy (Research, Development and Acquisition) for procurement policy and oversight matters; U.S. Fleet Forces Command for Navy-specific matters; and U.S. Transportation Command for defense transportation matters. MSC services and missions fall into five areas:

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<sup>9</sup>See, for example, Center for Naval Analyses, *Fuel Support of Deployed U.S. Navy Combatants* (November 2016).

<sup>10</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 2014).



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- *Sealift*: Transports troops, cargo, vehicles, and petroleum products, among other things, in support of DOD and other federal agencies during both peacetime and wartime.
  - *Combat Logistics Force*: Provides fuel, food, fleet ordnance, dry cargo, spare parts, mail, and other supplies to the Navy fleet.
  - *Service and Command Support*: Provides towing, rescue and salvage, submarine support, and hospital ships.
  - *Special Mission*: Provides operating platforms to monitor missile launches, assists with weapons testing, and supports ocean surveys, among other special missions.
  - *Prepositioning*: Provides ships loaded with the military services' equipment and supplies for forward, at sea staging around the world.

This report examines the ships of the sealift fleet and the combat logistics force.

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## Surge Sealift Fleet

According to DOD documentation, MSC's active ships provide sufficient capacity to support the daily operational needs of DOD and other federal agencies during peacetime.<sup>11</sup> However, certain DOD operational plans and unforeseen crises, such as a natural disaster, may require additional capacity from reserve sealift ships.<sup>12</sup> MSC owns, operates, and maintains 15 reserve ships within its sealift fleet in reduced operating status; these are among the first ships to activate when additional capacity is needed. MARAD, an agency within the Department of Transportation, owns and maintains 46 reserve sealift ships in reduced operating status within its Ready Reserve Force. Together, the MSC and MARAD ships in reduced

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<sup>11</sup>MSC provides logistical support to other federal agencies, such as the National Oceanic and Atmospheric Administration, the National Science Foundation, and the Federal Emergency Management Agency. For example, MSC deployed research technology to improve the study of changes in ocean environment for the National Oceanic and Atmospheric Administration, resupplied the National Science Foundation's McMurdo Station in Antarctica, and provided humanitarian aid in the aftermath of Hurricane Katrina for the Federal Emergency Management Agency.

<sup>12</sup>An operational plan describes how DOD will respond to a potential contingency that might require the use of military forces. These plans are used to deal with a wide range of events, such as terrorism, hostile foreign nations, and natural disasters. Plans generally include assumptions that are relevant to the development or successful execution of the plan, including the forces involved, the phasing of operations, and the general nature and purpose of the operations to be conducted. In addition to supporting the initial phases of operational plans, the surge sealift fleet also provides support to sustainment operations in the event of prolonged contingencies.

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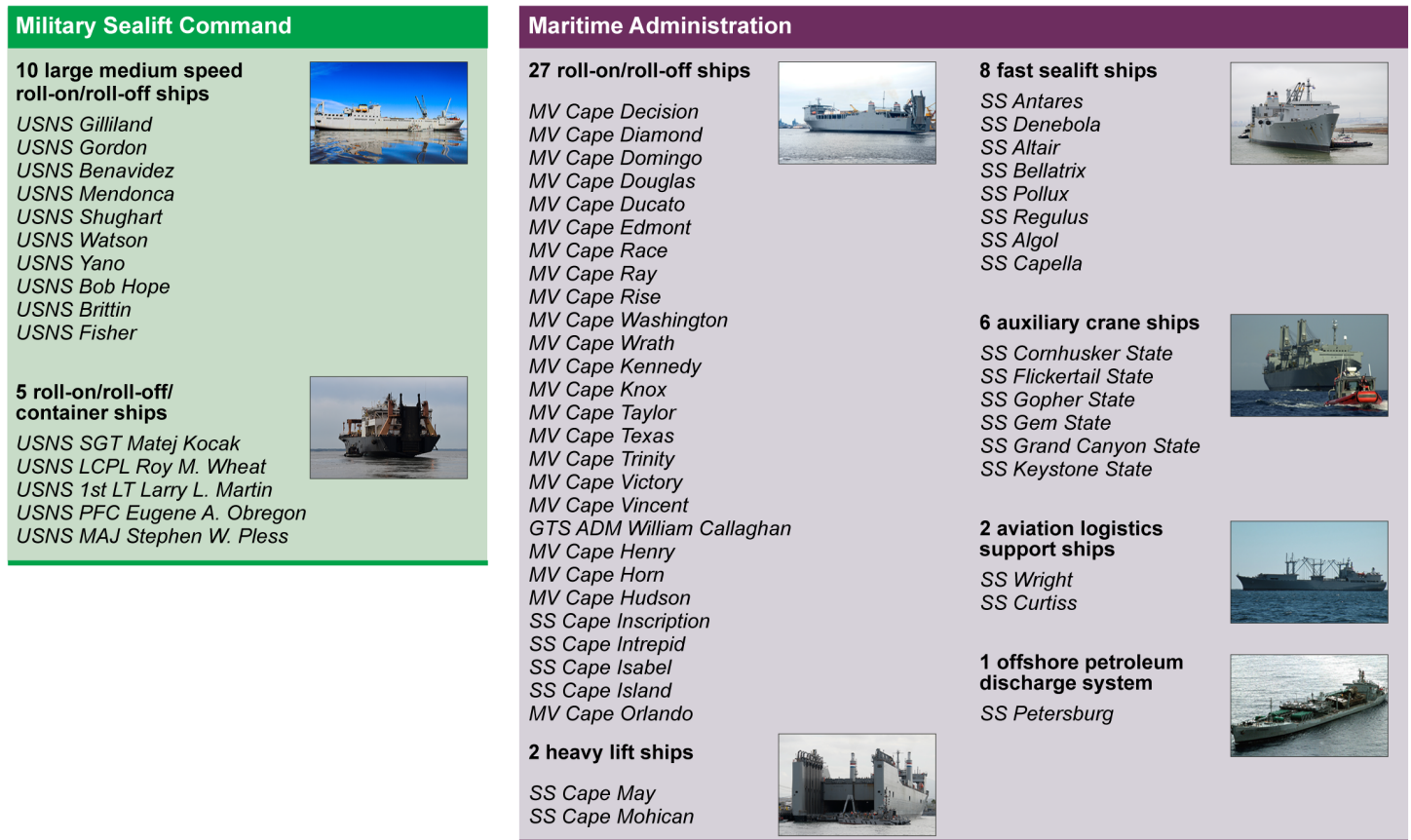
operating status comprise the 61-ship surge sealift fleet (see fig. 1).<sup>13</sup> If needed, additional capacity is provided through commercial ships enrolled in the Voluntary Intermodal Sealift Agreement, which includes all of the ships in the Maritime Security Program.<sup>14</sup>

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<sup>13</sup>Ships in reduced operating status have a small crew of about 10 U.S. civilian mariners onboard to assure the readiness of propulsion and other primary systems if the need arises to activate the ship. The crews are supplemented by additional U.S. mariners during activations.

<sup>14</sup>Under section 53107 of title 46 of the U.S. Code, ships participating in the Maritime Security Program must agree to make commercial transportation resources, including services, available when the Secretary of Defense determines that they are necessary for a contingency operation. In addition, MSC may charter ships to augment capacity as needed, which may include foreign-owned charters and commercial liner service ships. DOD has never activated the Voluntary Intermodal Sealift Agreement or the entire reserve sealift fleet to meet sealift capacity needs.

**Figure 1: Sixty-One Ships of the Surge Sealift Fleet**



Source: GAO analysis of Military Sealift Command and Maritime Administration data (data); Defense Video Imagery Distribution System (images). | GAO-17-503

Note: Roll-on/roll-off ships facilitate the rapid on-load and off-load of rolling stock and military service-unique, special mission equipment.

Nearly all of the surge sealift fleet is expected to be fully operational within 5 days of activation and to provide millions of square feet of cargo carrying capacity to U.S. Transportation Command to transport Army, Marine Corps, and other units' equipment, combat support equipment, and initial supply, as called for in the initial phases of various DOD

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operational plans.<sup>15</sup> The ability of surge sealift ships to meet these readiness requirements depends on the materiel condition of the ships and the availability of U.S. civilian mariners needed to crew them. U.S. Transportation Command regularly conducts no-notice activation exercises—referred to as turbo activations—designed to assess the materiel condition of the ships and test the ships’ ability to meet required activation time frames and perform in-port and at-sea operations.

While MSC and MARAD are responsible for the maintenance and repair of their respective surge sealift ships, MARAD is responsible for ensuring that a sufficient number of U.S. civilian mariners are available to crew all surge sealift ships if they are activated. In August 2015, we reported that the number of U.S. civilian mariners who would be qualified and available to serve during a prolonged activation of the surge sealift fleet was uncertain.<sup>16</sup> We recommended that MARAD study the potential availability of qualified mariners for such an activation. MARAD officials reported they are in the process of working to address this recommendation, which we believe remains valid. In addition, the National Defense Authorization Act for Fiscal Year 2017 tasked MARAD to create a maritime workforce working group and required this group to identify the total number of U.S. citizen mariners in the United States who, among other things, are available to crew the U.S. flag fleet and the surge sealift fleet in times of a national emergency. The Act also requires the Secretary of Transportation to report the maritime workforce working group’s findings to Congress within one year of the date of enactment of the Act.<sup>17</sup> As of May 2017, MARAD officials reported that they have established a working group and plan to report to Congress in December 2017.

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<sup>15</sup>Activation refers to the process necessary for a surge sealift ship to transition from reduced operating status—where ships are maintained with minimal crew members and subject to regulatory surveys and maintenance periods—to full operating status, where enough crew and equipment are on the ship to support a mission. All but one of the surge sealift ships are expected to be ready to execute their mission within 5 days of the activation order. *SS Petersburg*, the surge sealift offshore petroleum discharge system, is expected to be ready to execute its mission within 10 days of an activation order.

<sup>16</sup>GAO, *International Food Assistance: Cargo Preference Increases Food Aid Shipping Costs, and Benefits Are Unclear*, [GAO-15-666](#) (Washington, D.C.: Aug. 26, 2015).

<sup>17</sup>Pub. L. No. 114-328, § 3517 (2016).

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## Combat Logistics Force

The capability to rearm, refuel, and re-provision Navy ships at sea is critical to the Navy's ability to project warfighting power from the sea. MSC's combat logistics force consists of 29 auxiliary ships that provide logistics resupply to Navy combatant ships—aircraft carriers, destroyers, and amphibious ships, among others—at sea during underway replenishments. Doing so enables Navy combatant ships to stay at sea as long as needed during both peacetime and wartime, rather than requiring the ship to pull into port to refuel and resupply. The combat logistics force provides virtually everything that Navy ships need, including fuel, food, ordnance, dry cargo, spare parts, mail, and other supplies. According to MSC, in 2015, combat logistics force ships transferred more than 8.2 million barrels of petroleum products and over 90,000 pallets of dry cargo and ordnance during underway replenishments.<sup>18</sup> Three types of ships are employed in the combat logistics force (see fig. 2).

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<sup>18</sup>Military Sealift Command, *The U.S. Navy's Military Sealift Command 2016 Handbook* (April 2016).

**Figure 2: Twenty-Nine Ships of the Combat Logistics Force**



**Fleet Replenishment Oilers (T-AO)**

Fifteen ships that primarily provide one product, fuel, but have the ability to provide limited quantities of dry cargo. These ships will begin to inactivate in fiscal year 2021 and be replaced by a new class—17 John Lewis class T-AOs—that have increased dry cargo capacity. According to Navy officials, the John Lewis class ships are to be double-hulled and meet environmental requirements.



**Dry Cargo and Ammunition ships (T-AKE)**

Twelve ships that primarily provide ammunition and provisions but can also supply fuel at limited transfer rates and in limited quantities compared to the T-AOE or T-AO.



**Fast Combat Support Ships (T-AOE)**

Two ships that provide support to customer ships by simultaneously replenishing ammunition, provisions, and fuel and are capable of high sustained speeds when mission requirements dictate.

Source: GAO analysis of Navy data (data); Defense Video Imagery Distribution System (images). | GAO-17-503

Note: The Navy has two additional T-AKEs assigned to the Military Sealift Command Prepositioning Program, which supports the Marine Corps. Vertical replenishment provides fleet with freight, mail, and other items using helicopters.

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In the past, the Navy has found that a 29-ship force is required to meet the Navy's resupply needs in peacetime and wartime.<sup>19</sup> However, in December 2016, the Navy released an assessment that identified the need to increase the overall size of its fleet.<sup>20</sup> The Navy's assessment called for more combatant ships—aircraft carriers, destroyers, and amphibious ships, among others—in all a 15 percent increase in the number of all Navy ships required, from 308 to 355 ships. With a larger overall fleet to support, according to the new assessment, the Navy called for three additional combat logistics force ships, for a total of 32 ships required.

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## Surge Sealift and Combat Logistics Fleet Readiness Has Declined Since 2012

The readiness of the surge sealift and combat logistics fleets has trended downward since 2012. We found that mission-limiting equipment casualties—incidents of degraded or out-of-service equipment—have increased over the past five years, and maintenance periods are running longer than planned, indicating declining materiel readiness across both fleets.

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## The Readiness of the Surge Sealift Fleet Has Trended Downward

The readiness of the surge sealift fleet has trended downward over the past 5 years, as shown by increasing equipment casualties and decreasing scores on activation exercises.<sup>21</sup> As a result, the amount of ready sealift cargo carrying capacity, expressed in terms of square feet available for transporting equipment and supplies, has been decreasing, and the decrease has been particularly steep since fiscal year 2015. MSC and MARAD officials explained that the primary factors causing these capacity decreases are increases in mission-limiting equipment casualties

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<sup>19</sup>These assessments include: Center for Naval Analyses, *T-AO(X) Analysis of Alternatives* (December 2011); Deputy Chief of Naval Operations for Integration of Capabilities and Resources (N8), *Combat Logistics Force Sufficiency Assessment* (February 2015); Department of the Navy, *Report to Congress on Requirements for the Fleet Replenishment Oiler, T-AO(X)* (February 2016); and Center for Naval Analyses, *Combat Logistics Force Assessment* (June 2016).

<sup>20</sup>Department of the Navy, *Executive Summary, 2016 Navy Force Structure Assessment (FSA)* (Dec. 15, 2016).

<sup>21</sup>U.S. Transportation Command routinely conducts turbo activations, and MSC and MARAD record crew manning, functioning of cargo handling equipment, and sea-trial performance to report activation exercises on a scorecard.

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and maintenance periods that are running longer than planned;<sup>22</sup> both of these factors indicate declining materiel readiness across the surge sealift fleet.

- *Mission-limiting equipment casualties have increased:* We found that mission-limiting equipment casualties—those that directly affect ship readiness—increased significantly, particularly for MSC surge sealift ships, during fiscal years 2012 through 2016 (see fig. 3).<sup>23</sup>

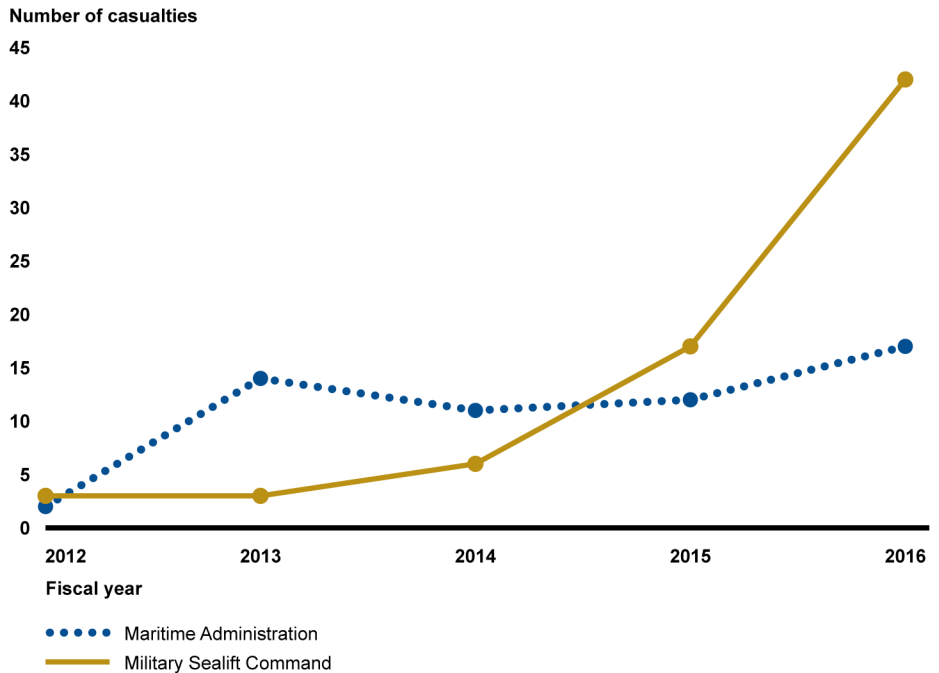
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<sup>22</sup>The Navy uses casualty reports to provide information on the materiel condition of ships, to determine their current readiness. For example, casualty report data provide information on individual pieces of equipment or systems that are degraded or out of service and without which a ship's ability to support required mission areas will be affected.

<sup>23</sup>For the purposes of this report and consistent with Navy readiness documentation, we define mission limiting casualties as those designated as C3/C4, which directly affect ship readiness. The Navy defines C3 casualties as mission-limiting and C4 casualties as causing a loss of a primary mission. Navy Warfare Publication 1-03.1, *Operational Reports* (Nov. 1987) (change 3, March 2017).



**Figure 3: Annual Mission-Limiting Casualty Reports for Surge Sealift Ships, Fiscal Years 2012-2016**



Source: GAO analysis of Military Sealift Command and Maritime Administration data. | GAO-17-503

Note: This chart includes equipment casualties designated as C3/C4, which the Navy defines as directly affecting ship readiness. The Navy defines C3 casualties as mission-limiting and C4 casualties as causing the loss of a primary mission. MSC operates 15 surge sealift ships and MARAD operates 46 surge sealift ships.

- Maintenance periods are running longer than planned:* During fiscal years 2012 through 2016, maintenance periods have run longer than planned, potentially affecting the amount of time both the ship in maintenance and other ships queued for maintenance at the same shipyard are available for activation.<sup>24</sup> For MSC’s surge sealift ships, 10 of 12 (83 percent) scheduled maintenance periods in fiscal years 2012 through 2016 took more time than planned. In fiscal year 2016, these ships came out of maintenance, on average, over a month late,

<sup>24</sup>The Navy generally contracts with private shipyards and other firms for the repair, maintenance, and modernization of non-nuclear surface ships, including surge sealift ships. Although the Navy operates several government-owned shipyards, those shipyards are used primarily to support the repair, maintenance, and modernization of nuclear-powered ships, such as submarines and aircraft carriers. See GAO, *Navy Ship Maintenance: Action Needed to Maximize New Contracting Strategy’s Potential Benefits*, GAO-17-54 (Washington, D.C.: Nov. 21, 2016).

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and extensions of maintenance periods resulted in an average of about \$1.6 million in unplanned costs per ship.<sup>25</sup> Although we were unable to obtain historical data on the length of maintenance periods for MARAD surge sealift ships, the last four MARAD maintenance periods of fiscal year 2016 ran late—on average 38 days late—and resulted in an average of about \$1.4 million in unplanned costs per ship.<sup>26</sup>

Both the age of the ships and deferred maintenance appear to be contributing to the need for more extensive repairs. MSC and MARAD officials said that as ships age, unforeseen or complicated repairs cause maintenance periods to run longer than planned. In addition, according to MSC and MARAD officials, surge sealift ships are experiencing increases in maintenance deferrals as a result of limited funding—where work that cannot be executed or funded in the current fiscal year is deferred to future fiscal years. For example, as of October 2016, MARAD’s deferred maintenance work amounts to nearly \$51 million in maintenance costs. MARAD officials said that as deferrals increase, the materiel condition of the ships declines, and the eventual cost of repairs is higher than it would have been had maintenance been performed as planned.

In addition to materiel readiness indicators, scores from turbo activations—no-notice exercises performed by U.S. Transportation Command to assess the materiel condition of a ship and test its ability to meet activation time frames—are also declining.<sup>27</sup> We analyzed the scores from turbo activation exercises for surge sealift ships from fiscal year 2014 through fiscal year 2016 and found that they had trended downward over the last 3 years.<sup>28</sup> Specifically, MSC scores were down by

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<sup>25</sup>Some maintenance periods came in under budget, but the total amount of unplanned costs for MSC maintenance periods in fiscal years 2012 through 2016 was \$6.5 million.

<sup>26</sup>MARAD conducts maintenance through a continuous maintenance availability, meaning that maintenance is primarily completed at a layberth and not in a shipyard or drydock.

<sup>27</sup>Joint Publication 4-01.2, *Sealift Support to Joint Operations* (Dec. 29, 2015). Turbo activations test the ships’ ability to get underway and perform in-port and at-sea operations in the required time frame—within 5 days, for the surge sealift fleet. Officials assign numerical scores for the individual ship’s ability to meet its readiness requirements: 100 is a perfect score, and any score equal to or over 86 is recognized as passing, according to U.S. Transportation Command’s turbo activation scorecards.

<sup>28</sup>We requested and received turbo activation scores from fiscal year 2012 through fiscal year 2016; however, U.S. Transportation Command could not locate detailed scorecards for five of the turbo activations conducted in 2012 and 2013, so we limited our analysis to fiscal year 2014 through fiscal year 2016.

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13 percent and MARAD scores were down by 5 percent.<sup>29</sup> These exercise scores may not fully reflect the magnitude of declining fleet readiness, given that we found that nearly a third of the surge sealift ships have not participated in a turbo activation in the last 5 years and that one ship we visited had never participated in a turbo activation. Further, we found that in at least 22 percent of turbo activations over the last 5 years, participating ships have completed less than 72 hours of underway time.<sup>30</sup> MSC and MARAD officials told us that the limited number of turbo activations and underway time limits their ability to evaluate the readiness of ships that have not been activated and the quality of the ship managers responsible for maintaining those ships in reduced operating status.

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## The Readiness of the Combat Logistics Force Has Trended Downward

We found that the readiness of the combat logistics force, like that of the surge sealift fleet, has trended downward in fiscal years 2012 through 2016.<sup>31</sup> Specifically,

- *Operational availability has declined:* Operational availability measures the amount of time that a ship can get underway and execute a mission as required. MSC's goal is for each combat logistics ship to be available for missions 270 days a year, devoting the rest of its time largely to maintenance and training. However, the fast combat support ship (T-AOE) and the fleet replenishment oiler (T-AO) ship classes are not meeting this target and have seen declines

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<sup>29</sup>Our review of turbo activation data found that scores for steam-powered ships had declined by 3 percent and scores for diesel-powered ships had declined by 9 percent. Approximately 43 percent of the surge sealift inventory is steam powered. Of the 52 turbo activations from 2014 to 2016, half of them activated steam-powered ships.

<sup>30</sup>The required underway time for a turbo activation is normally between 72 hours and 60 days. However, turbo activations are generally planned for 72 hours and, in practice, some ships are underway for less than 72 hours during the exercise. We were unable to obtain underway time for all turbo activations in the last 5 years. This analysis includes underway time for only 48 of the 74 activations from fiscal year 2012 through fiscal year 2016, and as a result, there may have been more turbo activations during that period with less than 72 hours of underway time.

<sup>31</sup>DOD officials noted several changes that occurred over the past 5 years that may have affected combat logistics force readiness, including revisions to the Navy's operational schedule in the introduction of the optimized fleet response plan and increases in the Navy's use of homeporting ships overseas. We have reported on both of these issues. See GAO, *Military Readiness: Progress and Challenges in Implementing the Navy's Optimized Fleet Response Plan*, [GAO-16-466R](#) (Washington, D.C.: May 2, 2016) and GAO, *Navy Force Structure: Sustainable Plan and Comprehensive Assessment Needed to Mitigate Long-Term Risks to Ships Assigned to Overseas Homeports*, [GAO-15-329](#) (Washington, D.C.: May 29, 2015).

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in annual operational availability from 289 to 267 days (8 percent) and from 253 to 212 days (16 percent), respectively, over the past 5 years.<sup>32</sup> These declines were due primarily to increases in unscheduled maintenance, according to MSC officials.

- *Maintenance periods are running longer than planned:* During fiscal year 2012 through May of 2016, maintenance periods have run longer than planned—affecting the amount of time a ship is operationally available for missions. In total, maintenance delays for the combat logistics force resulted in 795 lost operational days across the combat logistics fleet from fiscal year 2012 to midway through fiscal year 2016.<sup>33</sup>
- *Mission-limiting equipment casualties have increased:* We found that mission-limiting equipment casualties have increased over the past 5 years from 69 such failures in 2012 to 122 in 2016 (77 percent). See figure 4.<sup>34</sup> This trend has been particularly notable for the fleet replenishment oilers (T-AO), for which mission-limiting equipment casualties have increased 250 percent over the past 3 years, usually as a result of failures of aging engines and diesel generators.

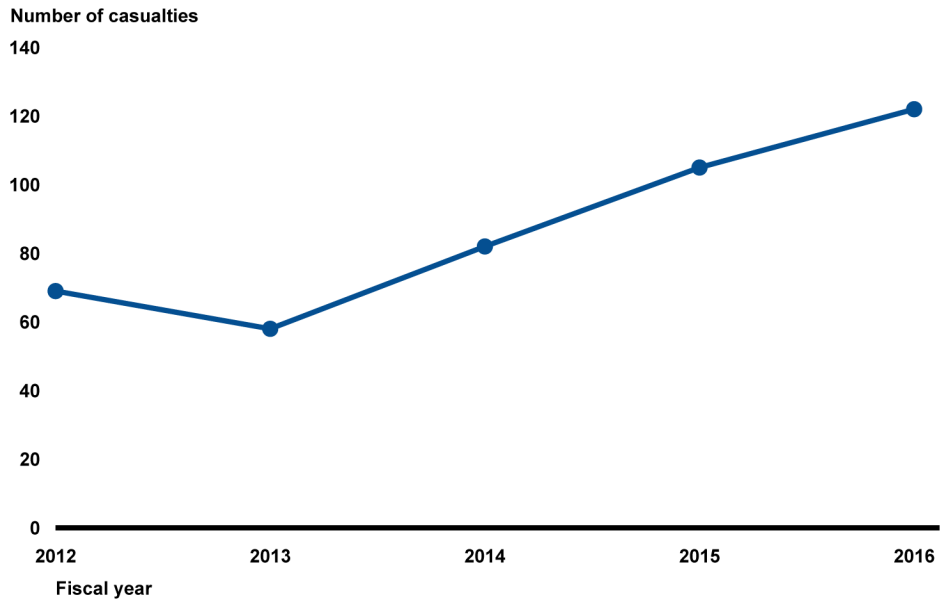
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<sup>32</sup>MSC officials noted that decreases in the operational availability of fast combat support ships are largely attributable to the prolonged maintenance of the *USNS Supply* during this time frame, in which the ship underwent extensive modernization.

<sup>33</sup>The most recent maintenance period data available from MSC were through May 2016.

<sup>34</sup>For the purposes of this report and consistent with Navy readiness documentation, we define mission limiting casualties as those designated as C3/C4, which directly affect ship readiness. The Navy defines C3 casualties as mission-limiting and C4 casualties as causing a loss of a primary mission. Navy Warfare Publication 1-03.1, *Operational Reports* (Nov. 1987) (change 3, March 2017).

**Figure 4: Annual Mission-Limiting Casualties for Combat Logistics Force Ships, Fiscal Years 2012-2016**



Source: GAO analysis of Military Sealift Command data. | GAO-17-503

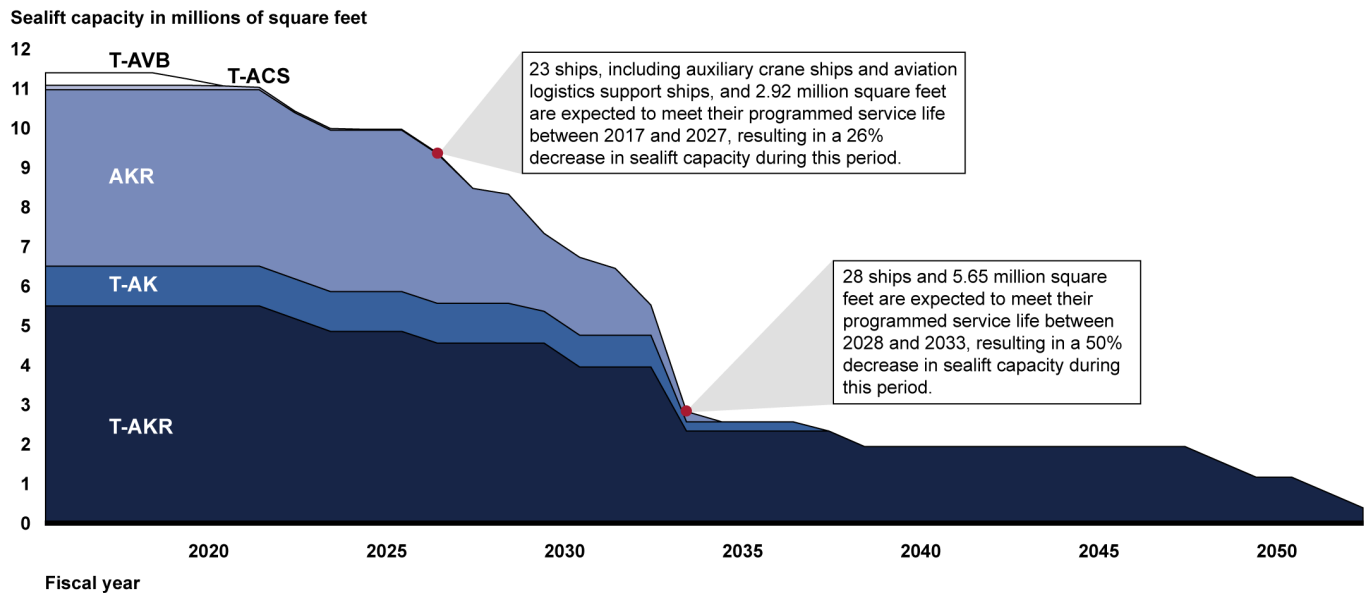
Note: This chart includes equipment casualties designated as C3/C4, which the Navy defines as directly affecting ship readiness. The Navy defines C3 casualties as mission-limiting and C4 casualties as causing the loss of a primary mission.

## The Navy is Developing a Long-Term Plan to Recapitalize the Surge Sealift Fleet but Has Not Incorporated Leading Practices

The Navy is in the process of developing a long-term recapitalization plan for the aging sealift fleet, and cognizant Navy officials acknowledged that they have not fully incorporated leading practices for capital investment planning into the plan. The average age of the ships in the surge sealift fleet is nearly 40 years, and many are approaching the end of their programmed service lives.<sup>35</sup> The number of surge sealift ships reaching the end of their programmed service lives over the next 10 years will reduce sealift capacity by over 25 percent (see fig. 5).

<sup>35</sup>The average age of the 46 MARAD surge sealift ships is 43 years. The average age of the 15 MSC surge sealift ships is 29 years.

**Figure 5: Projected Surge Sealift Capacity Decreases over Time, Based on Programmed Service Life**



T-AVB = Aviation logistics support ships  
 T-ACS = Auxiliary crane ships  
 AKR = Roll-on/roll-off and heavy lift ships  
 T-AK = Roll-on/roll-off and container ships  
 T-AKR = Fast sealift ships

Source: GAO analysis of Military Sealift Command and Maritime Administration data. | GAO-17-503

Note: U.S. Transportation Command officials noted that they do not include the aviation logistics support ships (T-AVB) and auxiliary crane ships (T-ACS) in their mobility capabilities assessments of sealift capacity. We included them here for illustrative purposes, because they have militarily useful sealift capacity and are part of the surge sealift fleet.

Several types of the surge sealift ships, including the aviation logistics support ships (T-AVB) and auxiliary crane ships (T-ACS), are particularly old—these ships will reach their programmed service lives of 50 to 55 years by 2024. DOD officials have noted that the Army and Marine Corps rely on the capability provided by these types of ships. For example, according to Army documentation, the 6 auxiliary crane ships are critical for moving the Army’s prepositioned stocks equipment from storage location to point of employment and for the intra-theater distribution of ammunition.<sup>36</sup>

<sup>36</sup>MARAD officials reported that, as of April 2017, three auxiliary crane ships have been activated to perform containerized ammunition cargo missions for units in U.S. European Command and U.S. Central Command.

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Recognizing the readiness challenges posed by an aging fleet and the impending shortfalls in the surge sealift force, the Office of the Secretary of Defense convened a strategic portfolio review on sealift recapitalization in 2016. Results of this review showed that billions of dollars will be required to recapitalize the aging roll-on/roll-off and other ships in the surge sealift fleet. During our review, both U.S. Transportation Command and Navy officials agreed that DOD takes on added risk if the surge sealift fleet is not recapitalized. In November 2016, in response to the strategic portfolio review, the Deputy Secretary of Defense directed the Navy to develop a plan of action and milestones for recapitalizing the surge sealift fleet. Navy officials said they are in the process of developing a plan of action and milestones that includes a three-pronged approach, focusing on service-life extension programs in the near term, acquiring used ships in the midterm, and building new ships in the long term:

- **Service-life extension programs:** According to the Navy and U.S. Transportation Command, extending a ship's service life is appropriate for some select ships—up to a service life of 60 years. However, there are material and economic limits to ship service life as a result of factors such as the deterioration of the hull, parts availability, and engine condition, and extending the life of steam-powered ships could exacerbate the shortage of steam engineers.<sup>37</sup>
- **Purchasing used ships:** According to the Navy and U.S. Transportation Command, used commercial vessels can be acquired less expensively than new ships and could provide at least 25 years of service life. However, there is a limited market of U.S.-built ships, and Navy and U.S. Transportation Command officials stated that they do not purchase foreign-built ships from the commercial market due to statutory limitations.<sup>38</sup>

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<sup>37</sup>MARAD officials stated that their position is that this can be managed through workforce initiatives. MARAD officials reported that they have taken steps to increase the number of engineers on steam-powered vessels during activations. For example, in May 2017, 12 additional engineers were assigned across three activated auxiliary crane ships.

<sup>38</sup>10 U.S.C. § 2218(c)(1)(E) and (f).

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- **Building new ships:** According to the Navy and U.S. Transportation Command, new ships provide an expected service life of 50 years but are the most expensive option.<sup>39</sup>

Navy officials said they had expected to complete this plan in the spring of 2017. However, in May 2017, Navy officials told us that they were uncertain when the plan would be finalized, because they are still developing a budget request, and the recapitalization plan is contingent on funding.

Navy officials responsible for developing the plan of action and milestones told us that this plan will be an important first step in providing potential decision points for future recapitalization needs but that, at this time, they have not included some elements that we believe are necessary for a comprehensive recapitalization strategy, as shown in table 1.<sup>40</sup>

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<sup>39</sup>Navy officials explained that longer-term sealift recapitalization will likely require a new construction program, and they intend to focus on building new ships with adaptable modular capability, based on a common hull design.

<sup>40</sup>Capital planning is part of the capital-asset life cycle, which links budgeting, managing, and long-range planning of the capital-asset portfolio to meet the goals and objectives in the strategic and annual plan. See Office of Management and Budget Circular No. A-11, *Preparation, Submission, and Execution of the Budget*, and its supplement entitled *Capital Programming Guide* (July 2017). We have previously evaluated the implementation of the concepts that underlie the capital planning best practices. See, for example, [GAO-15-489](#) and [GAO-11-197](#).



**Table 1: Summary of Leading Practices for Capital Planning**

Leading Practices	Description
Needs Assessment	<ul style="list-style-type: none"><li>• Make use of an accurate and up-to-date inventory of capital assets and facilities, as well as current information on asset condition.</li></ul>
Review and approval of framework with established criteria	<ul style="list-style-type: none"><li>• Consider the cost of a proposed asset, the level of risk involved in acquiring the asset, and its importance to achieving the agency mission when defining criteria for executive review.</li></ul>
Project prioritization	<ul style="list-style-type: none"><li>• Have processes in which proposed capital investments should be compared to one another to create a portfolio of major assets ranked in priority order.</li></ul>
Strategic linkage	<ul style="list-style-type: none"><li>• Provide a long-range plan for the capital-asset portfolio to meet the goals and objectives in the agency's strategic and annual performance plans.</li></ul>
Long-term capital plan	<ul style="list-style-type: none"><li>• Should reflect decision makers' priorities for the future and be updated either annually or biennially.</li><li>• Include certain elements, including a statement of the agency's mission; strategic goals and objectives; a description of the agency's planning process; baseline assessments and identification of performance gaps; a risk-management plan; staff requirements; timing issues, if involved in a multiagency acquisition; and plans for proposed capital assets once in use.</li></ul>

Source: GAO and Office of Management and Budget guidance. | GAO-17-503

Specifically, Navy officials told us that the Navy's plan does not include a needs assessment with a complete inventory of surge sealift ships and their current materiel condition, a framework with established criteria to assess recapitalization options, project prioritization comparing the costs and benefits of proposed recapitalization investments with each other, strategic linkage to DOD sealift requirements, or a long-term capital plan. A long-term capital plan would include elements such as baseline assessments of current and projected sealift capacity—including the identification of capacity gaps, specific timing issues and costs for the acquisition of new or used ships, and a complete description of the Navy's process for reaching its conclusions. Our work has shown that comprehensive recapitalization strategies should reflect these and other leading practices for capital investment planning. Senior Navy officials agreed that incorporating such elements would be useful and said that they would explore applying these elements as they develop a comprehensive recapitalization plan for the surge sealift fleet.

Declining sealift capacity increases the risk that the United States will be unable to deliver the equipment, supplies, and forces called for in the initial phases of operational plans. Unless the Navy has a comprehensive recapitalization plan that incorporates leading practices for capital planning such as conducting a needs assessment, providing a framework with established criteria to assess options, specifying how projects will be

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prioritized, ensuring strategic linkage to DOD sealift requirements, and developing a long-term capital plan to ensure the availability of surge sealift capability in the future, it may not be able to deliver equipment and supplies to the Army, Marine Corps, and other forces when they are needed to support a major contingency, potentially hindering U.S. operations.

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## The Navy Has Not Assessed the Potential Effects of Dispersed Operations on the Combat Logistics Force

The Navy has not assessed the effect that implementing widely distributed operations will have on the number and type of combat logistics ships required to support the fleet. As early as January 2015, senior Navy leaders outlined a new warfighting concept calling for widely distributed operations, referred to by the Navy as “distributed lethality.”<sup>41</sup> In January 2017, the Navy released its new surface strategy, *Surface Force Strategy: Return to Sea Control*, which includes concepts for more widely distributed operations through distributed lethality.<sup>42</sup> According to the strategy, the security interests of the United States are increasingly challenged by near-peer competitors, among others, and the Navy must adjust to this changing security environment. Implementing the distributed lethality concept is critical to maintaining the Navy’s maritime superiority and requires employing its fleet in dispersed formations across a wider expanse of territory to increase both the offensive and defensive capabilities of surface forces. According to the Navy, these concepts complicate enemy targeting by dispersing larger numbers of platforms capable of offensive action over a wide geographic area.

According to Navy and MSC officials, a greater reliance on distributed operations and the lethality provided by a widely distributed fleet will require resupplying ships that are farther apart and generally increase the demand on the combat logistics force. This stands in contrast to the Navy’s traditional concept of operations, in which Navy combatant ships operate in task group formations—such as carrier strike groups or amphibious ready groups—and, to support these formations, combat

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<sup>41</sup>In a January 2015 article in the U.S. Naval Institute’s *Proceedings* magazine, the Navy’s surface warfare leaders—Vice Admiral Rowden, Commander, Naval Surface Forces; Rear Admiral Gumataotao, Commander, Naval Surface Force Atlantic; and Rear Admiral Fanta, Director, Surface Warfare—presented the distributed lethality concept, stating that for more power in more places, the Navy should increase the offensive might of the surface force and employ ships in dispersed formations.

<sup>42</sup>Commander, Naval Surface Force, *Surface Force Strategy: Return to Sea Control* (January 2017).

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logistics force ships transit with them and replenish them with supplies as needed.<sup>43</sup> In June 2016, the Center for Naval Analyses' modeling found that spreading combatant ships, such as carrier strike groups, out over larger regions would put more stress on the combat logistics force, because additional ships would be needed as the groups spread out and also because distributing supplies to the individual ships would take longer.<sup>44</sup> Additionally, combat logistics force ships might need to operate independently in small groups—or even alone—which could put them at risk in contested environments, according to Navy officials.

Another effect of widely distributed operations is that ships operating further from ports might require more underway replenishments (see fig. 6), which could affect the number and types of combat logistics force ships required to support the Navy fleet. Under current concepts, Navy carrier strike groups and other ships can typically stay at sea as long as needed, because they have the ability to be replenished either in port or while underway with fuel, ammunition, and stores transported by the combat logistics force. Under distributed operations, geographically-separated ships may not be able to be replenished in port during peacetime, or it may be too far or too dangerous in wartime for them to go into port, according to Navy officials.

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<sup>43</sup>The Navy refers to this as a shuttle ship/station ship concept of operations, in which shuttle ships are primarily responsible for bringing supplies from a distant resupply port to the battle force and station ships are primarily responsible for transiting to, and distributing those supplies among, the individual combatant ships.

<sup>44</sup>Center for Naval Analyses, *Combat Logistics Force Assessment* (June 2016).

**Figure 6: Combat Logistics Force Ships Providing Underway Replenishments**



**Left:** The dry cargo ship USNS William McLean (T-AKE 12) delivers fuel to the amphibious assault ship USS Iwo Jima (LHD 7) during an underway replenishment.

**Right:** Civil service mariners aboard the fast combat support ship USNS Arctic (T-AOE 8) send stores to the guided-missile destroyer USS Hopper (DDG 70) during an underway replenishment.

Source: Defense Video Imagery Distribution System. | GAO-17-503

Note: “Stores” refers to dry cargo.

Officials from U.S. Pacific Fleet and MSC expressed several concerns about the use of and reliance on in-port refueling during peacetime. Navy officials explained that in-port refueling is typically completed as a matter of convenience, because ships that are in port for port visits or other reasons will rarely pass up the opportunity to refuel and resupply. Our analysis found a steady reliance on in-port replenishment in recent years.<sup>45</sup> However, Navy officials expressed concerns, citing force protection vulnerabilities while ships are in port, skill atrophy for Navy combatant and combat logistics force ship crews as a result of participating in fewer underway refueling events, and the potential costs associated with in-port refueling at various overseas locations. MSC mariners we spoke with emphasized that underway replenishments are dangerous and difficult—with speeding ships only a few feet away in open water—and require training and practice to gain and maintain skill proficiency. Further, it is possible to lose access to in-port refueling,

<sup>45</sup>We analyzed replenishment data from January 2011 through December 2015 and found that total replenishment events had decreased by 27 percent in this time frame. Navy officials explained that demand for combat logistics force ships has decreased and that there has been an increase in in-port refueling as a matter of scheduling preference. In November 2016, the Center for Naval Analyses reported that Navy combatants had received fuel from non-combat logistics force sources about 30 percent of the time over the past three years. See Center for Naval Analyses, *Fuel Support of Deployed U.S. Navy Combatants* (November 2016).

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especially during wartime, according to Navy officials. As we reported in May 2015, unforeseen host-nation policy changes can affect renegotiation of international agreements, which may restrict base usage, or possibly remove the Navy presence entirely.<sup>46</sup>

Navy officials acknowledged that challenges would likely result if the Navy had to rely more on at-sea replenishment but told us that no specific analyses had been completed to assess how the potential loss of access to in-port refueling would affect the size and composition of the combat logistics force. However, the Center for Naval Analyses analyzed destroyers' refueling events in the Pacific Ocean and found that the loss of resupply sources other than the combat logistics force in this area alone could have a significant effect on the operations and requirements of the combat logistics force, potentially increasing the number of underway refueling events the force would have to conduct by 81 percent.<sup>47</sup>

Navy officials acknowledged that widely distributed operations have the potential to affect the size, composition, and employment of the combat logistics force but, as of May 2017, the Navy has not assessed the effect of this concept of operations on the number and type of ships that will be required. Federal standards for internal control state that agencies should use quality information to achieve objectives, make informed decisions, and evaluate performance in achieving key objectives and addressing risks.<sup>48</sup> The Navy recognizes the need to refine such concepts, but officials told us that much remains to be done. The Center for Naval Analyses noted in its June 2016 report assessing the structure of the combat logistics force that the Navy's surface warfare community was then in the process of developing the concept of operations for widely

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<sup>46</sup>GAO, *Navy Force Structure: Sustainable Plan and Comprehensive Assessment Needed to Mitigate Long-Term Risks to Ships Assigned to Overseas Homeports*, [GAO-15-329](#) (Washington, D.C.: May 29, 2015).

<sup>47</sup>The Center for Naval Analyses analyzed destroyers' refueling events in the 7<sup>th</sup> Fleet. The U.S. Navy's 7<sup>th</sup> Fleet area of responsibility stretches from the International Date Line to the India/Pakistan border and from the Kuril Islands in the North to the Antarctic in the South; it includes China, North Korea, Japan, Australia, and India, among other countries. See Center for Naval Analyses, *Fuel Support of Deployed U.S. Navy Combatants* (November 2016).

<sup>48</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 2014).

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distributed operations so, at that time, the effect on combat logistics force operations in future warfighting scenarios had not yet been determined.

Over the course of our review, we interviewed officials from the Office of the Chief of Naval Operations, U.S. Pacific Fleet, and MSC to discuss the implementation of more widely distributed operations and the extent to which they were likely to affect combat logistics force's structure, employment, and operations. Officials from the Office of the Chief of Naval Operations said that they would incorporate widely distributed operations into campaign and mission analyses—critical steps in assessing peacetime and wartime needs—in the future, acknowledging that the concept has the potential to affect the size, composition, and employment of the combat logistics force. However, officials did not have specific plans and time frames for when these analyses would be conducted, instead offering that they might occur in fiscal year 2019 or 2020. Given the fleet's dependence on the combat logistics force, waiting several years for such an assessment could potentially result in poor investment decisions as the Navy continues to build and modernize its fleet. Furthermore, if the Navy does not conduct a timely assessment of the effects of widely distributed operations on the size and composition of the combat logistics force and modify its force structure plans accordingly, it might be at risk of being unprepared to provide Navy combatants with required fuel and other supplies at sea.

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## Conclusions

The ships of the surge sealift fleet are critical enablers that must be ready to provide millions of square feet of cargo carrying capacity to transport Army, Marine Corps, and other force equipment and supplies. Over 90 percent of the equipment, personnel, fuel, and other cargo necessary to sustain a major conflict is moved by sealift ships, but the readiness of the aging surge sealift fleet is trending downward, increasing the risk that the United States will be unable to rapidly deliver the equipment, supplies, and forces called for in the initial phases of operational plans. Without a comprehensive recapitalization plan that incorporates leading practices for capital planning to ensure the availability of surge sealift capability, the equipment and supplies needed by the Army, Marine Corps, and other forces in the event of a war or major contingency may not arrive on time, potentially hindering U.S. operations.

The combat logistics force—which performs key missions like rearming, refueling and re-provisioning Navy combatant ships at sea—has also experienced declining readiness. Looking to the future, the Navy has not assessed the effects of its plan to grow the Navy fleet that the combat

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logistics force supports and disperse this larger fleet in future operations. These widely distributed operations could affect the number and types of ships required to support a Navy fleet that is planned to grow by as much as 15 percent. Without conducting a timely assessment of the effects of widely distributed operations on the size and composition of the combat logistics force—and modifying its force structure plans accordingly—the Navy may be at risk of being unprepared to provide Navy combatants with required fuel and other supplies at sea.

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## Recommendations for Executive Action

To ensure that the United States has adequate available sealift capacity, we recommend that the Secretary of Defense direct the Secretary of the Navy to finalize a comprehensive long-term sealift recapitalization plan that incorporates leading practices for capital planning, such as conducting a needs assessment, providing a framework with established criteria to assess options, specifying how projects will be prioritized, ensuring strategic linkage to DOD sealift requirements, and developing a long-term capital plan.

To ensure that the Navy is prepared to provide Navy combatants with required fuel and other supplies at sea, we recommend that the Secretary of Defense direct the Secretary of the Navy to conduct a timely assessment of the effects of widely distributed operations on the size and composition of the combat logistics force and modify force structure plans accordingly.

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## Agency Comments and Our Evaluation

We provided a draft of this report to DOD for review and comment. In written comments provided by the Navy through DOD (reproduced in appendix I), the Navy concurred with our recommendations. DOD and the Maritime Administration also provided technical comments, which we incorporated as appropriate.

The Navy concurred with our recommendation to finalize a comprehensive long-term sealift recapitalization plan that incorporates leading practices for capital planning. In its comments, the Navy stated that this effort is being finalized and that it has coordinated planning options with the Office of Secretary of Defense, U.S. Transportation Command, and the Maritime Administration. The Navy stated that the sealift recapitalization strategy includes a three-phased plan to extend the service life of select vessels and acquire a limited number of used vessels, and also includes a new construction, common-hulled shipbuilding program. The Navy added that DOD's Fiscal Year 2018

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legislative proposal submission for the National Defense Authorization Act for Fiscal Year 2018 contained a proposal to authorize the purchase of used ships, which if enacted, will enable the Navy to proceed with its recapitalization plan.<sup>49</sup>

The Navy also concurred with our recommendation to conduct a timely assessment of the effects of widely distributed operations on the size and composition of the combat logistics force and modify force structure plans accordingly. The Navy stated that it is continuing to work with the United States Pacific Fleet and Military Sealift Command to identify capability gaps associated with dispersed operations. The Navy stated that it will continue to incrementally assess the impacts from accessibility challenges to fixed logistics hubs and from operating in a contested environment to the size and composition of the combat logistics force, adding that the next full combat logistics force assessment is scheduled for 2020. As we stated in the report, we believe a timely assessment of the effects of widely distributed operations on the size and composition of the combat logistics force is warranted. Given the fleet's dependence on the combat logistics force, waiting until 2020 could result in poor investment decisions as the Navy continues to build and modernize its fleet.

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We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Secretary of the Navy, the Secretary of Transportation, and the Administrator of the Maritime Administration. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

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<sup>49</sup>H.R. Bill 2810 for the National Defense Authorization Act for Fiscal Year 2018 included a provision that would amend section 2218 of title 10 of the U.S. Code to authorize the Secretary of Defense to purchase up to five used vessels, regardless of where constructed, as part of the Ready Reserve Force component of the national defense reserve fleet and the Military Sealift Command surge fleet, on a one-for-one basis with new vessels authorized by the National Defense Sealift Fund. The amendment would also require the Secretary of Defense, prior to the purchase of a vessel not constructed in the United States, to certify that there are no United States constructed vessels available for purchase at a reasonable price that are suitable for national defense or military purposes in a time of war or national emergency.



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If you or your staff have any questions about this report, please contact me at (202) 512-3489 or at [pendletonj@gao.gov](mailto:pendletonj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix II.



John H. Pendleton  
Director  
Defense Capabilities and Management

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*List of Committees*

The Honorable John McCain  
Chairman  
The Honorable Jack Reed  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable Thad Cochran  
Chairman  
The Honorable Richard Durbin  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable Mac Thornberry  
Chairman  
The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
House of Representatives

The Honorable Kay Granger  
Chairwoman  
The Honorable Pete Visclosky  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

# Appendix I: Comments from the Department of Defense



DEPARTMENT OF THE NAVY  
OFFICE OF THE ASSISTANT SECRETARY  
RESEARCH, DEVELOPMENT AND ACQUISITION  
1000 NAVY PENTAGON  
WASHINGTON DC 20350-1000

AUG 4 2017

Mr. John Pendleton  
Director, Defense Capabilities and Management  
U.S. Government Accountability Office  
441 G Street, NW  
Washington DC 20548

Dear Mr. Pendleton,

Attached is the Department of the Navy's response to GAO Draft Report GAO-17-503, "NAVY READINESS: Actions Needed to Maintain Viable Surge Sealift and Combat Logistics Fleets," dated June 12, 2017 (GAO Code 100935).

The Department is providing official written comments for inclusion in the report.

Sincerely,

A handwritten signature in black ink, reading "Allison F. Stiller".

Allison F. Stiller  
Principal Deputy Civilian ASN(RD&A)  
Performing the Duties and Functions of  
ASN(RD&A)

Attachments:  
As stated

GAO DRAFT REPORT DATED JUNE 12, 2017  
GAO-17-503 (GAO CODE 100935)

“NAVY READINESS: ACTIONS NEEDED TO MAINTAIN VIABLE SURGE  
SEALIFT AND COMBAT LOGISTICS FLEETS”

DEPARTMENT OF NAVY COMMENTS  
TO THE GAO RECOMMENDATIONS

**RECOMMENDATION 1:** To ensure that the United States has adequate available sealift capacity, the GAO recommend that the Secretary of Defense direct the Secretary of the Navy to finalize a comprehensive long-term sealift recapitalization plan that incorporates leading practices for capital planning, such as conducting a needs assessment, providing a framework with established criteria to assess options, specifying how projects will be prioritized, ensuring strategic linkage to DOD sealift requirements, and developing a long-term capital plan.

**DoD RESPONSE:** Concur. In November 2016, the Deputy Secretary of Defense directed the Navy to develop a plan for recapitalizing the surge sealift fleet. As the GAO report notes, that effort is in progress and is being finalized. Navy has coordinated planning options with Office of Secretary of Defense, U.S. Transportation Command (USTRANSCOM), and the Department of Transportation’s Maritime Administration (MARAD). The sealift recapitalization strategy that has been developed includes a three-phased plan that extends the service life of select vessels, acquires a limited number of used vessels, and a new construction, common-hulled shipbuilding program. DoD’s Fiscal Year (FY) 2018 legislative proposal submission (for the FY 2018 National Defense Authorization Act) contained a proposal to authorize the purchase of used ships – a critical leg of the sealift recapitalization strategy. Once legislative approval is confirmed, the recapitalization effort can proceed, and the overall plan be solidified.

**RECOMMENDATION 2:** To ensure that the Navy is prepared to provide Navy combatants with required fuel and other supplies at sea, the GAO recommend that the Secretary of Defense direct the Secretary of the Navy to conduct a timely assessment of the effects of widely distributed operations on the size and composition of the combat logistics force, and modify force structure plans accordingly.

**DoD RESPONSE:** Concur. While the most recent Combat Logistics Force (CLF) Assessment, conducted in 2016 as required by the FY 2016 National Defense Authorization Act, found that the CLF was sufficient to support widely dispersed combat operations, it noted that more concept development and future analyses was required. The Navy is continuing to work with the United States Pacific Fleet and Military Sealift Command to identify capability gaps associated with dispersed operations. Additionally, the Navy will continue to incrementally assess the impacts from accessibility challenges to fixed logistics hubs and from operating in a contested environment to the size and composition of the CLF force structure. The next full CLF assessment is scheduled for 2020.

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# Appendix II: GAO Contact and Staff Acknowledgments

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## GAO Contact

John H. Pendleton, (202) 512-3489 or [pendletonj@gao.gov](mailto:pendletonj@gao.gov)

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## Staff Acknowledgments

In addition to the contact named above, Suzanne Wren, Assistant Director; Amy Bush; Patricia Donahue; Cynthia Grant; Joanne Landesman; Amie Lesser; Shari Nikoo; Michael Perkins; and Chris Watson made key contributions to this report.

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