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United States Government Accountability Office  
Washington, DC 20548

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May 31, 2012

Congressional Committees

*Subject: Observations on the Coast Guard's and the Department of Homeland Security's Fleet Studies*

This letter transmits the enclosed briefing slides that we provided to you on April 20, 2012. The Conference Report accompanying the Department of Homeland Security (DHS) Appropriations Act, 2012, directed the Coast Guard to submit phases one and two of the Fleet Mix Analysis and the Cutter Fleet Mix Analysis, as specified in the Senate Report.<sup>1</sup> The Senate Report directed GAO to provide an assessment of the results of these analyses.<sup>2</sup> In response to the mandate, we addressed the following objectives: (1) What are the key results of the Coast Guard's Fleet Mix Studies and DHS's Cutter Study with respect to recapitalization and operations? (2) How useful are these studies to DHS, the Office of Management and Budget (OMB), and the Coast Guard for informing recapitalization decisions?

To conduct our work, we obtained and analyzed Fleet Mix Phase One, Fleet Mix Phase Two, and the DHS Cutter Study to understand the key results. We reviewed Coast Guard appropriations from fiscal years 2008 through 2012 and the President's budget request for fiscal year 2013 to analyze how fiscal assumptions in the studies compared with past appropriations. We interviewed Coast Guard, DHS, and OMB officials to discuss the studies' results and primarily relied on agency officials to identify whether the studies were useful for informing recapitalization decisions. We obtained agency comments on the draft slides prior to the April 20, 2012 briefing. These comments were incorporated as appropriate and the agency comment letter is included as a part of the enclosed briefing slides.

We conducted this performance audit from March 2012 to May 2012 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>1</sup> H.R. Conf. Rep. No. 112-331, at 980 (2011).

<sup>2</sup> S. Rep. No. 112-74, at 100 (2011).

## **Background**

We have reported extensively on the Coast Guard's challenges managing its broad multi-billion dollar major acquisition portfolio, intended to acquire capabilities to conduct missions ranging from marine safety to defense readiness. The Coast Guard completed a two-phased Fleet Mix Analysis that intended to eliminate uncertainty surrounding the future mission performance of the Coast Guard's fleet and produce a baseline for the acquisition of a majority of the Coast Guard's assets. Fleet Mix Analysis Phase One assessed surface, air, and information technology capabilities and mission demands in an unconstrained fiscal environment. The Coast Guard then added cost constraints to Fleet Mix Analysis Phase One, resulting in Fleet Mix Analysis Phase Two. Seeking information to aid in making trade-offs, DHS, at the suggestion of OMB, commissioned a Cutter Study looking at potential trade-offs within the Coast Guard's major cutter fleet, comprised of National Security Cutters (NSCs) and Offshore Patrol Cutters (OPCs).

## **Summary**

Fleet Mix Phase One, which was not cost constrained, indicated that the planned program of record does not fully meet long-term strategic goals and found that, to meet these goals, the Coast Guard requires a fleet that could cost as much as \$65 billion to acquire, which is about \$40 billion more than the \$24.2 billion program of record. Coast Guard officials stated that the analysis supports the continued pursuit of the program of record. However, DHS Program Analysis & Evaluation (PA&E) and OMB officials told us that the analysis has limited utility without cost constraints and trade-offs.

Fleet Mix Phase Two considered two different funding scenarios and indicated that there may be opportunities to improve the affordability of the program of record by reducing capability, while still enhancing performance over the current fleet. The study illustrated that by 2034, the performance of the planned fleet will be nearly 50 percent higher than performance projections for the Coast Guard's fleet in 2014. However, this level of performance will require an optimistic level of funding. The lower bound funding scenario used in the study, \$1.2 billion (fiscal year 2009 dollars), is greater than the Coast Guard's past 5 years of appropriations. The Coast Guard stated that the study's results are useful because it found that if the Coast Guard receives less than \$1.2 billion per year, they will not be able to buy the program of record before the next recapitalization begins. DHS PA&E officials stated that the usefulness of the Phase Two study is limited because it was based on the program of record. OMB officials added that the scenarios in the study were based on the program of record and only increase the total number of assets acquired.

The DHS Cutter Study primarily demonstrated that the performance of the Coast Guard's future fleet is dependent upon the "effective presence" of the assets, which, according to the Coast Guard, means having the right assets and capabilities at the right place at the right time. For example, the study showed that the OPC will be able to launch small boats and helicopters in rougher waters than the current medium endurance cutter, which will increase the Coast Guard's ability to be effectively

present in all operating areas. However, the study did not fully consider how often the Coast Guard needs to operate in these rougher waters. The Cutter Study also examined the Coast Guard's defense readiness mission and found that defense readiness is a key factor in determining the quantity of NSCs to purchase. Coast Guard officials stated that the Cutter Study supports the continued pursuit of the program of record. DHS PA&E and OMB have so far used the Cutter Study to inform the fiscal year 2013 budget. For example, DHS PA&E officials stated that the Cutter Study provided information that DHS and OMB used, in conjunction with other information sources, to inform the decision to not include the last two NSC hulls—hulls 7 and 8—in the FY2013-2017 capital investment plan.

We are not making any new recommendations for agency action. In July 2010, following the completion of Fleet Mix Phase One, we recommended that the Coast Guard present a comprehensive review of the Deepwater Program that clarifies the overall cost, schedule, quantities, and mix of assets required to meet mission needs, including trade-offs in light of fiscal constraints.<sup>3</sup> DHS concurred, but has not yet implemented this recommendation. In 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 to identify cost, capability, and quantity trade-offs that would produce a program of record that fits within expected budget parameters.<sup>4</sup> DHS concurred, but has yet to implement this recommendation.

### **Agency Comments**

DHS and the Coast Guard provided technical comments that we incorporated into this letter as appropriate.

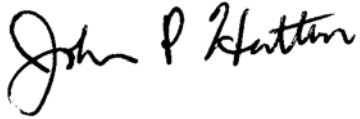
We are sending copies of this report to the appropriate congressional committees. We are also sending copies to the Secretary of the Department of Homeland Security and the Commandant of the Coast Guard. This report will also be available at no charge on our website at <http://www.gao.gov>. Should you or your staff have questions concerning this report, contact John Hutton at (202) 512-4841 or [huttonj@gao.gov](mailto:huttonj@gao.gov) or Stephen Caldwell at (202) 512-9610 or [caldwells@gao.gov](mailto:caldwells@gao.gov).

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<sup>3</sup> GAO, *Coast Guard: Deepwater Requirements, Quantities, and Cost Require Revalidation to Reflect Knowledge Gained*, GAO-10-790 (Washington, D.C.: July 27, 2010).

<sup>4</sup> GAO, *Coast Guard: Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743 (Washington, D.C.: July 28, 2011).

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 were Katherine Trimble, Assistant Director; Jonathan Bachman, Laurier Fish, and Molly Traci.

A handwritten signature in black ink that reads "John P. Hutton". The signature is written in a cursive, slightly slanted style.

John Hutton  
Director, Acquisition and Sourcing Management

A handwritten signature in black ink that reads "Stephen Caldwell". The signature is written in a cursive, slightly slanted style.

Stephen Caldwell  
Director, Homeland Security and Justice

Enclosure: Briefing with our observations of the Coast Guard's and DHS's Fleet Studies

*List of Requesters:*

The Honorable Mary Landrieu  
Chairman

The Honorable Dan Coats  
Ranking Member  
Subcommittee on Homeland Security  
Committee on Appropriations  
United States Senate

The Honorable Robert B. Aderholt  
Chairman

The Honorable David E. Price  
Ranking Member  
Subcommittee on Homeland Security  
Committee on Appropriations  
House of Representatives

# **Observations on the Coast Guard's and the Department of Homeland Security's Fleet Studies**

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**Briefing for Congressional Committees  
April 20, 2012**

# Introduction

- The Coast Guard manages a broad multi-billion dollar major acquisition portfolio intended to acquire capabilities to conduct missions that range from marine safety to defense readiness.
- We have reported extensively on the Coast Guard's significant acquisition challenges and found that the \$24.2 billion Deepwater Program, as envisioned in 2007, is no longer achievable in terms of cost and schedule.
- The Coast Guard intended the Deepwater Program to be a long-term replacement or modernization of certain existing (legacy) assets, many of which are at or approaching the end of their projected service lives.

# Introduction (continued)

- While the Department of Homeland Security (DHS) and the Coast Guard no longer use the term “Deepwater” for the program aimed at recapitalizing its surface, air, and information technology capacity, both organizations have completed studies examining the mix of Deepwater assets:<sup>1</sup>
  - Coast Guard’s Fleet Mix Phase 1: Intended to address uncertainty surrounding future mission performance and produce a baseline for the Deepwater acquisition
  - Coast Guard’s Fleet Mix Phase 2: Conducted as a follow-on to Phase 1 to add cost constraints
  - DHS’s Cutter Fleet Study (Cutter Study): Conducted to evaluate whether an alternative cutter fleet mix could improve the Coast Guard’s performance while maintaining acquisition costs of the program of record at the time of the study. DHS Program Analysis and Evaluation (PA&E) led the analysis with contractor support including the Center for Naval Analysis (CNA).

<sup>1</sup> DHS’s fiscal year 2012 budget request to Congress included a proposal to eliminate the term “Integrated Deepwater System” from the annual appropriation.



# Congressional Mandate and GAO Objectives

The Conference Report accompanying the Department of Homeland Security Appropriations Act, 2012, directed the Coast Guard to submit phases one and two of the Fleet Mix Analysis and the Cutter Fleet Mix Analysis, as specified by the Senate Report.<sup>2</sup> The Senate Report directed GAO to provide an assessment of the results of these analyses.<sup>3</sup>

In response to the mandate, we addressed the following objectives:

1. What are the key results of the Coast Guard's Fleet Mix Studies and DHS's Cutter Study with respect to recapitalization and operations?
2. How useful are these studies to DHS, Office of Management and Budget, and the Coast Guard for informing recapitalization decisions?

<sup>2</sup> H.R. Conf. Rep. No. 112-331, at 980 (2011).

<sup>3</sup> S. Rep. No. 112-74, at 100 (2011).

# Scope and Methodology

- To conduct our work, we:
  - obtained and analyzed Fleet Mix Phase 1, Fleet Mix Phase 2, and the DHS Cutter Study to understand the key results;
  - informed our analysis of the studies by reviewing past work;
  - reviewed Coast Guard appropriations from fiscal years 2008-2012 and the President's budget request for fiscal year 2013 to analyze how fiscal assumptions in the studies compared with past appropriations; and
  - interviewed officials from the Coast Guard, DHS, and the Office of Management and Budget (OMB) to discuss the key results of these analyses and primarily relied on officials to identify whether the studies were useful for informing recapitalization decisions.
- We conducted this performance audit from March 2012 to April 2012 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives, which is required by the standards.

# Background

- The Deepwater Program of Record was based on the Coast Guard’s mission requirements set forth in the DHS-approved 2004 Deepwater Mission Need Statement. As seen in Table 1, the Program of Record included 13 acquisitions.

**Table 1: Deepwater Program of Record**

Asset	Portfolio	Quantity in program of record
National Security Cutter (NSC)	Surface	8 cutters
Offshore Patrol Cutter (OPC)	Surface	25 cutters
Fast Response Cutter (FRC)	Surface	58 cutters
Medium Endurance Cutter Sustainment	Surface	27 legacy cutters
Patrol Boat Sustainment	Surface	17 legacy boats
Cutter Small Boats	Surface	27 boats
HC-144A Maritime Patrol Aircraft	Aircraft	36 aircraft with mission system pallets
HC-130J Long-Range Surveillance Aircraft	Aircraft	8 aircraft
HC-130H Long-Range Surveillance Aircraft	Aircraft	16 aircraft upgraded in segments
HH-65 Multi-mission Cutter Helicopter	Aircraft	102 aircraft upgraded in segments
HH-60 Medium Range Recovery Helicopter	Aircraft	42 aircraft upgraded in segments
Unmanned Aircraft System	Aircraft	To be decided
Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)	Information Technology	8 segments

Source: GAO presentation of Coast Guard data.

# Background (continued)

**Table 2: Overview of Coast Guard’s Fleet Mix Studies and DHS Cutter Study**

Study	Organization	Completed	Key Aspects of the Studies
Fleet Mix Phase 1	Coast Guard	December 2009	<ul style="list-style-type: none"> <li>Assessed surface, air, and information technology capabilities and mission demands in an unconstrained fiscal environment to identify a fleet that would meet long-term strategic goals (objective fleet mix).</li> <li>Developed, based on risk metrics, incremental fleet mixes to bridge the objective fleet mix and the program of record.</li> </ul>
Fleet Mix Phase 2	Coast Guard	May 2011	<ul style="list-style-type: none"> <li>Primarily assessed the rate at which the Coast Guard could acquire the program of record within a high and low bound of annual acquisition cost constraints.</li> </ul>
Cutter Study	DHS	August 2011	<ul style="list-style-type: none"> <li>Developed alternative cutter fleets that equaled the acquisition cost, at the time of the analysis, of the cutter fleet program of record.</li> <li>Assessed the expected performance of these alternative fleets compared to the program of record.</li> </ul>

Source: GAO analysis of Coast Guard data.

# Background (continued)

- The Coast Guard identified performance metrics for 7 statutory missions that require significant effort from offshore assets (see table 3). These performance metrics were commonly used in each of the three studies to compare fleets.

**Table 3: Overview of 7 Coast Guard Missions and the Related Performance Metrics**

Mission	Performance Metric
Drug Interdiction	Percentage of cocaine seized
Alien Migrant Interdiction	Migrant interdiction rate
Living Marine Resources	Boarding rate for high-threat and low-threat fisheries
Other Law Enforcement	Exclusive economic zone interdiction rate
Search and Rescue	Percentage of lives saved
Port, Waterways, and Coastal Security	Intelligence driven security boarding rate
Defense Operations	Planned out of hemisphere deployment fill rate

Source: GAO presentation of Coast Guard data.

## Background (continued)

- In addition, Deepwater assets contribute to maritime domain awareness, intelligence exploitation, general law enforcement, and heavy airlift.
- Deepwater mission success requires effective presence, which means having the right assets and capabilities at the right place at the right time.
  - For example, the DHS Cutter Study defines effective presence as major cutter time-on-station, capable of launching and recovering aircraft and small boats.

## Objective 1 Summary: Key Results of the Coast Guard's Fleet Studies and DHS Cutter Study

- Key results from the three studies provide some insights into recapitalization and operations under different modeling scenarios.
  - Fleet Mix Phase 1: provides insight into the relative performance of the program of record and larger fleets
  - Fleet Mix Phase 2: provides insight into
    - Length of time it will take to acquire the program of record under two different funding constraints,
    - Performance of fleets at different points in time,
    - Performance of fleets using different days away from homeport assumptions (rotational crewing)
  - DHS Cutter Study: provides insight into characteristics that are important in determining the quantity and capability of surface assets

# Fleet Mix Phase 1 Provides Insight Into Performance of Program of Record and Larger Fleets

- Phase 1 analysis was not cost constrained and identified the Coast Guard's objective fleet mix that would meet long-term strategic goals within each deepwater mission.
- The Coast Guard estimated the total acquisition costs associated with the objective fleet mix could be as much as \$65 billion—about \$40 billion higher than the approved \$24.2 billion program of record.
- The analysis also identified that the planned program of record does not meet these long-term strategic goals.
- In July 2010, following the completion of Fleet Mix Phase 1, we recommended that the Coast Guard present a comprehensive review of the Deepwater Program that clarifies the overall cost, schedule, quantities, and mix of assets required to meet mission needs, including trade-offs in light of fiscal constraints.<sup>4</sup> DHS concurred, but has not yet implemented this recommendation.

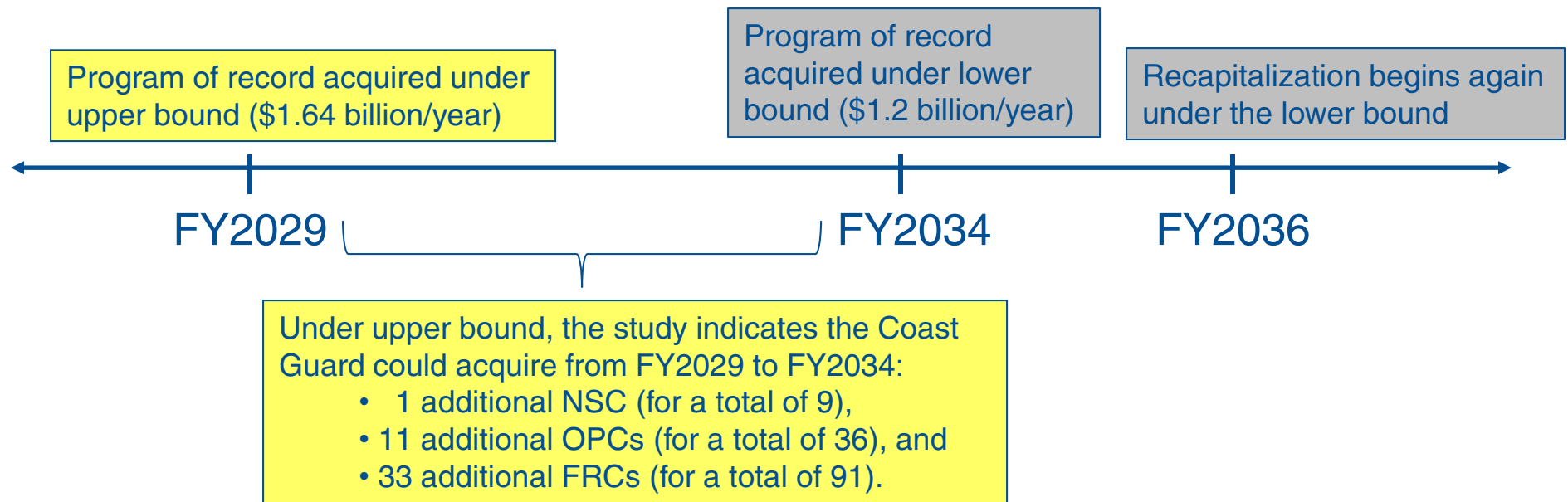
<sup>4</sup> GAO, Coast Guard: Deepwater Requirements, Quantities, and Cost Require Revalidation to Reflect Knowledge Gained, GAO-10-790 (Washington, D.C.: July 27, 2010).



# Fleet Mix Phase 2 Provides Insight into Recapitalization Timeframes Under Two Funding Scenarios

- The Coast Guard found that by using the upper bound cost constraint (\$1.64 billion/year), it could acquire the program of record 5 years sooner than under the lower bound cost constraint (\$1.2 billion/year).<sup>5</sup>

**Figure 1: Key Recapitalization Timeframes Under Two Funding Scenarios in Fleet Mix Phase 2**



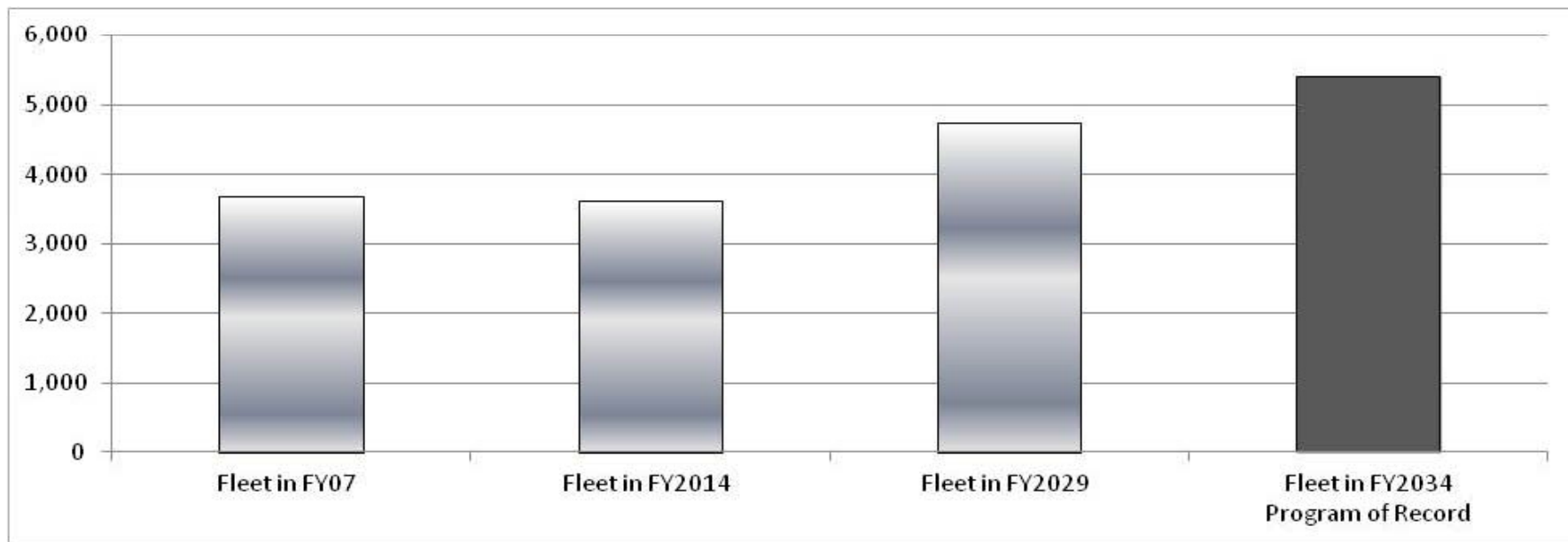
Source: GAO Presentation of Coast Guard data.

<sup>5</sup> Constant FY2009 dollars. We previously reported that the Coast Guard did not document its methodology for establishing these constraints and there was confusion about their genesis. See GAO, Coast Guard: Action Needed As Approved Deepwater Program Remains Unachievable, GAO-11-743 (Washington, D.C.: July 28, 2011).

# Fleet Mix Phase 2 Found that Under the Lower Bound Constraint Performance Improves Prior to Achieving the Program of Record

- Phase 2 assessed performance based on the number of prosecutions at different points of time.<sup>6</sup> According to officials, diminishing legacy asset performance over time is not accounted for in this study which would likely affect fleet performance.

**Figure 2: Number of Prosecutions Over Time, Assuming \$1.2 billion/year Until Program of Record is Acquired in FY2034**



Source: GAO Analysis of Coast Guard data.

Note: For FY2007, FY2014, and FY2029, the study assumes the major cutters are operating 185 days away from homeport. The fleet in FY2034—the program of record—assumes the major cutters are operating 230 days away from homeport.

<sup>6</sup> A prosecution occurs when a Coast Guard service member engages with a target of interest during the following missions: migrant interdiction, drug interdiction, living marine resources, and other law enforcement, as well as non-violator traffic.

## Fleet Mix Phase 2 Found that Increasing Days Away from Homeport Improves Performance

- Fleet Mix Phase 2 demonstrates that operating the NSCs and OPCs for 230 days away from homeport per the planned program of record, as opposed to the current fleet's 185 days, increases performance.<sup>7</sup>
- However, Coast Guard officials told us that the Coast Guard is reevaluating its planned rotational crewing policy—four crews per three hulls to achieve 230 days away from homeport. Coast Guard analysis being conducted separate from Fleet Mix Phase 2 indicates that 230 days away from homeport, with its requisite rotational crewing strategy, may be difficult and/or costly to achieve.
- Coast Guard officials noted that the analysis in Fleet Mix Phase 2 did not look at the effect of rotational crewing on training, logistics, shore-side billets, and other factors.

<sup>7</sup> The program of record includes 33 new vessels—8 NSCs and 25 OPCs to replace 40 legacy vessels—12 High Endurance Cutters and 28 Medium Endurance Cutters, respectively.

# DHS Cutter Study Examined Alternative Mixes of Surface Assets

- In the Cutter Study, DHS looked at the following options, which equaled the acquisition cost of the cutter fleet program of record at the time of the analysis:
  - Varying the combination of NSCs and OPCs in the program of record,<sup>8</sup>
  - Developing and buying a modernized version of the Coast Guard’s current 270-foot cutter instead of acquiring the OPC, and
  - Substituting the Navy’s Littoral Combat Ship (LCS) for some planned OPCs.

**Table 4: Overview of Fleet Mixes in DHS’s Cutter Study**

Asset	Program of record	Fleet 1	Fleet 2	Fleet 3	Fleet 4	Fleet 5	Fleet 6	Fleet 7	Fleet 8	Fleet 9
NSC	8	5	7	9	5	7	8	8	8	8
OPC	25	30	26	23	0	0	0	22	19	16
Mod-270	0	0	0	0	41	37	34	0	0	0
LCS	0	0	0	0	0	0	0	3	6	9
FRC	58	58	62	59	60	58	58	58	58	58

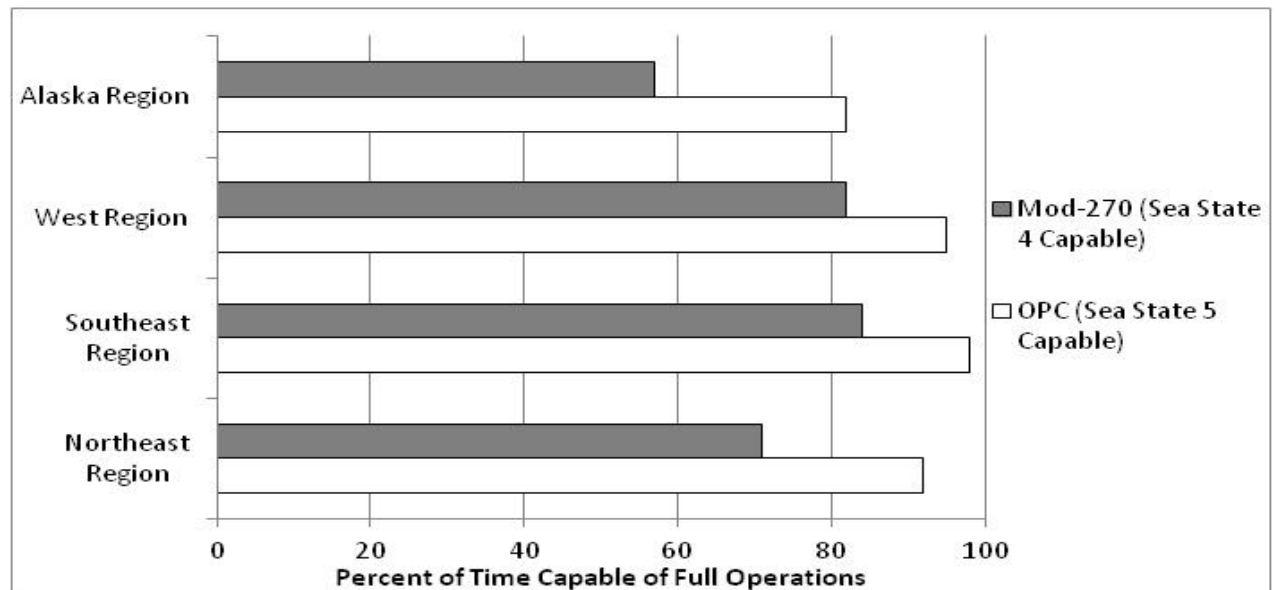
Source: DHS Cutter Study.

<sup>8</sup> The OPC modeled in the DHS Cutter Study is the objective capability—or the optimum performance—per the OPC’s operational requirements document. **Page 15**

# DHS Cutter Study: Presence is Key to Increasing Cutter Fleet Performance

- The DHS Cutter Study found that speed, seakeeping, range, and endurance are the key factors that contribute to effective presence.<sup>9</sup> The study also states that there are other ways to increase presence operationally, for example by basing cutters closer to operating areas.
- While the number of cutters improves presence, presence is reduced if cutters cannot perform operations in sea state five.
- As seen in Figure 3, a sea state 5 OPC improves presence in all regions compared to a sea state 4 modernized 270-foot cutter.

**Figure 3: Percentage of Time Cutters Can Operate in Key Regions**



Source: GAO presentation of DHS data.

<sup>9</sup> Seakeeping refers to a vessel's ability to withstand harsh sea states. Sea states refer to the height, period, and character of waves on the surface of a large body of water. Sea state 5 correlates to wave heights of 8.2 to 13.1 feet and sea state 4 correlates to wave heights of 4.1 to 8.2 feet.

# DHS Cutter Study: LCS is Not Well-Suited for Coast Guard Missions

- DHS’s Cutter Study determined that the LCS is not well-suited for Coast Guard missions. For example, while the planned LCS has a higher speed than the planned OPC, its limitations include
  - Limited range—requires more frequent refueling than the planned OPC (reducing its available mission time)
  - Inability to maintain effective presence—cannot operate boats or aircraft in as high a sea state

Table 5: Comparison of Key Capabilities between the Planned OPC and LCS

	OPC	LCS
Speed	22-25 knots	Greater Than 45 knots
Range	8,500-9,500 nautical miles at 17 knots	4,500 nautical miles at 14 knots
Endurance (days)	45-60	21
Boat maximum launch limit	Through Sea State 5 (13.1’ waves)	Through Mid-Sea State 4 (6.8’ waves)
Helo maximum launch limit	Through Sea State 5 (13.1’ waves)	Almost through Sea State 5 (12.1’ waves)

Source: DHS Cutter Study and OPC Operational Requirements Document.

# DHS Cutter Study Indicates that a Mid-Capability OPC May Provide the Best Value

- In the Cutter Study, the Center for Naval Analysis (CNA) recommends that DHS explore additional fleet mix options, including looking at a mid-capability OPC.
- The mid-capability OPC would reduce the speed and range of the objective OPC but otherwise maintain its presence capabilities including an ability to operate in sea state 5.
- A CNA official responsible for the analysis stated that other characteristics of this mid-capability OPC could include removing or reducing the following from the objective OPC without affecting presence:
  - Sensitive Compartmentalized Information Facility
  - Air Search and Fire Control Radars (acquire the positions of targets and provide these data to a ship's command and control and weapon systems)
  - Electronic Warfare Support Measures
  - Berthing space (114 instead of 122)
  - Weapons suite (e.g., 25mm gun instead of 57mm)
- The CNA official also stated that CNA has not studied whether these changes to the objective OPC would otherwise affect mission performance.



# DHS Cutter Study Found that Defense Operations is a Key Factor in Determining Quantity of NSCs Needed

- In all three studies, the defense readiness mission is fully satisfied before other mission areas are assessed.<sup>10</sup> In doing so, defense operations is the highest priority mission, only to be met through the use of NSCs.
- As a result, the DHS Cutter Study found that a yearly availability of 3.5 NSCs is necessary to meet the defense operations presence requirement.
- In reality, Coast Guard officials told us they do not give specific missions preeminent priority over any assets and actual mission planning is primarily determined through an analysis of the expected risks and the responsibility to respond to all statutory missions.
  - For example, the first NSC commissioned, BERTHOLF, is currently on its second deployment in the Alaska operations area primarily for missions other than defense operations.

<sup>10</sup> To support its statutory defense readiness mission, the Coast Guard provides assets to the Department of Defense to support its military strategy.



## Objective Two Summary: Usefulness of Fleet Studies to Inform Recapitalization Decisions

- Each of the three studies has limitations that affect their usefulness for informing recapitalization decisions.
- The Coast Guard maintains that all three studies support continued pursuit of the program of record. However, DHS Program Analysis and Evaluation (PA&E) and OMB are using the Cutter Study to inform discussions about whether and how the program of record could be changed.

# Fleet Mix Phase 1 was Not Cost Constrained, Making the Results Not Feasible

- As we have previously reported, the Phase 1 analysis was not cost constrained. Coast Guard officials stated in 2010 that they do not consider the objective mix to be feasible due to cost and do not plan to use the results to provide recommendations on a baseline for fleet mix decisions.<sup>11</sup>
- Despite not being a cost constrained analysis, Coast Guard officials stated that this analysis supports continued pursuit of the program of record. However, DHS PA&E and OMB officials told us that the Phase 1 analysis has limited utility without cost constraints and trade-offs.
- We have previously reported that, given the cost growth, schedule delays, and expected changes to planned capabilities, the Deepwater program of record is unachievable.<sup>12</sup> Without cost constraints, the Phase 1 analysis does not position the Coast Guard to make trade-off decisions in light of fiscal constraints.

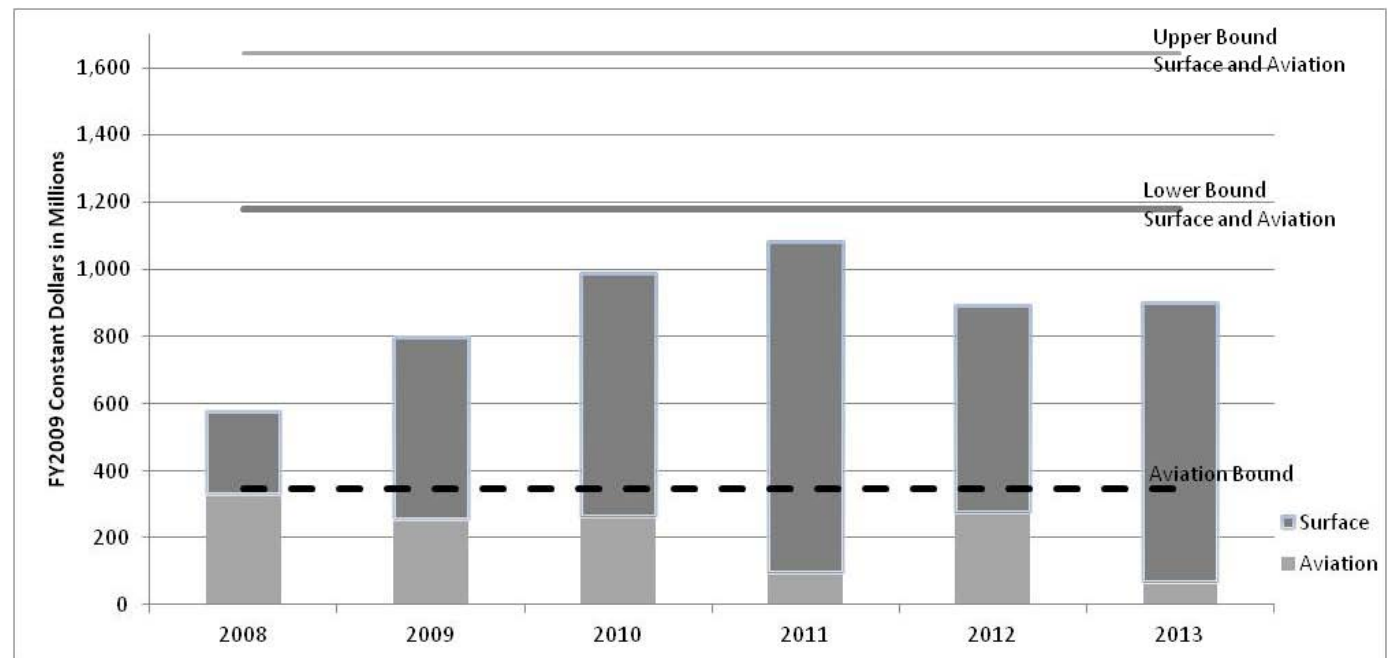
<sup>11</sup> GAO-10-790.

<sup>12</sup> GAO-11-743.

# Fleet Mix Phase 2 Used Optimistic Funding Scenarios

- The upper bound constraint (\$1.64 billion/year) used in Phase 2 is unrealistic when compared to past Coast Guard appropriations and the President’s FY2013 budget request. Based on this same comparison, the lower bound (\$1.2 billion/year) is optimistic.
- Coast Guard officials stated that, in the current fiscal climate, the lower bound constraint is more likely and the upper bound scenario is not informing decision making.

**Figure 4: Fleet Mix Phase 2 Upper and Lower Bounds Compared to Coast Guard’s Past Appropriations and FY2013 President’s Budget Request (FY2009 dollars)**



Source: GAO Analysis of Coast Guard and past appropriations data.

Table Note: The aviation funding level used in the analysis was \$350 million/year for both the upper bound and lower bound constraints.



# Fleet Mix Phase 2 Does Not Examine Alternatives to the Program of Record

- In Fleet Mix Phase 2, the Coast Guard only looked at scenarios based on the program of record and the study does not include any trade-off analyses involving quantity or capability. Such an analysis would better prepare the Coast Guard to make the trade-offs that will be likely in this fiscal climate.
- Despite not looking at alternatives to the program of record, Coast Guard stated the study is useful because they found that if the Coast Guard receives less than \$1.2 billion/year, they will not be able to buy the program of record before the next recapitalization begins.
- DHS PA&E stated that the usefulness of Fleet Mix Phase 2 is limited because it is based on the program of record. OMB added that the additional scenarios in the study based on the program of record only increased the total number of assets acquired.

## DHS Cutter Study Focused on the Surface Fleet and Did Not Examine Trade-offs Involving Aviation Assets

- CNA recommended that DHS commission a similar study for Coast Guard aircraft because the Cutter Study did not consider changes in the number or mix of aviation assets, other than small adjustments to cutter-based aviation assets.
  - A CNA official responsible for leading the analysis stated that helicopters factor strongly in the mission performance of cutters.
  - CNA noted that there may be opportunities for the Coast Guard to trade-off air and surface assets to maximize total performance.
- DHS PA&E stated that they have not implemented this recommendation yet, but have a working group to examine the number and mix of aviation assets across DHS's portfolio.

# DHS and OMB are Using DHS Cutter Study to Inform Ongoing Recapitalization Discussions

- DHS PA&E officials stated that the Cutter Study provides information about surface fleet options and used the results to inform discussions
  - with OMB on the FY2013 budget, including the decision to not include the last two NSC hulls—hulls 7 and 8—in the FY2013-2017 capital investment plan. As we have noted in past work, the capital investment plan is subject to change each year.<sup>13</sup>
  - at the OPC's recent Acquisition Decision Event meeting and plans to continue to use it in assessing OPC affordability.
- OMB officials agreed that the DHS Cutter Study was useful for FY2013 budget planning and added that the study's conclusion that the LCS is not a suitable medium endurance cutter was helpful.
- However, by keeping the cost of the cutter fleet program of record constant in the analysis, the study does not illuminate trade-offs, in the likely event they become necessary.

<sup>13</sup> GAO-11-743.

# How Studies Will Inform Program Decisions is Unclear

- In July 2011, we reported that it was unclear how DHS and the Coast Guard would reconcile and use these multiple studies to make trade-off decisions.<sup>14</sup>
- 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 to identify cost, capability, and quantity trade-offs that would produce a program of record that fits within expected budget parameters. DHS concurred, but has not yet implemented this recommendation.

<sup>14</sup> GAO-11-743.



# Concluding Observations

- The Coast Guard completed Fleet Mix Phase 1 and 2 to examine its mix of assets, but neither acknowledged the federal budget pressures facing our country, limiting the usefulness of the studies for trade-off decisions.
- Fleet Mix Phase 2 found that the Coast Guard's performance will increase once it acquires the program of record. However, whether that performance increase is affordable is not addressed in the study.
- More recently, DHS's Cutter Study looked at trade-offs within the Coast Guard's surface program of record and provides some useful information to decision makers as they consider OPC affordability and how many NSCs the Coast Guard needs. However, as the study indicates, examining trade-offs in the aviation portfolio could also provide additional insights.
- DHS PA&E and OMB officials said they are using information in the Cutter Study to inform discussions concerning the Coast Guard's program of record, but the extent to which changes will be implemented is not yet known.
- Given that executing the program of record within original cost and schedule baselines is unachievable, DHS and the Coast Guard need to identify trade-off decisions that balance effectiveness with affordability, as previously recommended.



# Summary of Agency Comments

- DHS provided us with written comments on a draft of this briefing (attached). DHS stated that it works with the Coast Guard to prioritize investments and address affordability issues. For example, when the Coast Guard identifies programs that deviate from original baselines, DHS holds an investment review board to re-baseline programs to fit within expected budget parameters. We reported in July 2011 that Coast Guard is managing a portfolio—which includes many revised baselines approved by DHS—that is expected to cost more than what its annual budget will likely support.<sup>15</sup> As we noted in that report, we believe the Coast Guard needs to be more proactive in addressing this mismatch of expected funding and actual funding needs. As such, the Coast Guard needs to consider trade-offs within the portfolio to produce a program of record that fits within expected budget parameters.
- DHS also stated that it did consider the results of the Coast Guard's fleet mix analysis phase 1 and the DHS Cutter Study when developing its fiscal year 2013 budget. This is consistent with our finding that PA&E used the DHS Cutter Study to inform this year's budget. However, as we noted, some of these considerations are deferred to the later years in the FY2013-2017 capital investment plan, which is subject to change.
- DHS and Coast Guard also provided technical comments that we incorporated into the briefing as appropriate. We also provided draft sections of the briefing to OMB and CNA officials, who provided us technical comments via e-mail; we incorporated their comments as appropriate.

<sup>15</sup> GAO-11-743.



**Homeland  
Security**

April 18, 2012

Stephen Caldwell  
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U.S. Government Accountability Office  
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John P. Hutton  
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Re: Draft Congressional Briefing Slides GAO 121041, "Observations on the Coast Guard's and the Department of Homeland Security's Fleet Studies"

Dear Messrs Caldwell and Hutton:

Thank you for the opportunity to review and comment on these briefing slides. The U.S. Department of Homeland Security (DHS) appreciates the U.S. Government Accountability Office's (GAOs) work related to U.S. Coast Guard (USCG) fleet requirements.

As you are aware, all Federal agencies are facing budget constraints given the current fiscal environment. DHS senior leadership is committed to sustaining core frontline operations and continuing mission-critical initiatives across the Department to ensure the safety, security, and resilience of our Nation.

DHS continues to balance investment in front-line operations and recapitalization to address its highest operational risks. Prudent investment in USCG recapitalization remains an extremely high priority as a means for maintaining the Coast Guard's ability to perform its statutory missions now and well into the future.

DHS and USCG work together to prioritize investments through strong resource and operational stewardship. For example, when USCG identifies acquisition programs that deviate from original baselines, Departmental leadership convenes an Investment Review Board (IRB), through the DHS acquisition oversight process, to look at individual program specifics and direct actions necessary to re-base line the programs to fit within currently expected budget parameters. Affordability is a key issue during these deliberations. The

Department will again be looking at the portfolio of USCG acquisition projects during an upcoming IRB to be held within the next 3-4 months. Additionally, a senior-level working group with members from DHS Headquarters, USCG, and U.S. Customs and Border Protection is working to engage, develop, and implement additional actions for improving aviation management, acquisitions, and efficiencies.

DHS did consider the results of the USCG's fleet mix analysis phase 1 and the DHS cutter study when developing the Department's Fiscal Year (FY) 2013 budget, which includes detailed information on both the USCG's operational needs and its recapitalization efforts. For example, the FY 2013 budget includes a Capital Investment Plan bounded by Budget Control Act growth projections that balances priorities such as recapitalization of polar icebreakers, recognizing the criticality of the Arctic as a strategic national priority and other existing and emerging requirements. The budget strikes the optimal balance between current operations and investment in future capability, including that needed to sustain the USCG's ability to execute its missions and address the most pressing operational requirements.

Again, thank you for the opportunity to review and comment on this draft report. Technical and sensitivity comments for the report were previously provided under separate cover. Please feel free to contact me if you have any questions. We look forward to working with you on future Homeland Security issues.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. H. Crumpacker", is positioned above the printed name.

Jim H. Crumpacker

Director

Departmental GAO-OIG Liaison Office

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