



Testimony

Before the Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, House of Representatives

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COAST GUARD

Actions Underway to Develop Acquisition Plans that Reflect New Assets and Improve the Asset Allocation Process

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Accessible Version

GAO Highlights

Highlights of [GAO-16-633T](#), a testimony before the Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

Following the terrorist attacks of September 11, 2001, the Coast Guard has been charged with expanded security-related missions. Constrained budgets in recent years have underscored the importance of ensuring that the Coast Guard has the proper mix of assets and that it can effectively allocate these assets to achieve its missions. In recent years, the Coast Guard has begun to deploy new assets, and has taken actions to assess what assets it needs to carry out its missions and how to best allocate its current assets. However, the Coast Guard continues to face decisions about what assets it needs and how to best allocate these assets to meet its mission responsibilities.

This statement addresses the Coast Guard's (1) mission needs, and (2) process for allocating asset resource hours across missions and units. This testimony is based on GAO's May 2016 report on the Coast Guard's allocation of assets, and GAO's body of work over the past 6 years on Coast Guard major acquisitions, as well as selected updates obtained in May 2016. For the selected updates, GAO reviewed Coast Guard documentation and analyzed fiscal year 2015 data on Coast Guard asset resource hour utilization, which GAO found to be sufficiently reliable for the purposes of this testimony statement.

What GAO Recommends

GAO is not making any new recommendations in this statement.

View [GAO-16-633T](#). For more information, contact Jennifer A. Grover at (202) 512-7141 or groverj@gao.gov.

June 2016

COAST GUARD

Actions Underway to Develop Acquisition Plans that Reflect New Assets and Improve the Asset Allocation Process

What GAO Found

Since the U.S. Coast Guard developed acquisition plans for its asset recapitalization program, many of the assumptions that initially informed these documents, including its 2005 Mission Needs Statement baseline, are no longer accurate. For example, in March 2015, GAO reported that the Coast Guard received an unexpected transfer of 14 C-27J aircraft from the Air Force, representing a significant change to its aircraft fleet mix. In addition, Congress recently provided the Coast Guard with funding for a ninth National Security Cutter—one more than it had planned for in 2005. Further, the Coast Guard has reduced the operational capacities of several assets to reflect more realistic and achievable operational targets. For example, the Coast Guard reduced the operational capacity of the Fast Response Cutter from 3,000 hours per vessel per year to 2,500 hours. GAO has also consistently found that there is a significant difference between the funding the Coast Guard estimates it needs for its major acquisitions and what it has traditionally requested and received. The Coast Guard's attempts to address this difference by establishing its future fleet's mission needs within reasonable budget constraints have been unsuccessful. GAO has made several recommendations for the Coast Guard to improve its recapitalization business case, including that the Coast Guard develop a 20-year fleet modernization plan that identifies all acquisitions needed to maintain the current level of service and the fiscal resources needed to acquire them. The Coast Guard concurred with the recommendation and has actions underway, but has not completed this plan. Given that key changes have taken place since 2005, the Coast Guard should continue to take steps to address GAO's recommendations.

Coast Guard's National Security Cutter, Fast Response Cutter, and C-27J Aircraft



Source: (Left to right) U.S. Coast Guard; U.S. Coast Guard; GAO. | GAO-16-633T

GAO reported in May 2016 that the Coast Guard uses the Standard Operational Planning Process to annually allocate asset resource hours to field units for meeting missions, but the headquarters' *Strategic Planning Directions* used in this process do not provide field units with strategic, realistic goals. Rather, headquarters' *Strategic Planning Directions* allocate maximum resource hour capacities for each asset. These allocations have consistently exceeded actual asset resource hours used by field units. GAO recommended, among other things, that the Coast Guard more systematically incorporate field unit input to inform more realistic asset allocation decisions—in addition to asset maximum capacities currently used—in the annual *Strategic Planning Directions* to more effectively communicate strategic intent to field units. The Coast Guard concurred with GAO's recommendation and stated that it was taking actions to better incorporate field unit input for fiscal year 2017.

Chairman Hunter, Ranking Member Garamendi, and Members of the Subcommittee:

Thank you for the opportunity to discuss our work on the Coast Guard's mission needs and asset allocation process. The U.S. Coast Guard, within the Department of Homeland Security (DHS), is the principal federal agency responsible for maritime safety, security, and environmental stewardship. Following the terrorist attacks of September 11, 2001, the Coast Guard was charged with expanded security-related mission responsibilities. The impact of balancing a broad array of Coast Guard missions, in conjunction with constrained budgets in recent years, have underscored the need for the Coast Guard to ensure it has the proper mix of assets and can effectively allocate them to achieve its mission responsibilities.¹ In recent years, the Coast Guard has begun to deploy new assets, such as National Security Cutters and Fast Response Cutters, and has taken actions to assess what assets it needs to carry out its missions and how to best allocate its current assets. For example, in 2008, it developed an annual planning process to allocate asset resource hours across its missions and units. Further, in 2016, the Coast Guard updated its Mission Needs Statement to provide an overview of its missions and the capabilities required within the context of the current and emerging strategic environment. We have reported extensively on the Coast Guard's challenges in managing its multi-billion dollar major acquisition portfolio, intended to acquire assets and capabilities to conduct its various missions.² In addition, in May 2016, we reported on the challenges that the Coast Guard faces in strategically allocating its assets to meet its strategic goals.³ The Coast Guard continues to face

¹For example, over the past 5 fiscal years, the Coast Guard's total discretionary budget has declined overall—from almost \$9.6 billion in fiscal year 2010 to about \$9.0 billion in fiscal year 2015. In fiscal year 2016, the Coast Guard's discretionary budget is estimated at over \$9.9 billion. The discretionary budget amounts were not adjusted for inflation and include the gross discretionary budget authority that is provided in appropriation acts and require annual action by Congress and the President. This is separate from mandatory spending, which is not determined through annual appropriation acts.

²For example, see GAO, *Coast Guard Acquisitions: Better Information on Performance and Funding Needed to Address Shortfall*, [GAO-14-450](#) (Washington, D.C.: June 5, 2014); *Coast Guard: Portfolio Management Approach Needed to Improve Major Acquisition Outcomes*, [GAO-12-918](#) (Washington, D.C.: Sept. 20, 2012); and *Coast Guard: Action Needed as Approved Deepwater Program Remains Unachievable*, [GAO-11-743](#) (Washington, D.C.: July 28, 2011).

³GAO, *Coast Guard: Actions Needed to Improve Strategic Allocation of Assets and Determine Workforce Requirements*, [GAO-16-379](#) (Washington, D.C.: May 24, 2016).

decisions about what assets it needs and how to best allocate those assets to meet its mission responsibilities.

My testimony today addresses the Coast Guard's mission needs and its annual Standard Operational Planning Process, used to allocate assets across missions. It is primarily based on our May 2016 report on the Coast Guard's allocation of assets; as well as prior reports on the Coast Guard's acquisition of assets,⁴ In addition, my statement includes selected updates from May 2016 on the Coast Guard's efforts to reassess and update its mission needs, and fiscal year 2015 asset resource hour data. For our past work, among other methodologies, we analyzed Coast Guard guidance, data, and documentation, and interviewed Coast Guard officials at its headquarters and field units to determine how the Coast Guard allocated its assets, how data are used to make annual asset allocation decisions, and how the Coast Guard determines future resource needs. The products cited in this statement provide detailed information on our scope and methodology. To conduct the selected updates, we reviewed Coast Guard documentation and interviewed Coast Guard officials regarding the agency's 2016 Mission Needs Statement and efforts to update acquisition plans. We also analyzed data on the Coast Guard's asset resource hours used in fiscal year 2015 and found the data were sufficiently reliable for the purposes of this testimony. We determined this by reviewing agency documentation and testing for missing data, outliers, and obvious errors. We conducted this work in accordance with generally accepted government auditing standards. These 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.

⁴[GAO-16-379](#); GAO, *Coast Guard Aircraft: Transfer of Fixed-Wing C-27J Aircraft Is Complex and Further Fleet Purchases Should Coincide with Study Results*, [GAO-15-325](#) (Washington, D.C.: Mar. 26, 2015); [GAO-14-450](#); [GAO-12-918](#); [GAO-11-743](#); and *Coast Guard: Deepwater Requirements, Quantities, and Cost Require Revalidation to Reflect Knowledge Gained*, [GAO-10-790](#) (Washington, D.C.: July 27, 2010).

Background

The Coast Guard's Missions and Assets

The Coast Guard is responsible for 11 statutory missions that are divided into non-homeland security and homeland security missions, as shown in table 1.⁵ The Homeland Security Act of 2002 requires that the authorities, functions, and capabilities of the Coast Guard to perform all of its missions be maintained intact and without significant reduction, except as specified in subsequent acts.⁶ It also prohibits the Secretary of Homeland Security from reducing “substantially or significantly...the missions of the Coast Guard or the Coast Guard’s capability to perform those missions.”⁷

Table 1: Information on the Coast Guard’s 11 Missions

	Mission	Description
Non-homeland security missions	Marine safety	Enforce laws which prevent death, injury, and property loss in the marine environment.
	Marine environmental protection	Enforce laws which deter the introduction of invasive species into the maritime environment, stop unauthorized ocean dumping, and prevent and respond to oil and chemical spills.
	Search and rescue	Search for, and provide aid to, people who are in distress or imminent danger.
	Aids to navigation	Mitigate the risk to safe navigation by providing and maintaining more than 51,000 buoys, beacons, lights, and other aids to mark channels and denote hazards.
	Living marine resources	Enforce laws governing the conservation, management, and recovery of living marine resources, marine protected species, and national marine sanctuaries and monuments.
	Ice operations	The Coast Guard is the only federal agency directed to operate and maintain icebreaking resources for the United States. This includes establishing and maintaining tracks for critical waterways, assisting and escorting vessels beset or stranded in ice, and removing navigational hazards created by ice in navigable waterways.

⁵6 U.S.C. § 468(a).

⁶6 U.S.C. § 468(c).

⁷6 U.S.C. § 468(e).

	Mission	Description
Homeland security missions	Ports, waterways, and coastal security	Ensure the security of the waters subject to the jurisdiction of the United States and the waterways, ports, and intermodal landside connections that comprise the marine transportation system and protect those who live or work on the water or who use the maritime environment for recreation.
	Drug interdiction	Stem the flow of illegal drugs into the United States.
	Migrant interdiction	Stem the flow via maritime routes of undocumented alien migration and human smuggling activities.
	Defense readiness	The Coast Guard maintains the training and capability necessary to immediately integrate with Department of Defense forces in both peacetime operations and during times of war.
	Other law enforcement	Enforcement of international treaties, including the prevention of illegal fishing in international waters and the dumping of plastics and other marine debris.

Source: U.S. Coast Guard. | GAO-16-633T

The Coast Guard utilizes aircraft and vessels to conduct its 11 missions. The Coast Guard operates two types of aircraft—fixed-wing (airplanes) and rotary-wing (helicopters), including its new C-27J aircraft—and two types of vessels—cutters and boats. A cutter is any vessel 65 feet in length or greater, having adequate accommodations for crew to live on board. Larger cutters (major cutters), over 179 feet in length, include the National Security Cutter and the High and Medium Endurance Cutters.⁸ Cutters from 65 to 175 feet in length include Patrol Cutters such as the Fast Response Cutter and the 110-foot Patrol Boat, among others. In contrast, all vessels less than 65 feet in length are classified as boats and usually operate closer to shore and on inland waterways. As of the end of fiscal year 2015, Coast Guard assets included 61 fixed-wing aircraft, 142 rotary-wing aircraft, 40 major cutters, 205 cutters, and 1,750 boats. Figure 1 shows three of the Coast Guard’s newest assets.

⁸The Training Barque is also a major cutter, but was not included in this report because it is used primarily as a training vessel.

Figure 1: The Coast Guard's National Security Cutter, Fast Response Cutter, and C-27J Aircraft



Source: (Left to right) U.S. Coast Guard; U.S. Coast Guard; GAO. | GAO-16-633T

Note: The U.S. Air Force transferred C-27J aircraft to the Coast Guard.

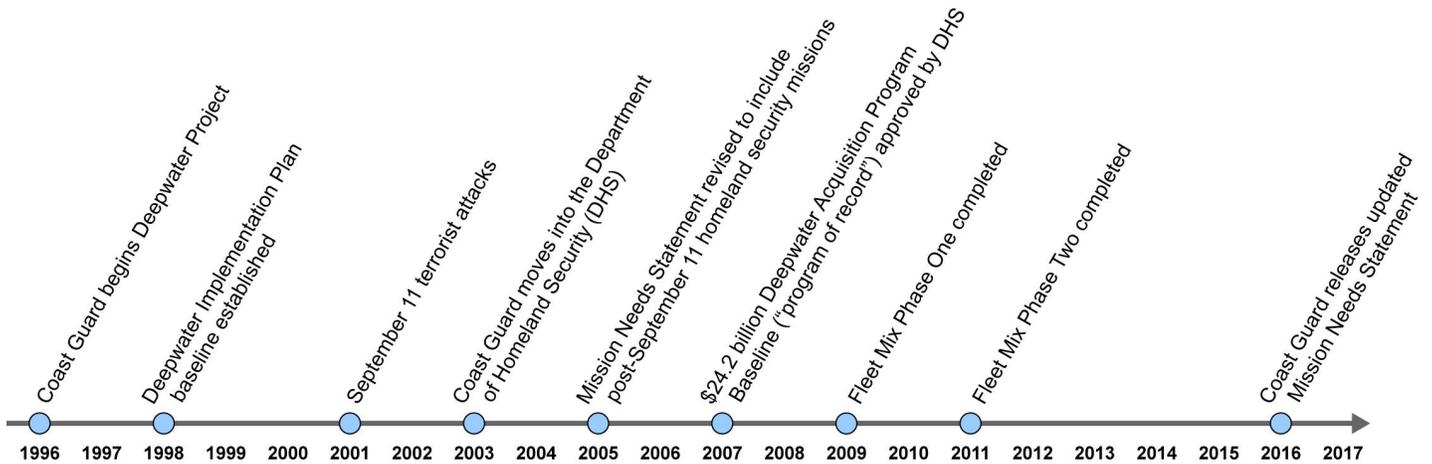
The Coast Guard's Recapitalization Program, Mission Needs Determination, and Asset Allocation Process

Coast Guard Recapitalization Program and Mission Needs Determination

The Coast Guard began a 30-year recapitalization effort in the late 1990s to modernize its aircraft and vessel fleets by rebuilding or replacing assets. Figure 2 provides a timeline of key events and related acquisition studies and reports in this recapitalization program, which was formerly known as the Deepwater Program.⁹

⁹As of the fiscal year 2012 budget, DHS and the Coast Guard no longer use the term "Deepwater"; rather it is called the recapitalization program and includes many of the assets, such as the National Security Cutter, that made up the former Deepwater Program.

Figure 2: Timeline of Key Events in the Coast Guard's Recapitalization Program, 1996 to 2016



Source: GAO analysis of U.S. Coast Guard data. | GAO-16-633T

As part of its recapitalization effort, in 1998, the Coast Guard created the Deepwater Program baseline to reflect asset performance levels at that time and to serve as a basis for developing performance goals for the acquisition of new assets that were to replace certain legacy assets. However, a performance gap analysis conducted in 2002 determined the revised asset mix, as designed by the recapitalization program, would have significant capability gaps in meeting emerging mission requirements following the September 11, 2001, terrorist attacks. As a result, the Coast Guard completed a Mission Needs Statement in 2005 to incorporate the additional capabilities and subsequently updated the annual resource hours needed to meet its increased mission demands.¹⁰

In 2007, based on the 2005 Mission Needs Statement, DHS approved a program of record for all of the Coast Guard's major acquisition programs at an estimated cost of \$24.2 billion. This program of record delineated the specific number of aircraft and vessels the Coast Guard planned to acquire to meet the annual resource hours outlined by the 2005 Mission Needs Statement baseline. Further, as part of its recapitalization efforts,

¹⁰The Coast Guard's increased mission demands following the terrorist attacks of September 11, 2001, included incorporating improved capabilities to operate in conditions of chemical, biological, and radiological contamination; greater antiterrorism weaponry; development of airborne use of force capabilities; improved communications systems; and enhanced flight decks.

the Coast Guard submits an annual 5-year Capital Investment Plan Report to Congress that includes, among other things, projected funding for capital assets in such areas as acquisition, construction, and improvements.

In 2016, the Coast Guard again revised its Mission Needs Statement in response to statutory requirements and committee report language, but, this revision states it was not intended to provide details on the specific assets the Coast Guard needs to meet its mission requirements.¹¹ Further, according to the Coast Guard, the 2016 update to the Mission Needs Statement is to provide a foundation for long-term investment planning that is to culminate with detailed modeling scenarios to evaluate the effectiveness of various fleet mixes, and inform the Coast Guard's Capital Investment Plan. Since the 2016 revision does not identify specific assets or resource hours necessary to meet the Coast Guard's mission requirements, the 2005 Mission Needs Statement remains the baseline document outlining the Coast Guard's mission needs and the resource hours per asset necessary to achieve them.

The Coast Guard's Process for Allocating Assets to Meet Mission Responsibilities

Since fiscal year 2008, the Coast Guard has used the Standard Operational Planning Process for annually developing and communicating strategic commitments and allocating resource hours, by asset type (i.e., aircraft, cutters, and boats), throughout its chain of command for meeting mission responsibilities.¹² As part of the Standard Operational Planning Process, Coast Guard headquarters annually issues a *Strategic Planning Direction*, which is to be the primary mechanism for allocating asset resource hours and providing strategic

¹¹See the Howard Coble Coast Guard and Maritime Transportation Act of 2014, Pub. L. No. 113-281, § 215, 128 Stat. 3022, 3034-35; H.R. Rep. No. 113-481 (2014); S. Rep. No. 113-198 (2014), and the explanatory statement accompanying the Department of Homeland Security Appropriations Act, 2015, Pub. L. No. 114-4, 129 Stat. 39 (2014).

¹²Strategic commitments are annual, up-front commitments of resources made at the headquarters level and are deemed by the Coast Guard as critical to the implementation of national, DHS, and Commandant strategic priorities. Among other things, strategic commitments specify the amount of time certain types of Coast Guard assets are to be operating in support of these activities, and these resource allocations serve as minimum levels of activity that field unit commanders are expected to provide.

direction to field commands.¹³ Resource hours are subsequently allocated by asset type at the Area, District, and Sector levels for meeting strategic commitments and executing the 11 statutory missions.¹⁴

After assets are deployed, field unit personnel are to record resource hours used by Coast Guard assets to accomplish missions, such as domestic ice breaking or marine environmental protection operations.¹⁵ These asset resource hours are input into one of two operational reporting databases—the Asset Logistics Maintenance Information System (ALMIS)¹⁶ or the Abstract of Operations System (AOPS).¹⁷ After the data have been entered, the Coast Guard Business Intelligence system is used to extract and combine asset resource hour and performance data each quarter to create *Operational Performance Assessment Reports*.¹⁸ The historical and current-year data on asset operational hours used, by

¹³The two Area commanders—one for the Atlantic Area Command and one for the Pacific Area Command—are responsible for translating policy into operational objectives through theater plans for Coast Guard missions. The Coast Guard has nine districts that report to the Area Commands. The nine Coast Guard districts are supported by 37 sectors. The *Strategic Planning Directions* are annually disseminated to the two Area Commands that are then to disseminate their own *Operational Planning Directions* through their command levels, with each district command developing its own plan to cover its area of responsibility.

¹⁴To determine and plan for how assets are to be allocated, Coast Guard headquarters is to rely on mission priorities, data on historical and current-year mission performance, and operational and intelligence assessments.

¹⁵According to Coast Guard instructions, field units are to record at least one type of activity, such as one of the Coast Guard's 11 statutory missions, per deployment within 24 hours after an asset is deployed. Staff at the relevant field units are to review and certify that the data entered are accurate.

¹⁶ALMIS is a centralized system that provides aircraft and vessel logistics information and support for Coast Guard operations, mission scheduling and execution, maintenance, and other issues. Coast Guard field units are responsible for timely and accurate data entry and are to ensure the database is secure and that access is appropriately limited.

¹⁷Information from AOPS is used for documenting planning activities, such as tracking the number, locations, and missions of Coast Guard assets, among other things. According to operational reporting guidance, the Coast Guard is in the process of migrating AOPS data to ALMIS.

¹⁸Some performance data for the *Operational Performance Assessment Reports* are extracted from a third database—the Marine Information for Safety and Law Enforcement system—an operational activity case management system used to collect data on activities concerning safety and law enforcement such as vessel inspections, and oil spill assistance.

mission, from these reports, as well as *Planning Assessments*, are to be communicated back to Coast Guard headquarters and incorporated into the Standard Operational Planning Process to inform asset hour allocations in the *Strategic Planning Direction* for the following year.

The Coast Guard's Acquisition Plans Do Not Reflect Its New Assets and Current Funding Levels

The 2005 Mission Needs Statement Baseline Does Not Reflect the Coast Guard's Planned Assets and Capacities

Since the Coast Guard developed acquisition plans for its Deepwater recapitalization program, many of the assumptions that initially informed these plans, including the 2005 Mission Needs Statement baseline for those assets, have changed and are no longer accurate, as we reported in June 2014 and May 2015.¹⁹ While the Coast Guard is continuing to acquire and deploy new assets each year, the Coast Guard operated assets in fiscal year 2015 below the baseline level of resource hours outlined for these assets in the 2005 Mission Needs Statement. For example, in fiscal year 2015, a mix of new and legacy Patrol Cutters, including new Fast Response Cutters, used 82,233 resource hours of the 174,000 resource hours specified in the 2005 baseline—a 52 percent difference.²⁰ The asset resource hours used in fiscal year 2015 were below the 2005 baseline level, in part, because not all of the new assets planned as part of the 2005 baseline were deployed and fully operational by fiscal year 2015.²¹ In addition, as we have previously reported, the

¹⁹GAO, *Coast Guard Acquisitions: As Major Assets Are Fielded, Overall Portfolio Remains Unaffordable* (Washington, D.C., May 14, 2015) [GAO-15-620T](#) and [GAO-14-450](#)

²⁰In fiscal year 2015, Patrol Cutters included 26,495 resource hours by 10 new Fast Response Cutters (WPC-154) and 56,738 resource hours by 29 – 110-foot Patrol Boats (WPB-110).

²¹According to Coast Guard's 2007 program of record, full operational capability—that is, the date the last asset was to be delivered to the Coast Guard—was planned to occur in fiscal year 2017 for fixed wing aircraft (HC-130s and HC-144s), fiscal year 2019 for rotary wing aircraft (H-60s and H-65s), fiscal year 2021 for major cutters (National Security Cutters and Offshore Patrol Cutters), and fiscal year 2016 for patrol cutters (Fast Response Cutters).

Coast Guard continues to operate many of its legacy assets, which do not always achieve their expected operational capacities.²² Specifically, some legacy cutters are up to 50 years old and are expected to be in operation for several more years until the replacement cutters can be deployed.²³ We have also reported that the Coast Guard has experienced delays in acquiring some of its planned assets²⁴ and some of the Coast Guard's new assets that have been deployed have faced operational challenges.²⁵ Nevertheless, because of changes in the assumptions underlying the 2005 Mission Needs Statement baseline, it may not accurately reflect the Coast Guard's current needs, specifically (1) the planned fleet mix of

²²For example, in July 2012, we reported on the declining operational capacity and increasing unreliability of the Coast Guard's legacy vessels. GAO, *Coast Guard: Legacy Vessels' Declining Conditions Reinforce Need for More Realistic Operational Targets [Reissued on August 30, 2012]*, [GAO-12-741](#) (Washington, D.C.: July 31, 2012). Further, the Coast Guard Commandant testified before a congressional subcommittee in February 2015 that the Coast Guard's mission demands continue to grow and evolve and that given the age and condition of some of its legacy assets, the success of future missions relies on the continued recapitalization of Coast Guard aircraft, cutters, boats, and infrastructure. See Zukunft, Paul, F., Commandant of the U.S. Coast Guard, *Coast Guard, Fiscal Year 2016 Budget Request*, testimony before the House Coast Guard and Maritime Transportation Subcommittee, 114th Cong., 1st sess., February 25, 2015.

²³In April 2016, the Coast Guard reported that the last High Endurance Cutter is scheduled to be decommissioned in 2020, the last 210' Medium Endurance Cutter is to be decommissioned in 2028, and the last 282' Medium Endurance Cutter is to be decommissioned in 2022.

²⁴For example, we reported in May 2015 that based on the plans at that time, the Coast Guard expected that the first Offshore Patrol Cutters—which are to replace the Medium Endurance Cutters—would not be delivered until 2022 because of procurement delays, including a bid protest. See [GAO-15-620T](#).

²⁵GAO, *Coast Guard: Timely Actions Needed to Address Risks in Using Rotational Crews* [GAO-15-195](#) (Washington, D.C.: March 6, 2015). For example, in 2012, the Coast Guard decided to complete needed structural enhancements to the hulls of the first two National Security Cutters, thus limiting the number of major cutter resource hours available during an estimated 2-year timeframe beginning in fiscal year 2017. During the design phase, the National Security Cutters' hull was found, as confirmed by a U.S. Navy study, to be unlikely to meet the 30-year service life expectations because of fatigue. Fatigue is physical weakening because of age, stress, or vibration. At the time the structural deficiencies were confirmed, the Coast Guard could not make the design changes because it held only an advisory role in making technical decisions under the Deepwater Program structure. The Coast Guard ultimately decided to correct the structural deficiencies for the first two National Security Cutters at scheduled points after construction was completed to avoid stopping the production lines, and to incorporate structural enhancements into the design and production for future ships. See also GAO, *Homeland Security Acquisitions: DHS Has Strengthened Management, but Execution and Affordability Concerns Endure*, [GAO-16-338SP](#) (Washington, D.C.: Mar. 31, 2016).

Changes in the Coast Guard's Planned Fleet Mix

aircraft and vessels has changed, and (2) the planned operational capacities of these new assets have, in some cases, been revised downward. See Appendix I for more information on the Coast Guard asset baselines and actual resource hours used in fiscal year 2015, as well as changes to its planned fleet mix and operational capacities over time.

The Coast Guard's planned aircraft and vessel fleet mix has changed since the 2005 Mission Needs Statement baseline was developed. For example, in 2005, the Coast Guard planned for the acquisition of HC-144 and HC-130 aircraft for its fixed-wing aircraft fleet. However, we reported in March 2015 that the unexpected transfer of C-27J aircraft from the Department of Defense in December 2013 represented a significant change to this aircraft fleet mix.²⁶ As a result of this change, the Coast Guard decreased its planned acquisition of HC-144 aircraft.²⁷ In another example, with regard to its aircraft fleet, the Coast Guard initially planned for fixed-wing Unmanned Aerial Vehicles and Vertical Take-Off and Landing Unmanned Air Vehicles in the 2005 baseline, but, as of May 2016, Coast Guard officials stated these unmanned assets have not yet been acquired.²⁸ For the major cutter fleet, the Coast Guard had planned for 8 National Security Cutters and 25 Offshore Patrol Cutters to replace

²⁶In December 2013, the National Defense Authorization Act for Fiscal Year 2014 required the Department of Defense to transfer 14 of its unwanted C-27J aircraft to the Secretary of Homeland Security for the use of the Coast Guard. Pub. L. No. 113-66, §1098(e), 127 Stat. 672, 884 (2013). See [GAO-15-325](#).

²⁷In October 2014, DHS leadership first directed the Coast Guard to restructure its HC-144A acquisition program to accommodate 14 C-27J aircraft from the U.S. Air Force and designated this combined acquisition the Medium Range Surveillance Aircraft program. By October 2015, the Coast Guard had received four C-27J aircraft from the U.S. Air Force. Coast Guard officials plan to submit an Acquisition Program Baseline to DHS leadership after the Coast Guard completes a mission needs analysis of its fixed wing aircraft. The Coast Guard expects to complete this analysis in fiscal year 2016. See [GAO-16-338SP](#).

²⁸The unmanned aerial vehicle system was envisioned as a key component of the Deepwater system that would enhance surveillance capability on board the National Security Cutter and Offshore Patrol Cutter and also from land. Congress has appropriated over \$100 million since 2003 to develop an unmanned aerial vehicle, but the Coast Guard terminated the program due to cost increases and technical risks in June 2007. See [GAO-11-743](#). See also [GAO-16-338SP](#). We reported in March 2016 that the Coast Guard had not yet procured an unmanned aircraft system for the National Security Cutter and that it is unclear when the Coast Guard would actually demonstrate the National Security Cutter can meet its unmanned aircraft requirements. In June 2016, DHS officials stated that the Coast Guard is scheduled to equip a National Security Cutter with unmanned aerial vehicle capability by the end of fiscal year 2016.

Reductions in New Assets'
Planned Operational
Capacities

the legacy fleet of High and Medium Endurance Cutters in its 2005 Mission Needs Statement baseline. However, Congress recently provided the Coast Guard with funding for a ninth National Security Cutter as part of the Consolidated Appropriations Act, 2016,²⁹ representing an unanticipated addition to its planned major cutter fleet.

The expected operational capacities planned for assets in the 2005 Mission Needs Statement baseline have, in several cases, been subsequently revised downward to reflect more realistic and achievable operational targets. For example, regarding fixed-wing aircraft, the Coast Guard originally planned for each HC-144 aircraft to operate 1,200 flight hours per year. However, we reported in March 2015 that the Coast Guard had decided to reduce the HC-144 flight hours from 1,200 hours to 1,000 hours per year due primarily to the high cost of maintaining the aircraft at the 1,200-hour per year pace.³⁰ For patrol cutters, the 2005 Mission Needs Statement baseline planned for each Fast Response Cutter to operate for 3,000 hours per year.³¹ However, the Coast Guard's April 2016 report to Congress on its capital investments states that the planned resource hours for each Fast Response Cutter is 2,500 hours per year—a reduction of 500 hours per cutter from the 2005 baseline.³² Further, for major cutters, the Coast Guard's 2005 baseline planned for each National Security Cutter and Offshore Patrol Cutter to operate at 4,140 resource hours per year—equivalent to 230 days away from home

²⁹Pub. L. No. 114-113 (2016).

³⁰[GAO-15-325](#).

³¹According to the Coast Guard, the assumptions of 3,000 operational hours were for the originally proposed Fast Response Cutters with a hull made of composite materials (FRC-A). Because of technical risks, the Coast Guard discontinued design work on the composite hull and transitioned to the steel hull for the Fast Response Cutter (FRC-B). As a result of this change, the annual operational hours programmed for each Fast Response Cutter were reduced from 3,000 to 2,500 hours.

³²Department of Homeland Security, U.S. Coast Guard. *USCG FY 2017 Capital Investment Plan, Fiscal Year 2016 Report to Congress* (Washington, D.C.: Apr. 13, 2016). The Coast Guard's capital investment plan is a 5-year plan presented to Congress that includes acquisition, construction and improvements. The Coast Guard updates the capital investment plan annually, and it represents the Coast Guard's submission for the President's Budget in any given year.

port—using a crew rotation concept.³³ However, in March 2015, we reported that because of certain risk factors, uncertainty exists regarding the Coast Guard’s ability to achieve this operational capacity.³⁴ We recommended that the Coast Guard specify mitigation actions to effectively address risk factors identified in the report, such as when and how National Security Cutter maintenance requirements could be completed within the 135 days allocated under the crew rotational concept. DHS concurred with the recommendation and, in March 2016, it stated that the Coast Guard was developing various testing plans and would submit a final crew rotation concept plan to Congress by December 2017, in response to requirements in the Coast Guard and Maritime Transportation Act of 2012.³⁵ Moreover, we noted in our March 2015 report that these same risk factors may also affect the planned operational capacity of the Offshore Patrol Cutters, which are still under development.³⁶

³³According to Coast Guard officials, a planning factor of 18 hours per day per vessel is used to convert days away from home port into resource hours. Thus, 230 days away from home port multiplied by 18 hours per day equals 4,140 resource hours per year per vessel.

³⁴[GAO-15-195](#).

³⁵Pub. L. No. 112-213, § 221(b), 126 Stat. 1540, 1560 (2012). This statute states that the Coast Guard Commandant may not certify a sixth National Security Cutter as ready for operations before the Commandant has submitted to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives program execution plans detailing, among other things, how the first 3 National Security Cutters will achieve the goal of 225 days away from home port in fiscal years following the completion of the structural enhancements (formally called Structural Enhancement Dry-Dock Availability) of the first 2 National Security Cutters. In November 2014, Coast Guard officials estimated the sixth National Security Cutter would be ready for operations in December 2017. According to Coast Guard officials, because the statute specified that the National Security Cutters were to achieve the goal of 225 days away from home port, the planned operational hours for the National Security Cutter was adjusted accordingly to 4,050 hours per year per vessel (i.e., 225 multiplied by a planning factor of 18 hours per day).

³⁶In an April 2016 report to Congress, the Coast Guard stated that the Offshore Patrol Cutters were to operate 185 days away from home port, or 3,330 hours per year per vessel. According to Coast Guard officials, they were still considering the use of the crew rotational concept for these cutters. See Department of Homeland Security, U.S. Coast Guard. *USCG FY 2017 Capital Investment Plan, Fiscal Year 2016 Report to Congress*. See [GAO-15-195](#).

The Coast Guard Continues to Recapitalize Assets without a Solid Business Case that Matches Its Needs and Resources

In its simplest form, a business case requires a balance between the concept selected to satisfy mission needs and the resources needed to transform the concept into a set of products, in this case aircraft and vessels. For the past 6 years, we have consistently found that there is a significant difference between the funding the Coast Guard estimates it needs to carry out its program of record for its major acquisitions and what it has traditionally requested and received through annual appropriations. To date, the Coast Guard's attempts to address this difference by establishing its future fleet's mission needs within reasonable budget constraints have been unsuccessful. For example, in September 2012, we reported that the Coast Guard had completed two efforts (Fleet Mix Phases One and Two) to reassess the mix of assets that comprised its former Deepwater program, but both efforts used its 2005 Mission Needs Statement and 2007 program of record as the basis of the analysis and did not consider realistic fiscal constraints.³⁷ In particular, the Coast Guard began Fleet Mix Phase One in 2008 that considered the 2007 program of record to be the "floor" for asset capabilities and quantities and did not impose cost constraints. Consequently, the results were not used as a basis for trade-off decisions. In the second effort, Fleet Mix Phase Two, the Coast Guard analyzed how long it would take to buy the program of record under two different funding constraints: (1) an upper bound of \$1.64 billion per year and (2) a lower bound of \$1.2 billion per year. However, both scenarios are greater than the Coast Guard's last four budget requests, indicating the upper bound funding level is unrealistic and the lower bound is optimistic. Further, the analyses did not assess options lower than the current program of record. Therefore, neither of these analyses prepared the Coast Guard to make the trade-offs required to develop a solid business case that matched its needed capabilities with anticipated resources.

Instead of developing a solid business case, we reported in June 2014 that the Coast Guard is shaping its asset capabilities through the budget process.³⁸ As the Coast Guard has faced fiscal constraints in recent years, this has led to asset capability gaps. As a result, the Coast Guard does not have a long-term plan that demonstrates how it will maintain today's service level and meet identified needs. For example, the Coast

³⁷See [GAO-12-918](#).

³⁸See [GAO-14-450](#).

Guard has already experienced a gap in heavy icebreaking capability and is falling short of meeting current and future major cutter operational hours. While some of these operational capability gaps are being filled through Congressional appropriations that exceed Coast Guard budget requests and transfers of assets from other agencies, the Coast Guard is likely to continue to face similar shortfalls and gaps while the Offshore Patrol Cutter fleet, estimated to absorb about two-thirds of the Coast Guard's acquisition funding from 2018 until 2034, is being built. During this time, the Coast Guard faces other recapitalization needs—such as rebuilding the 87-foot patrol boat fleet, the MH-60 and MH-65 helicopter fleets, and possibly extending the service lives of the 270-foot Medium Endurance Cutters, among many other projects—that it may not be able to fund with its remaining budget. Office of Management and Budget, Department of Homeland Security, and Coast Guard efforts are underway to address these funding gaps, but to date, these efforts have not led to the difficult trade-off decisions needed to create a solid business case and improve the affordability of the Coast Guard's proposed fleet mix. We recommended in June 2014, that the Coast Guard develop a 20-year fleet modernization plan that identifies all acquisitions needed to maintain the current level of service—aircraft and vessels—and the fiscal resources needed to buy the identified assets. We further recommended that the plan should consider trade-offs if the fiscal resources needed to execute the plan are not consistent with annual budgets. The Coast Guard concurred with our recommendation, but its response did not fully address our concerns or set forth an estimated date for completion.³⁹ As of June 2016, the Coast Guard has yet to complete this plan. Without such a plan, it will remain difficult for the Coast Guard to fully understand the extent to which future needs match the current level of resources and its expected performance levels—and capability gaps—if funding levels remain constant.

Past GAO Recommendations

In addition to the 20-year fleet modernization plan, we have made several recommendations in recent years for the Coast Guard to improve its recapitalization business case by, among other things, identifying the cost, capabilities, and quantity and mix of assets needed; as well as the

³⁹[GAO-14-450](#).

trade-offs necessary to meet fiscal constraints.⁴⁰ Specific recommendations include the following:

- In March 2015, we recommended that the Coast Guard inform Congress of the time frames and key milestones for publishing revised annual flight hour needs for fixed-wing aircraft, as well as the corresponding changes to the composition of its fixed-wing fleet to meet these needs.⁴¹
- In September 2012, we recommended that the Commandant of the Coast Guard conduct a comprehensive portfolio review to develop revised baselines that reflect acquisition priorities and realistic funding scenarios.⁴²
- In July 2011, we recommended that the Secretary of Homeland Security develop a working group that includes participation from DHS and the Coast Guard’s capabilities, resources, and acquisition directorates to review the results of multiple studies—including Fleet Mix Phases One and Two and DHS’s cutter study—to identify cost, capability, and quantity trade-offs that would produce a program that fits within expected budget parameters.⁴³

The Coast Guard concurred with these recommendations, but is still in the process of addressing all recommendations, except the 2011 recommendation that they chose not to implement. For example, the Coast Guard is currently conducting a fleet-wide analysis—including aircraft, vessels, and information technology—intended to be a fundamental reassessment of the capabilities and mix of assets the Coast Guard needs to fulfill its missions. The Coast Guard is undertaking this effort consistent with direction from Congress and expects to have it completed to inform the fiscal year 2019 President’s Budget.

Legislative Requirements and Congressional Mandates

Coast Guard officials stated that their efforts will help them to respond to a number of recent legislative mandates, which include the following:

⁴⁰ [GAO-15-325](#); [GAO-14-450](#); [GAO-12-918](#); [GAO-11-743](#); and [GAO-10-790](#).

⁴¹ [GAO-15-325](#).

⁴² [GAO-12-918](#).

⁴³ [GAO-11-743](#).

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- **Fixed-Wing Aircraft Fleet Mix Analysis:**⁴⁴ This is to include a revised fleet analysis of the Coast Guard's fixed-wing aircraft and is due in September 2016.
 - **Rotary-wing Contingency Plan:**⁴⁵ This plan is to address the planned or unplanned losses of rotary wing airframes; to reallocate resources as necessary to ensure the safety of the maritime public nationwide; and to ensure the operational posture of Coast Guard units. This plan is due in February 2017.
 - **Long-Term Acquisition Plan:**⁴⁶ This plan is to be a 20-year Capital Investment Plan that describes for the upcoming fiscal year and for each of the 20 fiscal years thereafter, such information as the numbers and types of legacy aircraft and vessels to be decommissioned; the numbers and types of aircraft and vessels to be acquired; and the estimated level of funding in each fiscal year required to acquire the cutters and aircraft, as well as related command, control, communications, computer, intelligence, surveillance, and reconnaissance systems and any changes to shoreside infrastructure. These plans are to be produced every other year to provide an update on the status of all major acquisitions.
 - **Mission Needs Statement:**⁴⁷ On the date on which the President submits to Congress a budget for fiscal year 2019 and every 4 years thereafter, the Commandant is to submit an integrated major acquisition need statement which, among other things, is to identify current and projected gaps in Coast Guard capabilities using specific mission hour targets and explain how each major acquisition program addresses gaps identified in Capital Investment Plan reports to be provided to Congress.
 - **Concept of Operations:**⁴⁸ This document is to be used in conjunction with the Mission Needs Statement as a planning document for the

⁴⁴See Pub. L. No. 114-120, § 204(d).

⁴⁵See Pub. L. No. 114-120, § 208(b).

⁴⁶See Pub. L. No. 114-120, § 204(e) (codified at 14 U.S.C. § 2903(e)).

⁴⁷14 U.S.C. § 569.

⁴⁸See explanatory statement accompanying Department of Homeland Security Appropriations Act, 2015, Pub. L. No. 114-4, 129 Stat. 39 (2014).

Coast Guard's recapitalization needs. It is to determine the most cost-effective method of executing mission needs by addressing (1) gaps identified in the Mission Need Statement, (2) the funding requirements proposed in the 5-year Capital Investment Plan, and (3) options for reasonable combinations of alternative capabilities of aircraft and vessels, to include icebreaking resources and fleet mix. This document is due in September 2016.

Use of Asset Capacities Limit the Strategic Effectiveness of the Asset Allocation Process, but the Coast Guard Is Taking Steps to Improve the Process

Coast Guard Headquarters' *Strategic Planning Directions* Reflect Asset Maximum Capacities Rather Than Achievable Goals

In May 2016, we reported that Coast Guard headquarters does not provide field units with realistic goals for allocating assets, by mission.⁴⁹ Rather, headquarters' allocations of assets in the annual *Strategic Planning Directions* that we reviewed for fiscal years 2010 through 2016 were based on assets' maximum performance capacities. For example, the *Strategic Planning Directions* allocated each Hercules fixed-wing aircraft 800 hours per year, each Jayhawk helicopter 700 hours per year, and each 210-foot or 270-foot Medium Endurance Cutter 3,330 hours per year, irrespective of the condition, age, or availability of these assets.⁵⁰ As a result, we found that, as shown in figure 3, the asset resource hours allocated in the *Strategic Planning Directions* have consistently exceeded

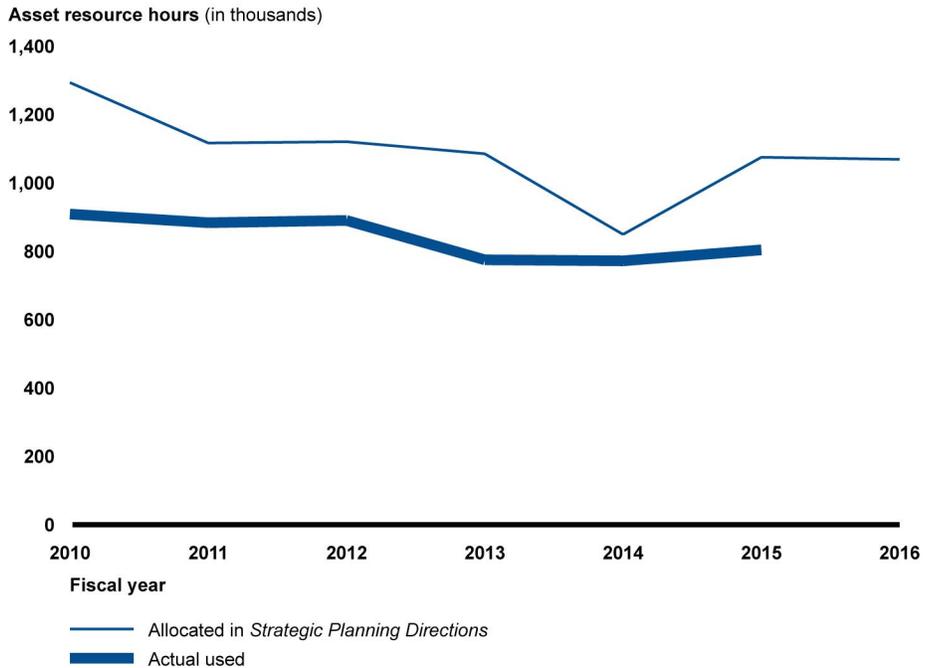
⁴⁹GAO-16-379.

⁵⁰According to Coast Guard officials, the hours allocated to the Medium Endurance Cutters is calculated by using the Coast Guard's cutter employment standard of 185 days away from home port multiplied by a planning factor of 18 hours per day, which equals an estimated 3,330 hours of underway operational hours per year.

the asset resource hours actually used by Coast Guard field units during fiscal years 2010 through 2015.⁵¹ For example, in fiscal year 2015, the *Strategic Planning Direction* allocated a total of 1,075,015 resource hours for field unit assets whereas the actual asset resource hours used was 804,048 hours, or about 75 percent of the allocated hours for that year.

⁵¹This is based on asset resource hours used as reported in the *Operational Performance Assessment Reports*. Coast Guard officials stated that data in these reports represent a point in time and may change for a variety of reasons. For example, an asset could be out on a long transit when the *Operational Performance Assessment Reports* data are pulled from the system, and would not be entered until a later date. In addition, officials stated that there could be a lag time in when the data is entered.

Figure 3: Comparison of Total Field Unit Asset Resource Hours Allocated in *Strategic Planning Directions* to the Actual Field Unit Asset Resource Hours Used Report in the *Operational Performance Assessment Reports*, Fiscal Years 2010 through 2015



Source: GAO analysis of U.S. Coast Guard data. | GAO-16-633T

Notes: The hours for certain assets, such as deployable specialized forces, are not included because these assets have specialized capabilities, such as law enforcement and counterterrorism operations or hazardous materials response, and perform unique functions across a range of Coast Guard missions. The hours for all assets' (aircraft, cutters, and boats) training and support activities, such as engineering and test functions, are included. The hours for assets used exclusively for training purposes are not included.

The fiscal year 2014 *Strategic Planning Direction* planned for lower asset resource hour use because of anticipated budget reductions as a result of sequestration. According to the Coast Guard, the number of boat resource hours allocated in the *Strategic Planning Directions* is relatively high and its actual use rate is relatively low, as compared to other assets.

Coast Guard field unit officials we spoke with, and Coast Guard planning documents we reviewed for our May 2016 report, indicated that the Coast Guard is not able to achieve the resource hour allocation capacities set by the headquarters' *Strategic Planning Directions* for several reasons, including the declining condition of legacy assets and unscheduled maintenance. Further, we also reported that our review of Coast Guard planning documents and discussions with field unit officials showed that *Operational Planning Directions* developed by field unit commands can differ from headquarters' *Strategic Planning Directions*. For example,

officials from one district told us on the basis of their analyses, they determined that their district could realistically use only about two-thirds of the performance capacity hours allocated by the *Strategic Planning Direction* for boats for one mission.

In response to our findings, we recommended that the Coast Guard more systematically incorporate field unit input to inform more realistic asset allocation decisions—in addition to asset maximum capacities currently used—in the annual *Strategic Planning Directions* to more effectively communicate strategic intent to field units. The Coast Guard concurred with our recommendation and stated that it was taking actions to better incorporate field unit input for fiscal year 2017. If implemented as planned, this would meet the intent of this recommendation.

The Coast Guard Does Not Document the Extent to Which Risk Assessments Affect Asset Allocation Decisions

In May 2016, we also reported that the Coast Guard does not maintain documentation on the extent to which risk factors have affected the allocation of asset resource hours to missions through its *Strategic Planning Directions*.⁵² For example, Coast Guard officials told us that the Coast Guard conducts a National Maritime Security Risk Assessment every 2 years to inform its asset allocations; however, the Coast Guard does not document how these risk assessments have affected asset allocation decisions across its missions.⁵³ Coast Guard officials stated that changes made to *Strategic Planning Directions*' asset allocations, by mission, are discussed in verbal briefings but it is not their practice to maintain documentation on the extent to which risk factors affect asset allocation decisions. Without documenting this, the Coast Guard lacks a record to help ensure that its decisions are transparent and the most effective ones for fulfilling its missions given existing risks. We recommended that the Coast Guard document how risk assessments conducted are used to inform and support annual asset allocation decisions. The Coast Guard concurred with our recommendation and stated that it will begin to document these decisions in its fiscal year 2017

⁵²[GAO-16-379](#).

⁵³The National Maritime Strategic Risk Assessment is a cross-program assessment which produces three main products: (1) a residual risk profile that estimates the expected societal loss remaining after the Coast Guard has performed all its prevention and response activities, (2) a Coast Guard risk reduction profile that estimates the amount of risk averted as a result of Coast Guard activities, and (3) a risk observations for management to be used to support performance management and decision-making.

Strategic Planning Direction. If implemented as planned, this would meet the intent of this recommendation.

The Coast Guard is Taking Steps to Improve Its Asset Allocation Process

In May 2016, we reported that the Coast Guard is taking steps to improve its asset allocation process.⁵⁴ The actions include the following:

- **Improving data quality for resource hours assigned to each mission:** Coast Guard guidance states that its field units should report at least one primary employment category, such as one of the 11 statutory missions, for the time an asset is deployed. Coast Guard officials told us that data on resource hours, by mission, for all assets may not be accurate because the Coast Guard does not have a systematic way for field units to (1) record time spent on more than one mission during an asset's deployment or (2) consistently account for time assets spend in transit to designated operational areas. For example, officials from six of the nine Coast Guard districts we interviewed told us that they generally record one mission per asset deployment, even though each asset's crew may have performed two or more missions during a deployment. Officials from the remaining three districts told us that if their assets' crews perform more than one mission per deployment, the crews generally apportion the number of hours spent on each mission performed. Coast Guard officials stated that the resource hour data were accurate enough for operational planning purposes, and that they were in the process of determining how best to account for time spent by assets on multiple missions and in transit in order to obtain more accurate and complete data on the time assets spend conducting each of its missions. For example, in April 2014, the Coast Guard issued instructions to its field units to provide definitions, policies, and processes for reporting their operational activities and also established a council to coordinate changes among the various operational reporting systems used by different field units.
- **Tracking how increased strategic commitments affect resource hours available:** According to Coast Guard officials, the *Strategic Planning Directions'* allocations of certain asset hours in support of strategic commitments have grown from fiscal year 2010 to fiscal year 2016. Headquarters and field unit officials we met with told us that it

⁵⁴[GAO-16-379](#).

has become increasingly difficult to fulfill these growing strategic commitments when asset performance levels have generally remained the same or declined in recent years. Further, in February 2015, the Coast Guard Commandant testified before a congressional subcommittee that the Coast Guard's mission demands continue to grow and evolve and that given the age and condition of some of its legacy assets, the success of future missions relies on the continued recapitalization of Coast Guard aircraft, cutters, boats, and infrastructure.⁵⁵ To meet these challenges, the Coast Guard is taking steps to provide more transparency regarding asset resource hours needed to support strategic commitments and the remaining resource hours available to field unit commanders. For example, starting in fiscal year 2015, the Coast Guard began using a new data field to track the time assets spent supporting its Arctic strategy.

In conclusion, given that many of the assumptions underlying the Coast Guard's acquisition plans have changed since 2005 and are no longer accurate, and the importance of ensuring that limited acquisition resources are invested as efficiently and effectively as possible, the Coast Guard should continue to follow through with our recommendations to identify the cost, capability, and quantity of its fleet mix, as well as the trade-offs that would need to be made given fiscal constraints. Furthermore, to ensure that assets are deployed consistent with Coast Guard mission priorities, the Coast Guard should follow through with implementing our prior recommendations to improve its annual resource allocation process.

Chairman Hunter, Ranking Member Garamendi, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

⁵⁵Zukunft, Paul, F., Commandant of the U.S. Coast Guard, *Coast Guard, Fiscal Year 2016 Budget Request*, testimony before the House Coast Guard and Maritime Transportation Subcommittee, 114th Cong., 1st sess., February 25, 2015.

GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact Jennifer Grover at (202) 512-7141 or groverj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this testimony are Christopher Conrad (Assistant Director), Nancy Kawahara (Analyst-in-Charge), Bryan Bourgault, John Crawford, Tracey Cross, Dominick Dale, Michele Fejfar, Laurier Fish, Eric Hauswirth, Tracey King, Michele Mackin, and Katherine Trimble. Key contributors for the previous work that this testimony is based on are listed in each product.

Appendix I: Planned Operational Capacities and Fiscal Year 2015 Actual Asset Resource Hour Utilization

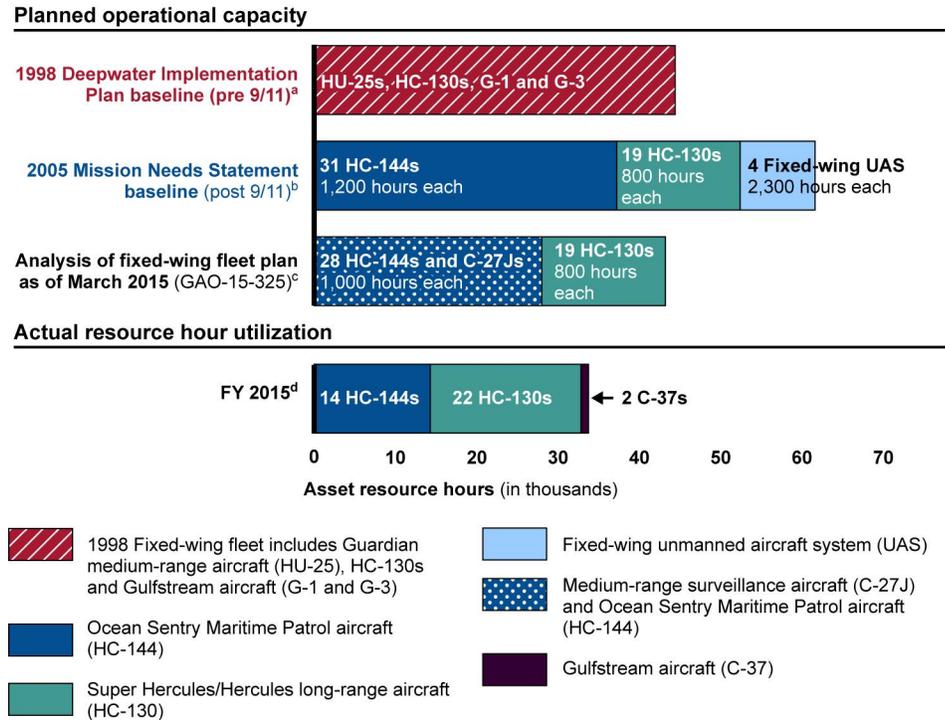
The following figures detail the (1) actual number of asset resource hours utilized in fiscal year 2015 and (2) the expected, planned operational capacity baseline in varying years by each major asset category (fixed-wing aircraft, rotary-wing aircraft, major cutters, and patrol cutters).¹ The 2005 baseline was updated from the 1998 baseline to reflect the changes in the Coast Guard's mission as a result of the additional homeland security missions it was tasked with after 9/11.

The actual number of asset resource hours utilized is generally lower than the baselines for a variety of reasons; including, among other things, the fact that not all assets were planned to be acquired and operational by fiscal year 2015.

¹The fiscal year 2015 data are generated from the Coast Guard's AOPS and ALMIS data systems.

Appendix I: Planned Operational Capacities and Fiscal Year 2015 Actual Asset Resource Hour Utilization

Figure 4: Planned Operational Capacity for the Coast Guard’s Fixed-Wing Fleet in 1998, 2005, and 2015 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015



Source: GAO analysis of U.S. Coast Guard data. | GAO-16-633T

^aThe 44,400 hours is the expected annual operational capacity. However, the actual operational capacity for the fixed-wing fleet in 1998 was lower (39,517 hours).

^bThe 2005 baseline represented the expected annual operational capacity hours and the full-time equivalent number of fixed-wing aircraft needed to achieve those hours. This is the number of assets that the Coast Guard planned to acquire, not what they actually had in 2005. When routine aircraft maintenance schedules are considered, the actual number of aircraft needed to achieve those hours would be greater.

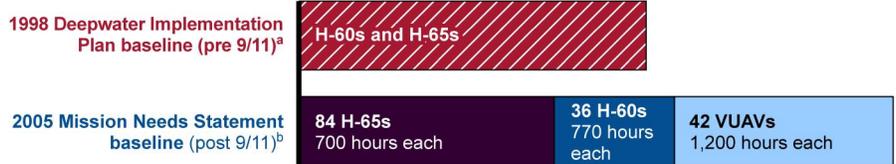
^cGAO-15-325 did not include the unmanned air vehicle, as these assets were not part of the scope of the review. The GAO analysis includes the expected annual operational capacity and the full-time equivalent number of fixed-wing aircraft to achieve those hours. GAO-15-325 specifically reported on the total hours (43,200) and the underlying analyses includes the specific number of aircraft. This is the number of assets that the Coast Guard planned to have operational, not what they actually had at the time of the audit. When routine aircraft maintenance schedules are considered, more fixed-wing assets would be needed to achieve those hours.

^dThe Coast Guard operated the full-time equivalent of this number of assets in FY 2015. By the end of FY 2015, the Coast Guard had 18 HC-144s and 28 HC-130s. Although the Coast Guard did not have any operational C-27s in fiscal year 2015, it did record some resource hours for training, which were not included in the figure above.

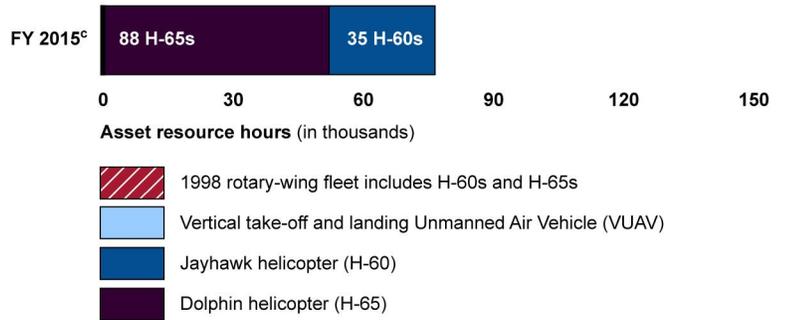
Appendix I: Planned Operational Capacities and Fiscal Year 2015 Actual Asset Resource Hour Utilization

Figure 5: Planned Operational Capacity for the Coast Guard’s Rotary-Wing Fleet in 1998 and 2005 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015

Planned operational capacity



Actual resource hour utilization



Source: GAO analysis of U.S. Coast Guard data. | GAO-16-633T

^aThe 80,000 hours is the expected annual operational capacity. However, the actual operational capacity for the H-65s and H-60s in 1998 was lower (75,135 hours).

^bThe 2005 baseline represented the expected annual operational capacity and the full-time equivalent number of rotary-wing aircraft needed to achieve those hours. This is the number of assets that the Coast Guard planned to acquire, not what they actually had in 2005. When routine aircraft maintenance schedules are considered, the actual number of aircraft needed to achieve those hours would be greater.

^cThe Coast Guard operated the full-time equivalent of this number of rotary-wing assets in FY 2015. By the end of FY 2015 the Coast Guard had 99 H-65s and 43 H-60s in its fleet.

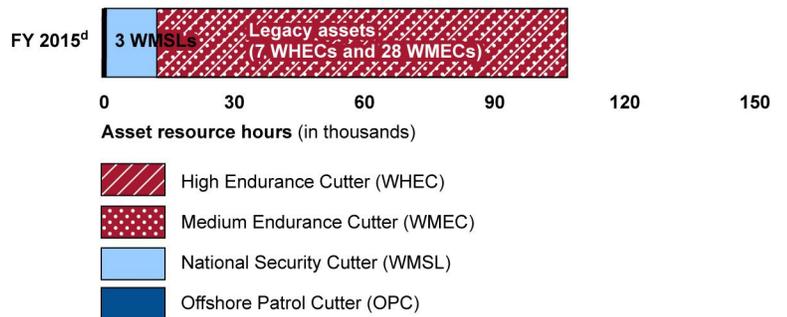
Appendix I: Planned Operational Capacities and Fiscal Year 2015 Actual Asset Resource Hour Utilization

Figure 6: Planned Operational Capacity for the Coast Guard’s Major Cutter Fleet in 1998, 2005, and 2017 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015

Planned operational capacity



Actual resource hour utilization



Source: GAO analysis of U.S. Coast Guard data. | GAO-16-633T

^aThe 1998 major cutter baseline represents the operational capacity of the entire major cutter fleet, not the actual 1998 resource capacity.

^bThe 2005 baseline represented the expected annual operational capacity of the major cutter fleet that the Coast Guard planned to acquire.

^cThe FY 2017 to FY 2021 Capital Investment Plan represented the expected annual operational capacity of the major cutter fleet that the Coast Guard planned to acquire. According to Coast Guard officials, although this capacity for the Offshore Patrol Cutters is reported in the FY 2017 Capital Investment Plan, it is the minimum expected operational capacity for these cutters.

^dThe Coast Guard operated three National Security Cutters in FY 2015. By the end of FY 2015, the Coast Guard had acquired five National Security Cutters. The legacy vessels are being decommissioned over time.

**Appendix I: Planned Operational Capacities
and Fiscal Year 2015 Actual Asset Resource
Hour Utilization**

Figure 7: Planned Operational Capacity for the Coast Guard’s Patrol Cutter Fleet in 1998, 2005, and 2017 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015

Planned operational capacity



Actual resource hour utilization



Source: GAO analysis of U.S. Coast Guard data. | GAO-16-633T

^aThe 1998 patrol cutter baseline represented the 2003 110-foot Patrol Boat (WPB) reclassification, not the actual 1998 resource capacity.

^bThe 2005 baseline represented the expected annual operational capacity of the patrol cutter fleet that the Coast Guard planned to acquire.

^cThe FY 2017 to FY 2021 Capital Investment Plan represented the expected annual operational capacity of the patrol cutter fleet that the Coast Guard planned to acquire as part of its recapitalization.

^dThe Coast Guard operated 10 Fast Response Cutters (FRC) in FY 2015. By the end of FY 2015, the Coast Guard had acquired 14 FRCs. The 110-foot Patrol Boats are being decommissioned over time.

Appendix II: Accessible Data

Data Tables/Accessible Text

Accessible Text for Figure 2: Timeline of Key Events in the Coast Guard's Recapitalization Program, 1996 to 2016

- 1996: Coast Guard begins Deepwater Project
- 1998: Deepwater Implementation Plan baseline established
- 2001: September 11 terrorist attacks
- 2003: Coast Guard moves into the Department of Homeland Security (DHS)
- 2005: Mission Needs Statement revised to include post-September 11 homeland security missions
- 2007: \$24.2 billion Deepwater Acquisition Program Baseline ("program of record") approved by DHS
- 2009: Fleet Mix Phase One completed
- 2011: Fleet Mix Phase Two completed
- 2016: Coast Guard releases updated Mission Needs Statement

Data Table for Figure 3: Comparison of Total Field Unit Asset Resource Hours Allocated in Strategic Planning Directions to the Actual Field Unit Asset Resource Hours Used Report in the Operational Performance Assessment Reports, Fiscal Years 2010 through 2015

Fiscal Year	Allocated in Strategic Planning Directions	Actual used
2010	1293.56	908.762
2011	1116.76	883.598
2012	1120.61	890.184
2013	1085.26	775.055
2014	849.367	772.037
2015	1075.02	804.048
2016	1068.93	N/A

Data Table for Figure 4: Planned Operational Capacity for the Coast Guard’s Fixed-Wing Fleet in 1998, 2005, and 2015 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015

	Ocean Sentry Maritime Patrol aircraft (HC-144)	Medium range surveillance aircraft (HC-27J) and Ocean Sentry Maritime Patrol aircraft (HC-144)	Super Hercules/Hercules long range aircraft (HC-130)	Fixed wing unmanned air vehicle (UAS)	1998 Fixed Wing Fleet	Gulfstream aircraft (C-37)
1998 Deepwater Implementation Plan baseline (pre 9/11)	No data	No data	No data	No data	44400	No data
2005 Mission Needs Statement (post 9/11)	37200	No data	15200	9200	No data	No data
Analysis of fixed wing fleet plan as of March 2015 (GAO-15-325)	No data	28000	15200	No data	No data	No data
FY 2015 actual resource hours utilized	14285.3	No data	18528	No data	No data	936

Data Table for Figure 5: Planned Operational Capacity for the Coast Guard’s Rotary-Wing Fleet in 1998 and 2005 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015

	Dolphin helicopter (H-65)	Jayhawk helicopter (H-60)	Vertical take-off and landing Unmanned Air Vehicle (VUAV)	H-65 and H-60
1998 Deepwater Implementation Plan baseline (pre 9/11)	No data	No data	No data	80000
2005 Mission Needs Statement (post 9/11)	58800	27720	50400	No data
FY 2015	52065.2	24415.2	No data	No data

Data Table for Figure 6: Planned Operational Capacity for the Coast Guard’s Major Cutter Fleet in 1998, 2005, and 2017 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015

	High Endurance Cutter (WHEC)	Medium Endurance Cutter (WMEC)	National Security Cutter (WMSL)	Offshore Patrol Cutter (OPC)	3 National Security Cutters	Legacy assets (WHEC, WMEC)
1998 Deepwater Implementation Plan baseline (pre 9/11)	39960	106560	No data	No data	No data	No data
2005 Mission Needs Statement (post 9/11)	No data	No data	33120	103500	No data	No data

Appendix II: Accessible Data

	High Endurance Cutter (WHEC)	Medium Endurance Cutter (WMEC)	National Security Cutter (WMSL)	Offshore Patrol Cutter (OPC)	3 National Security Cutters	Legacy assets (WHEC, WMEC)
Projected hours based on Capital Investment Plan for FY 2016 – FY 2020	No data	No data	36450	83250	No data	No data
FY 2015	No data	No data	No data	No data	12145.5	94655.4

Data Table for Figure 7: Planned Operational Capacity for the Coast Guard’s Patrol Cutter Fleet in 1998, 2005, and 2017 and Actual Resource Hours Utilized in Fiscal Year (FY) 2015

	110-foot Patrol boat (WPB-110)	Fast Response Cutter (WPC-154)	Fast Response Cutters (WPC-154)	Legacy Assets 110’ Patrol boat (WPB-110)
1998 Deepwater Implementation Plan baseline (pre 9/11)	99400	No data	No data	No data
2005 Mission Needs Statement (post 9/11)	No data	174000	No data	No data
FY 2017 to FY 2021 Capital Investment Plan	No data	145000	No data	No data
FY 2015 actual resource hours utilized	No data	No data	26495.1	56737.8

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Automated answering system: (800) 424-5454 or (202) 512-7470

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