

**REVIEW OF THE NATIONAL ACADEMY OF
SCIENCES REPORT “THE COAST GUARD’S NEXT
DECADE: AN ASSESSMENT OF EMERGING CHAL-
LENGES AND STATUTORY NEEDS”**

(118–21)

HEARING
BEFORE THE
SUBCOMMITTEE ON
COAST GUARD AND MARITIME TRANSPORTATION
OF THE
COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES
ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

JUNE 21, 2023

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Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

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JUNE 16, 2023

SUMMARY OF SUBJECT MATTER

TO: Members, Subcommittee on Coast Guard and Maritime Transportation
FROM: Staff, Subcommittee on Coast Guard and Maritime Transportation
RE: Subcommittee Hearing on “*Review of the National Academy of Sciences Report ‘The Coast Guard’s Next Decade: An Assessment of Emerging Challenges and Statutory Needs’*”

I. PURPOSE

The Subcommittee on Coast Guard and Maritime Transportation of the Committee on Transportation and Infrastructure will hold a hearing on Wednesday, June 21, 2023, at 10:00 a.m. ET in 2253 Rayburn House Office Building to receive testimony on “*Review of the National Academy of Sciences Report ‘The Coast Guard’s Next Decade: An Assessment of Emerging Challenges and Statutory Needs’*.” The Subcommittee will hear testimony from the United States Coast Guard (Coast Guard or Service), the Chair of the National Academy of Sciences Report, and the United States Government Accountability Office (GAO).

II. BACKGROUND

The Elijah E. Cummings Coast Guard Authorization Act of 2020 directs the Coast Guard to enter into an agreement with the National Academy of Sciences to prepare an assessment on emerging issues that require Coast Guard action, a description of the potential limitations of current Coast Guard authorities to address current or emerging issues, and recommendations on adjustments or additions to Coast Guard authorities that could be made to address deficiencies.¹

The National Academy of Sciences formed a 12-person committee and consulted with current and former members of the Coast Guard, industry stakeholders, and others to develop the conclusions outlined in the report, which was completed in May 2023.²

¹William M. Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. No. 116-283, 134 Stat. 4672, available at <https://www.congress.gov/bill/116th-congress/house-bill/6395/text>.

²NATIONAL ACADEMIES OF SCIENCES, ENGINEERING AND MEDICINE, COAST GUARD’S NEXT DECADE: AN ASSESSMENT OF EMERGING CHALLENGES AND STATUTORY NEEDS 186 (2023), available at <https://nap.nationalacademies.org/catalog/27059/the-coast-guards-next-decade-an-assessment-of-emerging-challenges-and-statutory-needs> [hereinafter NAS REPORT].

III. STUDY FINDINGS

CHALLENGES OVER THE NEXT DECADE

Over the coming decade, a changing environment, technological innovation, and global strategic competition are predicted to be the most significant external factors impacting the Coast Guard's critical missions³. Based on these external drivers, below are the ten foreseeable developments identified by the report that will impact the Coast Guard's missions over the next decade:⁴

- 1) *Autonomous Systems*: As these systems become more common place, the Coast Guard is expected to confront challenges regarding the regulation of these systems and account for crewing requirements that may differ from traditional vessels. Additionally, the Coast Guard must develop best practices to prevent nefarious uses and cyber intrusions, and account for additional workforce training, development, and certifications required to operate these systems. The Coast Guard Authorization Act of 2023, which has been marked up by the Committee on Transportation and Infrastructure, directs the Coast Guard to conduct a report on the establishment of an unmanned systems capabilities office and establishes a National Advisory Committee on Autonomous Systems to support the Coast Guard's efforts in this area.⁵
- 2) *Cybersecurity Risk*: Cyber intrusions pose a serious safety risk to our Nation's ports and vessels under way, and also threaten to disrupt the supply chain. One of America's largest ports, the Port of Los Angeles, faces approximately 40 million cyber-attacks per month.⁶ Given the disastrous potential posed by such threats, the Coast Guard needs to treat the risk of cyber-attack with the same vigilance as physical attacks, by improving its capability to protect against them. Congress and the Committee are directing the Coast Guard to better prepare for cyber-attacks by passing critical legislation. For example, last year, the Don Young Coast Guard Authorization Act of 2022 directed the Coast Guard to make available public tools and resources to help maritime stakeholders confront cyber threats.⁷ Additionally, the Coast Guard Authorization Act of 2023 strengthens the ability of the Coast Guard to confront cyber-attacks at ports.⁸
- 3) *Commercial Spaceflight Operations*: As commercial space operations increase, the Coast Guard will have a greater responsibility in mitigating maritime navigational risks around launch zones. For example, the regulation of autonomous maritime technology will be crucial as companies such as SpaceX, expand their use of autonomous vessels as platforms to collect boosters upon reentry. Given this, it is possible that as those safety zones expand outside of the United States' exclusive economic zone, the Coast Guard could be confronted with new challenges regarding the regulation of maritime activity around launch and recovery zones.⁹
- 4) *Offshore Wind Energy*: The Biden Administration has set a goal of deploying 30 gigawatts of offshore wind-generated electricity by 2030.¹⁰ As these projects develop, increased vessel traffic arising from offshore wind construction and operations may impact the safety of navigation. The Coast Guard will be charged with balancing the needs of multiple maritime stakeholders while simultaneously ensuring that safe navigation is preserved for all users. To date, the Coast Guard has failed to adequately move forward its Atlantic Coast Port Access Route Study—a key milestone in ensuring safe navigation in the area. The Coast Guard Authorization Act of 2023 directs the Coast Guard to finalize its rulemaking on the study by the end of the year.¹¹

³NAS REPORT, *supra* note 2, at 36.

⁴*Id.* at 35

⁵Coast Guard Authorization Act of 2023, H.R. 2741, 118th Cong. (2023), available at <https://www.congress.gov/bill/118th-congress/house-bill/2741/text>.

⁶Sam Fenwick, *Cyber-attacks on Port of Los Angeles have doubled since pandemic*, BBC NEWS, (July 22, 2022), available at <https://www.bbc.com/news/business-62260272>.

⁷James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, Pub. L. No. 117–263, 136 Stat. 4024, available at <https://www.congress.gov/bill/117th-congress/house-bill/7776/text>.

⁸Coast Guard Authorization Act of 2023, *supra* note 5.

⁹NAS REPORT, *supra* note 2, at 78.

¹⁰FACT SHEET: BIDEN-HARRIS ADMINISTRATION CONTINUES TO ADVANCE AMERICAN OFFSHORE WIND OPPORTUNITIES, THE WHITE HOUSE (2023), available at <https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/29/fact-sheet-biden-harris-administration-continues-to-advance-american-offshore-wind-opportunities/>.

¹¹Coast Guard Authorization Act of 2023, *supra* note 5.

- 5) *Aquaculture*: While the National Oceanic and Atmospheric Administration (NOAA) has the primary federal role in regulating aquaculture, the Coast Guard has the responsibility to deploy aids to navigation around aquaculture facilities.¹² As the number of aquaculture facilities grows over the coming years, the Coast Guard will be charged with assessing the impacts to navigational safety in a greater number of areas.
- 6) *The Arctic Domain*: Vessel traffic through the Arctic region is expected to increase, straining the Service's ability to conduct its navigation, safety, environmental and other critical missions.¹³ The Coast Guard represents the United States within international bodies governing the region and, as the only government entity with icebreaking capabilities, also serves as the Nation's first responder in the region.¹⁴ The Coast Guard suffers from inadequate infrastructure in the region, including its icebreaking capability.¹⁵ The Coast Guard is currently in a recapitalization campaign to replace its aged icebreaker fleet with three Polar Security Cutters.¹⁶ Additionally, the Coast Guard Authorization Act of 2023 authorizes the Coast Guard to acquire a commercially available icebreaker to help the Service fill the capability gap until new ice breakers come online towards the end of the decade.¹⁷ The report notes that the Coast Guard is also expected to require increased infrastructure in the region, as well as better navigational charts to increase domain awareness in the region.¹⁸
- 7) *Ship Decarbonization*: As the maritime sector works to meet its decarbonization goals, the industry is exploring various methods and fuels. The report notes that to date, no single approach to reducing carbon in the maritime sector has shown signs of dominance.¹⁹ As industry explores and adopts various approaches to address ship decarbonization, the Coast Guard will be challenged with evaluating and regulating these new decarbonization methods.²⁰ The Coast Guard will also be challenged with recruiting and training personnel capable of conducting the necessary reviews and promulgating the necessary guidance for these new technologies.²¹
- 8) *Disasters*: Over the coming decade, the report projects that severe weather is expected to increase in severity and frequency, straining Coast Guard capabilities to adequately respond to natural and environmental disasters.²² This will require the Coast Guard to account for increased demands for its services and capabilities, including the ability to surge operations.²³ The Coast Guard will also have to account for impacts to its own facilities and strengthen resiliency.
- 9) *Migration*: In the coming years, the Coast Guard will be further strained by increasing migration numbers. The report found that in 2021, the number of undocumented migrants seeking to enter the United States through maritime routes was twice the number attempting to enter in 2019 and 2020.²⁴ The Coast Guard will need to continue to monitor major migration triggers and maintain a surge capability to shift resources to address migration surges.
- 10) *Illegal, Unreported, and Unregulated (IUU) Fishing*: The report notes that illegal fishing accounts for up to 20 percent of the global fish catch, harming local fisheries and fisherman who are operating lawfully.²⁵ The Coast Guard currently monitors and addresses illegal fishing, but will need to improve its data collection, work with Non-Governmental Organizations, and deploy assets to areas where they will be most effective.

¹² NAS REPORT, *supra* note 2, at 92.

¹³ *Id.* at 94.

¹⁴ *Id.* at 95.

¹⁵ *Id.* at 95.

¹⁶ CONG. RESEARCH SERV., RL34391, COAST GUARD CUTTER PROCUREMENT: POLAR SECURITY CUTTER: BACKGROUND AND ISSUES FOR CONGRESS (2023), *available at* <https://crsreports.congress.gov/product/pdf/R/RL3439>.

¹⁷ Coast Guard Authorization Act of 2023, *supra* note 5.

¹⁸ NAS REPORT, *supra* note 2, at 95.

¹⁹ *Id.* at 105.

²⁰ *Id.* at 105.

²¹ *Id.* at 111.

²² *Id.* at 111.

²³ *Id.* at 114.

²⁴ *Id.* at 117.

²⁵ *Id.* at 120.

RECOMMENDATIONS

In general, the Coast Guard was found to have broad statutory authority, which sufficiently empowers the Service to carry out its mission. However, with respect to autonomous systems and limitations on spaceflight related safety zones, expected developments over the coming years may necessitate changes to current statutes. Below is a summary of proposed legislative changes outlined in the report:²⁶

Likely Action	Summary Assessment
Autonomous systems: <i>Regulatory</i>	Amend statutory manning requirements (or authorize waivers to them) to allow the Coast Guard to approve, as appropriate, fully autonomous vessels.
Commercial spaceflight activity: <i>Mitigating and responding to risks</i>	Weigh statutory and international law limitations on the Coast Guard's authority to establish safety zones that are binding on foreign-flagged vessels in the exclusive economic zone.
Cybersecurity risk: <i>Regulatory updates</i>	Consider possible amendments to the Maritime Transportation Security Act and the Magnuson Act to parallel recent changes to the Ports and Waterways Safety Act clarifying that the Coast Guard has authority to address cyberincidents.

The report also recognizes that as mission demand in the Coast Guard grows, statutory authority alone is insufficient without the Service having adequate assets, infrastructure, and workforce to carry out its critical missions.²⁷ Aside from aging assets, a growing challenge is the Coast Guard's personnel deficit, which is predicted to continue in the coming years, putting further strain on the Service's ability to effectively conduct operations.

Finally, as the Service continues to confront an ever-developing environment of changing threats and evolving mission capabilities, the report recommends that the Service strengthen its strategic foresight and planning by implementing best practices, which will aid the Coast Guard in continuing to succeed in its critical missions.²⁸

IV. WITNESSES

- Admiral Steve Poulin, Vice Commandant, United States Coast Guard
- Dr. Cary Coglianese, Chair, National Academy of Sciences Report, 'The Coast Guard's Next Decade: An Assessment of Emerging Challenges and Statutory Needs'
- Ms. Heather MacLeod, Director, Homeland Security and Justice, Government Accountability Office

²⁶ *Id.* at 161.

²⁷ NAS REPORT, *supra* note 2, at 167.

²⁸ *Id.* at 168.

**REVIEW OF THE NATIONAL ACADEMY OF
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NEXT DECADE: AN ASSESSMENT OF EMERG-
ING CHALLENGES AND STATUTORY NEEDS”**

WEDNESDAY, JUNE 21, 2023

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND
MARITIME TRANSPORTATION,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:07 a.m., in room 2253 Rayburn House Office Building, Hon. Daniel Webster (Chairman of the subcommittee) presiding.

Mr. WEBSTER OF FLORIDA. The Subcommittee on Coast Guard and Maritime Transportation will come to order.

I ask unanimous consent that the chairman be authorized to declare a recess at any time during the hearing.

Without objection, so ordered.

And I ask also unanimous consent that Members who are not on the subcommittee be permitted to sit in on the subcommittee at today’s hearing and ask questions.

Without objection, so ordered.

As a reminder to the Members, to insert documents into the record, please email them to DocumentsTI@mail.house.gov.

So, I recognize myself for 5 minutes for an opening statement.

**OPENING STATEMENT OF HON. DANIEL WEBSTER OF FLORIDA,
CHAIRMAN, SUBCOMMITTEE ON COAST GUARD AND
MARITIME TRANSPORTATION**

Mr. WEBSTER OF FLORIDA. Today, we will receive testimony on the National Academy of Sciences report entitled “The Coast Guard’s Next Decade: An Assessment of Emerging Challenges and Statutory Needs.”

I would like to welcome our distinguished witnesses: Admiral Steve Poulin, Vice Commandant of the Coast Guard; Dr. Cary “Coglaneesi” [phonetic]? Is that right?

Mr. COGLIANESE. “Collaneese” [phonetic].

Mr. WEBSTER OF FLORIDA. Close—

Mr. COGLIANESE [interposing]. I have been called every name in the book.

Mr. WEBSTER OF FLORIDA [continuing]. Who is the chair of the National Academy of Sciences panel that authored this study; and

Heather MacLeod, Director of Homeland Security and Justice at the Government Accountability Office.

The Elijah E. Cummings Coast Guard Authorization Act of 2020 directed the Coast Guard to enter into an agreement with the National Academy of Sciences to assess the emerging issues that require Coast Guard action over the next decade and provide recommendations on what adjustments they may need to support the Coast Guard's efforts to confront these issues.

The National Academy of Sciences consulted with current and former members of the Coast Guard, industry stakeholders, and others to develop the conclusions outlined in the report, which was delivered to the committee last month.

Dr. Coglianese, I thank you and the other authors for the study and your diligent work.

Over the next decade, several external factors, including the advent of new technologies such as autonomous marine systems and global strategic competition—driven largely by China's aggressive posture in the Pacific—will challenge the Coast Guard's capabilities and require the Service to adapt to a changing mission set.

While this study found that the Coast Guard's current authorities are sufficient to confront most of these challenges, Congress will need to continuously monitor the statutory authorities necessary for the Service to carry out these missions, particularly with regard to autonomous systems and the regulation of maritime safety zones for spaceflights and other emerging uses of the maritime domain.

As the Coast Guard confronts these new challenges, it must recognize that as mission demand grows, it must be realistic about the necessary assets, infrastructure, and workforce needed to carry out its mission.

It goes without saying that with growing manpower shortages, an increased shoreside infrastructure backlog, and a completely defective procurement process, the Coast Guard has a lot of work to do in order to meet the increasing mission demands the Service will see over the next decade.

To all the witnesses participating today, I look forward to your candid discussion of how the Coast Guard will confront this challenging landscape.

I want to briefly mention another issue. The Coast Guard is working with the Federal Railroad Administration, Brightline, Florida East Coast Railway, and mariners on a new bridge permit that allows the St. Lucie bridge to meet the statutory requirements that it does not unreasonably obstruct marine navigation while also not restricting rail, freight, and passenger commerce in Florida.

I commend the Coast Guard for these efforts and encourage you to continue to work toward a solution that accommodates all users of the St. Lucie bridge and its bridge crossings.

Probably the best solution is a new bridge. St. Lucie bridge is more than a century old. Rail officials have plans for a new bridge that would increase the vertical and horizontal clearances, allowing more than 90 percent of the marine traffic to pass under the bridge while it is in the down position. The increase in horizontal clearance will allow boats to pass one another in both directions. The

increase in vertical clearance obviates the need for most bridge openings.

There are a number of infrastructure grant programs that are available, and we will see—it kind of goes back to the days when I was in the Florida Senate and helped create similar programs at the State level.

[Mr. Webster of Florida's prepared statement follows:]

**Prepared Statement of Hon. Daniel Webster of Florida, Chairman,
Subcommittee on Coast Guard and Maritime Transportation**

Today, our Subcommittee will receive testimony on the National Academy of Sciences Report entitled “The Coast Guard’s Next Decade: An Assessment of Emerging Challenges and Statutory Needs.”

I’d like to welcome our distinguished witnesses—Admiral Steve Poulin, Vice Commandant of the Coast Guard; Dr. Cary Coglianese, Chair of the National Academy of Sciences panel that authored the study; and Heather MacLeod, Director, Homeland Security and Justice, Government Accountability Office (GAO).

The Elijah E. Cummings Coast Guard Authorization Act of 2020 directed the Coast Guard to enter into an agreement with the National Academy of Sciences to assess the emerging issues that will require Coast Guard action over the next decade and provide recommendations on what adjustments will be needed to support the Coast Guard’s efforts to confront these issues.

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Over the next decade, several external factors, including the advent of new technologies such as autonomous marine systems and global strategic competition—driven largely by China’s aggressive posture in the Pacific—will challenge the Coast Guard’s capabilities and require the Service to adapt to a changing mission set.

While the study found that the Coast Guard’s current authorities are sufficient to confront most of these challenges, Congress will need to continuously monitor the statutory authorities necessary for the Service to carry out its missions—particularly with regard to autonomous systems and the regulation of maritime safety zones for space flights and other emerging uses of the maritime domain.

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It goes without saying that with growing manpower shortages, an increasing shoreside infrastructure backlog, and a completely defective procurement process, the Coast Guard has a lot of work to do in order to meet the increasing mission demands the Service will see over the next decade.

To all our witnesses—thank you for participating today. I look forward to a candid discussion on how the Coast Guard will confront this changing landscape.

Mr. WEBSTER OF FLORIDA. So, now I would like to recognize—well, I will go with Mr. Larsen, I guess, for 5 minutes of comments. You are recognized.

**OPENING STATEMENT OF HON. RICK LARSEN OF WASHINGTON,
RANKING MEMBER, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE**

Mr. LARSEN OF WASHINGTON. Thank you, Chair. And I am glad we are having this important hearing.

Before we start, I want to take a moment to recognize the ongoing operation the U.S. Coast Guard and Navy are conducting, as well as partner nations, in search of the lost dive submersible *Titan*. My heart breaks for the passengers on board as well as their

families, and I remain yet hopeful that the Coast Guard and their partners will turn this into a successful mission.

Now, the National Academy of Sciences report before us today highlights areas where the Coast Guard will likely grow over the next decade and recognizes that Congress must increase funding to ensure the Service is ready for the future.

While much of today's hearing will be focused on ensuring the Coast Guard has the authority to address new maritime technology and developments, we must also acknowledge the current mission and resource needs of the Service. While the Coast Guard may already have the authority to act, it cannot remain mission-ready if it lacks resources, funding, and personnel.

Climate change is humanity's next great challenge. Climate change results in rising sea levels, extreme weather events, and unpredictable environmental conditions. These challenges require our immediate attention and concerted effort to ensure the safety and security of our Nation's coastlines, waterways, and maritime interests.

As guardians of the Nation's coasts, the Coast Guard has the duty to adapt and respond effectively to shifting maritime activity. By adequately resourcing the Coast Guard, we protect lives and property and ensure the Service remains mission-ready.

The melting Arctic presents new challenges and opportunities as well. As polar ice recedes, new shipping routes emerge, resulting in opening avenues for maritime commerce. However, these routes also introduce a range of security and environmental concerns.

As lead Federal agency in the Arctic, the Coast Guard must bolster capabilities to ensure the safety and protection of these vulnerable waters. This includes enhancing icebreaking capabilities, investing in modern infrastructure, and expanding the surveillance and response capabilities to tackle potential incidents and emergencies.

Furthermore, port and vessel decarbonization is an important opportunity in maritime operations. As we move to a greener future, the Coast Guard must stay ahead of the curve in supporting and enforcing emissions regulations, promoting clean energy adoption, and developing new technologies to reduce the carbon footprint of vessels. This protects our environment while positioning the U.S. maritime industry to lead in the development and deployment of sustainable maritime practices on a global scale.

We need to invest in the Coast Guard's capabilities, ensuring it has the resources, personnel, and equipment to address emerging threats and demands. These investments include sufficient funding for research and development, acquisition of advanced technologies, and training programs that enable our Coast Guard personnel to adapt to evolving mission requirements.

The Coast Guard must continue to prioritize innovation and the development of cutting-edge technologies. Through research and development initiatives, we can find innovative solutions to the challenges at hand.

By embracing emerging technologies such as unmanned systems and renewable energy resources, we can enhance the Coast Guard's capabilities while reducing our environmental impact.

By enhancing these authorities to meet evolving mission demands, we ensure the safety and security of our coastlines, protect the environment, and position the Coast Guard and the U.S. maritime industry as leaders in maritime operations and sustainability.

The Coast Guard needs the necessary tools, authorities, and resources to address these challenges. Our actions today will help shape the future of our coastal communities, our maritime industries, and the well-being of our planet for generations.

So, I hope today we can have a productive, bipartisan discussion on how to better position our Coast Guard for the future.

Thank you, and I yield back.

[Mr. Larsen of Washington's prepared statement follows:]

**Prepared Statement of Hon. Rick Larsen of Washington, Ranking Member,
Committee on Transportation and Infrastructure**

Thank you, Chair Webster. I am glad we are having this important hearing.

Before we start, I'd like to take a moment to recognize the ongoing operation being conducted by the U.S. Coast Guard and the U.S. Navy as well as partner nations in search of the lost dive submersible *Titan*. My heart breaks for the passengers on board as well as their families but I remain hopeful that the Coast Guard and their partners will turn this into a success mission.

The National Academies of Sciences report before us today highlights areas where the Coast Guard will likely grow over the next decade and recognizes that Congress must increase funding to ensure the Service is ready for the future.

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The melting Arctic presents new challenges and opportunities. As the polar ice recedes, new shipping routes emerge, opening avenues for maritime commerce. However, these routes also introduce a range of security and environmental concerns.

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We need to invest in the Coast Guard's capabilities, ensuring it has the necessary resources, personnel and equipment to address emerging threats and demands. This includes sufficient funding for research and development, acquisition of advanced technologies and training programs that enable our Coast Guard personnel to adapt to evolving mission requirements.

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By enhancing the Coast Guard's authorities to meet evolving mission demands, we ensure the safety and security of our coastlines, protect the environment and position the Coast Guard and the U.S. maritime industry as leaders in maritime operations and sustainability.

The Coast Guard must be equipped with the necessary tools, authorities and resources to address these critical challenges. Our actions today will help shape the future of our coastal communities, maritime industries and the well-being of our planet for generations to come.

I hope today we can have a productive, bipartisan discussion on how to better position our Coast Guard for the future.

Thank you and I yield back.

Mr. WEBSTER OF FLORIDA. I recognize today's ranking member, Mr. Auchincloss, for 5 minutes.

**OPENING STATEMENT OF HON. JAKE AUCHINCLOSS OF
MASSACHUSETTS**

Mr. AUCHINCLOSS. Thank you, Chair Webster.

I also would like to begin by acknowledging the Coast Guard's ongoing search and rescue efforts out of Boston to find the submersible that went missing near the wreck of the *Titanic*. Our thoughts are with the missing and their families and with the men and women of the Coast Guard and their allied services who continue to search for them.

Every mission the Coast Guard conducts will change or expand in the coming decade as climate change causes more severe weather, which complicates search and rescue and compounds shoreside infrastructure maintenance.

Melting sea ice is opening new shipping lanes. Supporting our allies in the Pacific demands more Coast Guard resources. Increasing cyber attacks require a new type of Coastie. And new offshore spaceflight and wind activity will be important opportunities to expand the Coast Guard's role in facilitating climate and commercial innovation.

To be ready for the future, the Coast Guard must continuously evaluate resource allocation, clearly state its funding requirements, and demonstrate its ability to steward its funding strategically and efficiently.

I want to thank the National Academies for their work on the report prompting today's hearing, titled "The Coast Guard's Next Decade: An Assessment of Emerging Challenges and Statutory Needs." Their report identifies 10 issues that will require Coast Guard foresight, additional resources, and, in some cases, additional authority. I would like to touch upon several of these issues as well as the recommendations.

There are few industrial sectors as innovative as commercial spaceflight. Over the past 5 years, commercial space launches and reentries have more than doubled, and that number will only grow. The Coast Guard's role in commercial spaceflight is to ensure safety in the maritime domain. That responsibility becomes vital during a reentry landing at sea on maritime vessels.

To ensure safety, the Coast Guard establishes safety zones to limit or restrict vessel traffic around a landing site. The Coast Guard, however, does not have the authority to establish safety zones beyond 12 nautical miles. The National Academies appro-

priately flagged this issue, and Congress must consider extending the Coast Guard's authority.

The proliferation of offshore wind is another critical area to examine. I completely support President Biden's goal of reaching 30 gigawatts of offshore wind by 2030, as many of my colleagues on T&I are probably aware. To ensure we can reach this goal, the Coast Guard must work to facilitate access and navigation, ensure that vessels are safe in these areas, and allow offshore wind to thrive.

While the Service has the requisite authority, it must act promptly regarding regulatory decisions and prepare for the increased demand on search and rescue, response, and security so that we can meet the President's ambitious climate and clean energy goals.

In conclusion 3, the National Academy states that, quote, "The Coast Guard . . . needs the sustained vision, resources, and leadership commitment to meet future challenges," end quote. I have full confidence in Admiral Fagan's vision and the commitment of Coast Guard leadership.

I am, however, concerned with Congress' obligation to provide necessary funding. As some of my colleagues continue to call for a return to 2022 funding, I want to be clear about the impact that would have on the Coast Guard.

As we saw in 2019, when Coasties were forced to go without pay, the Coast Guard is not protected by the Department of Defense funding umbrella.

Funding levels from 2022 for the Coast Guard would mean fewer maritime drug interdictions, which means more fentanyl in all of our districts.

Funding levels from 2022 would mean significant delays in the construction of Polar Security Cutters, of which Russia has nearly 50 and the United States has 1.

Funding levels from 2022 would mean reduced search and rescue capacity, resulting in more deaths on the water.

Funding levels from 2022 would mean fewer Coast Guard operations in the Pacific, where our adversaries continue to add capacity and our allies need Coast Guard support.

Our Coasties deserve better, and our country needs better.

Every mission the Coast Guard undertakes is critical, and the report before us today makes clear that increased resources are needed to address emerging developments.

I look forward to hearing from our witnesses today and learning more about the future of the Coast Guard.

I yield back.

Mr. WEBSTER OF FLORIDA. I would like to say that we are really appreciative of the witnesses appearing today, and thank you for coming. I look forward to hearing your testimony.

If you have not had the lighting system explained, it is pretty simple. Green means keep talking, yellow means slow it down, and red means stop, time to quit. So, those happen automatically. You don't have to worry about them. It just is there.

So, I ask unanimous consent that the witnesses' full statements be included in the record.

Without objection, so ordered.

As your written testimony will be made part of the record, the committee asks that you limit your remarks to 5 minutes.

With that, Admiral Poulin, you are recognized for 5 minutes for your testimony.

TESTIMONY OF ADMIRAL STEVEN D. POULIN, VICE COMMANDANT, U.S. COAST GUARD; CARY COGLIANESE, J.D., M.P.P., PH.D., CHAIR, COMMITTEE FOR A STUDY ON NEW COAST GUARD AUTHORITIES, NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE; AND HEATHER MACLEOD, DIRECTOR, HOMELAND SECURITY AND JUSTICE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

TESTIMONY OF ADMIRAL STEVEN D. POULIN, VICE COMMANDANT, U.S. COAST GUARD

Admiral POULIN. Good morning, Chairman Webster, Ranking Member Larsen, Representative Auchincloss, and distinguished members of the subcommittee.

Before I get into my statement, I just want to extend our thoughts and prayers to those missing on the submersible *Titan* and their families.

I have had a chance to talk, over the last several days, with the operational commanders representing the unified command in Boston, and they are doing everything that they can to locate and rescue those who are missing.

Again, our thoughts and prayers are with them and their families during this difficult period.

Sir, thank you for the opportunity to testify today and for your continuing support of the United States Coast Guard.

And thank you to the members of the National Academy of Sciences committee, chaired by Dr. Coglianesi, for their professionalism and the tremendous work that went into the report.

I also would like to express my sincere gratitude to Ms. Heather MacLeod and her colleagues at the Government Accountability Office for their collaboration.

Congress has provided the Coast Guard with adequate authority to respond to nearly all the challenges that we will face in the coming decade. However, the National Academy of Sciences study identified that gaps exist in the Service's authority pertaining to autonomous systems and commercial spaceflight.

The Coast Guard acknowledges that we lack clear authority to adequately regulate fully autonomous vessels or to establish safety zones in the U.S. exclusive economic zone with respect to commercial space operations that are binding on foreign-flag vessels.

Even so, we are taking the strongest action possible under our existing authorities. The National Defense Authorization Act for fiscal year 2023 includes an at-sea recovery operations pilot program. This will advance our understanding of the actions we must take to ensure the safe navigation of autonomous and remotely operated vessels in the Nation's waters.

Similarly, we are 1 year into a 2-year pilot program to establish safety zones for space activities and offshore energy development in the U.S. EEZ. We are analyzing the impact, if any, that these safety zones have on maritime traffic.

For both autonomous vessels and offshore energy, we will continue to work in concert with the International Maritime Organization to ensure alignment with customary international law.

Autonomous systems are but one issue that challenges the Coast Guard in an ever-changing maritime environment. The Coast Guard's responsibility to maintain a safe and secure Marine Transportation System includes addressing threats in cyberspace, our newest operational domain. To this end, the Coast Guard is working with the Department of Homeland Security to strengthen established maritime security regulations for vessels and shoreside waterfront facilities.

Cybersecurity is not the only emerging threat in the maritime domain. Unmanned aircraft systems pose a physical threat to vessels and critical port infrastructure. It is crucial that the Department of Homeland Security's existing authority, from which the Coast Guard derives its counter-UAS operations, does not expire. Without renewal, DHS will lose this authority on September 30, 2023.

To meet the demands of these emerging missions, the further development of an agile and adaptable Coast Guard workforce is the Commandant's highest priority. We would greatly benefit from more flexible authority to involuntarily recall Coast Guard Reserve forces to support planned operations. Current authority limits involuntary recall to a Presidential declaration or an emergency condition.

Now, I understand that Chairman Graves recently introduced a related amendment to the forthcoming National Defense Authorization Act to that end. And I thank him and I thank this committee for their advocacy on this critical issue.

It is an exciting time to be in the Coast Guard. We are preparing the Service for the future. Empowered by the tremendous support that we enjoy here in Congress and by this subcommittee and in coordination with international bodies like the International Maritime Organization, the Coast Guard will achieve mission excellence, and we will leverage all existing authorities, and we will seek new authorities when necessary.

I want to extend my thanks again to the National Academy of Sciences for their incredible work.

Chairman, I appreciate the opportunity to testify, and I look forward to answering the questions of the subcommittee.

Thank you, sir.

[Admiral Poulin's prepared statement follows:]

Prepared Statement of Admiral Steven D. Poulin, Vice Commandant, U.S. Coast Guard

INTRODUCTION

Chairman Webster, Ranking Member Carbajal, and distinguished Members of the Subcommittee, thank you for inviting me to testify and for your continuing support of the United States Coast Guard. I look forward to discussing the findings and recommendations from the National Academy of Sciences' study of U.S. Coast Guard authorities and the emerging challenges our Service is likely to face over the next decade.

I thank the National Academy of Sciences and the study committee chaired by Dr. Cary Coglianesi for their professionalism and for the tremendous amount of

work that went into this study. I am grateful to the numerous subject matter experts who contributed to this important research.

As the world's premier, multi-mission, maritime service responsible for the safety, security, and stewardship of the Nation's waters, the Coast Guard offers a unique and enduring value to the American public. At all times a military service and branch of the U.S. Armed Forces, a federal law enforcement agency, a first responder, a regulatory body, and a member of the U.S. Intelligence Community, the Coast Guard serves on the front lines for a Nation whose economic prosperity and national security are inextricably linked to the sea.

The study found that Congress has provided the Coast Guard adequate authority to respond to nearly all anticipated issues that will challenge the Service in the next decade; however, it identified that the Coast Guard does not currently have sufficient authorities pertaining to autonomous systems and commercial space flight. Furthermore, the study found the Coast Guard's authorities related to cybersecurity are not explicitly included in relevant statutes.

The Coast Guard is prepared to work with the Administration and then Congress to review the findings and develop or modify authorities as necessary to deal with the rapid pace of global technological, geopolitical, and climate change effectively and to prepare the Service for tomorrow's challenges.

We must adapt mission support capabilities, particularly data management, asset procurement, and workforce development, and strengthen our strategic planning to further the Nation's maritime safety, security, and prosperity.

AUTONOMOUS VESSELS

The study identifies as a deficiency the inability of the Coast Guard to approve or adequately regulate fully autonomous vessels. The National Defense Authorization Act for Fiscal Year 2023 (NDAA) includes an At-Sea Recovery Operations Pilot Program. This pilot program will further our understanding of what is required to ensure the safe navigation of autonomous and remotely operated vessels in Federal waters. Lessons learned from this pilot program will inform future Coast Guard and legislative decision-making regarding autonomous and remote-controlled vessels.

In March 2023, the Coast Guard released our Unmanned Systems Strategic Plan. This document lays out three lines of effort, the second of which is to "establish a prevention and response framework essential to facilitate the safe use of remotely operated and autonomous vehicles and systems in the Marine Transportation System." As the study notes, increased use of fully autonomous and remotely controlled vessels introduces risk into the Marine Transportation System (MTS). These risks include navigation and collision avoidance, cybersecurity issues, and unpredictable artificial intelligence (AI) system failures. The Service is taking a prudent approach towards regulating fully autonomous vessels in Federal waters that optimizes the opportunities inherent with such technologies and ensures safe and equitable use of our Nation's maritime resources for all our stakeholders. The Coast Guard is working with Federal, State, local, tribal, and industry stakeholders to that end, while being mindful that any solution must be developed in accordance with the International Regulations for Preventing Collisions at Sea and in concert with the International Maritime Organization (IMO).

COMMERCIAL SPACE OPERATIONS

The study also outlines limitations in the Coast Guard's ability to establish spaceflight-related safety zones that are binding on foreign flagged vessels inside of the U.S. Exclusive Economic Zone (EEZ). The Coast Guard leverages traditional authorities vested in the Captain of the Port to support space launch and reentry activities. However, outside U.S. territorial seas, these authorities generally apply only to U.S. flagged vessels and are not applicable to foreign flagged vessels.

Since 2016, the number of space launches and reentry activities has steadily increased each year to a total of 84 in 2022. As of May 22, 2023, there have been 40 licensed launches and reentries in 2023, and NASA anticipates between 90 and 100 launches in total, by the end of the year. The FAA forecasts as many as 186 launches per year by 2026.

The Elijah E. Cummings Coast Guard Authorization Act of 2020 required the Coast Guard to conduct a two-year pilot program to establish and implement safety zones to address space activities and offshore energy development activities in the EEZ. Although the pilot program will not be complete until next year, preliminary review indicates safety zones cause minimal impact to commercial shipping because they are located offshore, away from congested port entrances, and are in effect for short durations. We are conducting further analysis of the impacts to commercial fishing where traditional fishing areas are located within offshore safety zones.

The authority to establish and enforce safety zones in the EEZ directly supports the United States' Space Priorities Framework and contributes to safety in the MTS while strengthening U.S. strategic needs in space-based operations. The Coast Guard continues to explore this issue with the Administration and in close consultation with the IMO to ensure that the United States continues to respect the principles of freedom of navigation guaranteed by customary international law as reflected in the United Nations Convention on the Law of the Sea.

CYBER

The study recommends Congress consider amending the Maritime Transportation Security Act (MTSA) and the Magnuson-Stevens Act to align with recent changes in the Ports and Waterways Safety Act. Existing MTSA authorities do not differentiate the threat source, whether cyber or physical. Using these authorities, we have required MTSA facilities to assess and document cyber vulnerabilities and address these vulnerabilities in their Facility Security Plans. Within the bounds of our MTSA authority, we are also working with the Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA) to update established maritime security regulations to strengthen cybersecurity requirements for both facilities and vessels.

In August 2021, the Coast Guard published a Cyber Strategic Outlook outlining three lines of effort: (1) Defend and Operate the U.S. Coast Guard Enterprise Mission Platform, (2) Protect the MTS, and (3) Operate In and Through Cyberspace. The Coast Guard is operationalizing MTS cyber risk management at the port level. We verify that port facilities and vessels conduct cybersecurity risk assessments, develop security plans to address cyber risks, and report cyber incidents. The Coast Guard established three Cyber Protection Teams. Each team has three deployable Mission Elements trained to Department of Defense (DoD) standards and are interoperable with DHS and DoD cyber forces. Cyber Protection Teams support Captains of the Port by responding to cyber incidents and assessing critical infrastructure cybersecurity. Coast Guard Captains of the Port leverage existing Area Maritime Security Committees and Harbor Safety Committees to evaluate port-wide cyber risks, share threat information, participate in joint exercises, and report and respond to cyber-attacks when needed.

DATA MANAGEMENT

The Study highlights the criticality of data management and analysis to Coast Guard mission support capabilities. The DHS Chief Privacy Officer partners with our Coast Guard Privacy Office to advise on data management initiatives. To sharpen our competitive edge as an organization, the Coast Guard formally established the Office of Data & Analytics (CG-ODA) led by the Service's first Chief Data and Artificial Intelligence Officer on September 1, 2022. CG-ODA's mission is to accelerate the advancement of data and analytics, AI, and machine learning to increase business efficiency and mission effectiveness across the Coast Guard, while appropriately safeguarding privacy and civil liberties. To do so, CG-ODA is building an adaptable data governance framework to collect data in accordance with law; protect privacy, civil rights, and civil liberties; manage data responsibly; secure data effectively; and share data effortlessly, and is identifying and nurturing the skills required to cultivate a data-literate workforce.

PROCUREMENT

The study recommends Congress ensure the Coast Guard has the statutory authority to keep pace with emerging technological trends by acquiring state-of-the-market assets. In 2022, Congress provided the Coast Guard authority to use other transaction agreements (OTA) to operate, test, and acquire cost effective technology to meet the mission needs of the Coast Guard.

WORKFORCE

As noted in the study, recruiting, training, and retaining a technically proficient workforce is integral to successfully executing Coast Guard missions. The Commandant's highest priority is modernizing the Coast Guard's talent management system, which has not significantly changed in 75 years, to best recruit and retain a 21st century workforce. To achieve this priority, we are deploying innovative recruiting practices; revolutionizing talent management policies; developing individually tailored, on-demand, and modernized learning; and delivering point of need healthcare and family services.

In May 2022, the Coast Guard established an Incident Management Team (IMT) that focuses Service-wide resources on three lines of effort to bolster recruiting efforts: generate more leads, improve the recruiting process, and increase recruiting capacity and performance. To generate more leads the Service upgraded messaging and recruiting logos and is surging marketing efforts into non-traditional media spaces. To improve the recruiting process and correspondingly increase capacity, the Coast Guard aligned accession standards with the DoD while also adding recruiting offices and a recruiting call center.

Retention of Coast Guard members is essential to conduct and support missions around the globe. The Coast Guard's Workforce Planning Teams (WPTs) monitor and evaluate the total active duty, reserve, and civilian workforce to identify trends, assess gaps, and provide recommendations for policy modifications, as well as monetary and non-monetary interventions to ensure the Coast Guard is best positioned to meet future needs. The WPTs carefully consider organizational and programmatic equities and risks to optimize Service readiness. To maintain a competitive edge, the Coast Guard must continue modernization efforts for personnel management and family support services.

The Coast Guard continues to enhance the workforce's quality of life through improved support programs. We modified assignment policies to better facilitate the co-location of dual military families, increased parental leave, and expanded the childcare fee assistance subsidy program. The Service also continues to improve healthcare service and access to care for its workforce and their families by expanding access to telehealth services, offering online appointment scheduling, migrating to electronic health records, and offering expansions to key health services such as physical therapy and behavioral health services.

Still, issues persist regarding access to affordable housing and healthcare, especially for members stationed at units far from concentrations of personnel and family support services. Recent phenomena, like the proliferation of short-term rental properties, place financial constraints on service members forced to rent or buy housing on the private market, where costs outpace adjustments in Basic Allowance for Housing. Furthermore, some Coast Guard families must stay overnight in hotels for routine medical care, with specialty care often requiring multi-night stays. We are working to remove these hardships.

We are also seeking additional authority to allow the Coast Guard to commit Reserve Forces to foreseeable operations to augment the Active Duty workforce. Currently, the Secretary of Homeland Security has Title 14 authority to involuntarily recall reservists for emergency augmentation for limited durations. This is in addition to applicable Title 10 authorities to involuntarily recall reservists during war, national emergencies, or following a Presidential authorization for a named operational mission or an emergency involving weapons of mass destruction or a terrorist attack. In March 2023, the Service provided a legislative change proposal to Congress proposing authority for the Commandant to involuntarily activate reservists for preplanned operations that are not conditioned on an emergency.

STRATEGIC FORESIGHT PLANNING

Project Evergreen, the Coast Guard's strategic foresight program, was chartered in 2002 to "infuse the Service with strategic intent." Operating in four-year cycles, Project Evergreen now includes a facilitated strategic foresight gaming and workshop series that yields insights which are incorporated into enterprise strategies and implementation frameworks. Project Evergreen prepares current and rising Service leaders to fulfill national imperatives despite future uncertainty by inculcating strategic thinking and perspectives across long-range planning and short-term operations.

A necessary corollary to Service-wide strategic resilience is regulatory and statutory foresight to empower the Coast Guard with appropriate tools to meet national needs. Thus, the study's recommendation to add legal foresight into the Evergreen process is aligned with our strategic intent for the program and will be incorporated into future Evergreen experiences where possible.

CONCLUSION

The Coast Guard has broad authorities to meet the demands of an uncertain future influenced by geopolitical conflict, rapid technological change, and an increasingly dynamic climate. We are committed to working with DHS, the Administration, and Congress to preserve the Service's existing authorities and secure any additional authorities needed to provide enduring value to the American public.

Thank you for the opportunity to testify today and thank you for your continued support of the United States Coast Guard. I look forward to your questions.

Mr. WEBSTER OF FLORIDA. Thank you, Admiral.
 So, next, we have Mr. Coglianese.
 You are recognized for 5 minutes.

**TESTIMONY OF CARY COGLIANESE, J.D., M.P.P., PH.D., CHAIR,
 COMMITTEE FOR A STUDY ON NEW COAST GUARD AUTHORITIES,
 NATIONAL ACADEMIES OF SCIENCES, ENGINEERING,
 AND MEDICINE**

Mr. COGLIANESE. Thank you. Good morning, Chairman Webster, Ranking Member Larsen, and Representative Auchincloss, and members of the subcommittee. I appreciate the opportunity to testify about the recent National Academy of Sciences report.

I am a law professor at the University of Pennsylvania, and I served as the chair of the study committee that developed the report. The report is the product of extensive information-gathering and deliberation by 12 committee members. And, personally, it has been a distinct privilege to work with my colleagues on this study.

I also want to offer my personal appreciation to Admiral Poulin and to the thousands of military and civilian personnel of the Coast Guard who serve the Nation so admirably every day. Over the course of our study, we benefited from much input from the Coast Guard. We also consulted with more than 50 outside experts.

The committee's charge, which originated in legislation passed by Congress, focused on having us determine the adequacy of the Coast Guard's statutory authority over the next 10 years. This meant the study had a sweeping scope.

The Coast Guard faces a range of future challenges driven by climate change, technological innovation, and global strategic competition. The academy's study investigated 10 major emerging issues, and the committee identified nearly three dozen types of actions needed to respond to these emerging challenges.

The bottom line is that the Coast Guard has the authority it needs to respond to most foreseeable challenges, but we found two limited exceptions to this general conclusion, and we saw one additional area where statutory change, while not absolutely essential, may be prudent. Let me highlight each.

First, autonomous vessels. The Coast Guard here has authority to do much, but even when fully autonomous vessels are shown to be safe enough for general use, the Coast Guard will be unable to authorize unmanned or uncrewed vessels, because current statutes call for vessels to have watchmen and pilots on board.

A recent congressionally authorized pilot program does allow waivers for uncrewed vessels in commercial space operations, but at some point—and we are not there yet—Congress may need to act to provide some modification of these statutory requirements or at least to give the Coast Guard general authority to waive them as appropriate.

Second, with respect to commercial space operations, the Coast Guard again has much authority, but as these operations move farther out into the sea, the Coast Guard lacks statutory authority to impose binding safety orders on foreign-flag vessels.

Now, the limitation on statutory authority, though, has a parallel in international law, which protects freedom of navigation. And so, too, I hasten to add there are international law counterparts with

respect to the issue of fully autonomous vessels. International conventions contain manning requirements similar to those in U.S. statutory law. As a result, congressional action on either of these issues will need to be coordinated with international legal standards.

With respect to a third development—cybersecurity—prudence may dictate statutory change. Current statutes are broad enough to cover cyber attacks, but, with Congress in 2021 amending the Ports and Waterways Safety Act to affirm that it encompasses cyber incidents, now may be the time for Congress to do the same for other maritime security statutes.

Overall, except for these three issues, the study committee concluded that the Coast Guard generally possesses the statutory authority it needs. But that authority alone is not enough. To meet the future challenges, the Coast Guard must enhance its mission support capabilities too, including the ability to manage and analyze data, to nimbly produce and procure needed technology, and to maintain workforce readiness.

The Coast Guard is working on these issues, but congressional action will be needed too, not only to provide the necessary resources but also potentially to adjust certain management-related statutory provisions. We urge further exploration by the Coast Guard and Congress of these issues.

Finally, because the Coast Guard must remain vigilant and ready to adapt, the Service will continue to benefit from its well-known Evergreen process. It is vital that strategic foresight be given a high priority and be institutionalized as a continuous process.

At the same time, the Coast Guard should build legal analysis into its strategic planning too. Legal foresight by the Coast Guard can help Congress ensure that the Service has what it needs to confront future challenges with agility and efficacy.

In conclusion, I wish to thank the subcommittee for the opportunity to testify, and I look forward to any questions.

[Mr. Coglianese's prepared statement follows:]

Prepared Statement of Cary Coglianese, J.D., M.P.P., Ph.D., Chair, Committee for a Study on New Coast Guard Authorities, National Academies of Sciences, Engineering, and Medicine

Chairman Webster, Ranking Member Carbajal, and Members of the Subcommittee, I appreciate the opportunity to appear before you today to testify about the recently issued National Academy of Sciences, Engineering, and Medicine (NASEM) committee report on “The Coast Guard’s Next Decade: An Assessment of Emerging Challenges and Statutory Needs.” Congress requested this report to identify emerging issues that are likely to demand U.S. Coast Guard action over the next decade and then to assess whether the Service’s existing statutory authority will be sufficient to meet these future demands.

I served as the chair of the NASEM committee that developed this report. By way of additional background, I am also the Edward B. Shils Professor of Law at the University of Pennsylvania, where I serve as the Director of the Penn Program on Regulation. I am also currently a Senior Fellow of the Administrative Conference of the United States. The focus of my research and teaching throughout my career has been on administrative law and government regulation, with an emphasis on the empirical evaluation of alternative regulatory processes and strategies and the role of public participation, technology, and business-government relations in regulatory policymaking.

Although I am before you today owing to my service as the chair of the NASEM study committee that led to the report I will be describing, that report is the product of extensive information-gathering, deliberation, and ultimately consensus among the eleven other expert colleagues who served as members of the committee, to which I wish to give great credit and my many thanks: Admiral Thad W. Allen, U.S. Coast Guard (retired); James-Christian B. Blockwood, Partnership for Public Service; Annie Brett, University of Florida; Vice Admiral Sally Brice-O'Hara, U.S. Coast Guard (retired); Martha R. Grabowski, Le Moyne College and Rensselaer Polytechnic Institute; Donald Liu, American Bureau of Shipping (retired) and member of the National Academy of Engineering; Wen C. Masters, MITRE Corporation; Rodrigo Nieto-Gomez, Naval Postgraduate School; Sean T. Pribyl, Holland & Knight LLP; Vice Admiral Sandra Stosz, U.S. Coast Guard (retired); and Rear Admiral David W. Titley, U.S. Navy (retired) and RV Weather.

As part of the committee's efforts to gather information over the course of the more than 17-month period of the study, we benefited greatly from several public meetings at which we heard from senior leadership of the U.S. Coast Guard, including from the Commandant at the time the study commenced (Admiral Karl L. Schultz, now retired) and later from the current Commandant (Admiral Linda L. Fagan). We also benefited from extensive written input from responses to questions we posed to the Coast Guard as well as from consultations at numerous other meetings with more than 50 experts from outside the Coast Guard, including representatives from maritime shipping and other maritime-related industries, other government agencies in the United States and abroad, nongovernmental organizations, experts in technology, policy, and maritime law, and experts in strategic foresight and forecasting. The committee's penultimate report also underwent a rigorous, independent review process involving 12 outside peer reviewers, all in accordance with NASEM's customary procedures.

In a nutshell, the NASEM study's principal results can be distilled into the following four points:

1. The Coast Guard will face new or increasing challenges in the coming decade from climate change, technological and industry innovation, and global strategic competition.
2. The study committee investigated 10 specific and foreseeable developments that will present the Coast Guard with new or increasing challenges. Across these developments, the committee identified a total of 34 different types of actions that the Coast Guard will likely need to take in response.
3. The committee concluded that the Coast Guard likely has sufficient statutory authority to take the needed actions in all but two instances, namely with respect to specific actions related to autonomous vessels and commercial space development. In a third instance—with respect to cybersecurity—the committee did not view new authority as essential but did note that statutory change may be prudent.
4. Even with adequate statutory authority, the Coast Guard will need sufficient mission support capacities and capabilities, such as with respect to data management, technology acquisition, and workforce development, if it is to meet the challenges of tomorrow. Prioritization of strategic foresight will also be needed, and legal foresight analysis should be systematically incorporated into the Coast Guard's ongoing planning for the future.

In my testimony today, I will describe the scope and process of our study—that is, what we were tasked to do and what we did—and then I will turn to explaining in greater detail our conclusions and recommendations.

STUDY SCOPE AND PROCESS

The NASEM study was originally called for in Section 8249 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021. That legislation directed the Coast Guard to commission an "assessment of Coast Guard Authorities" that was based on "(1) an examination of emerging issues that may require Coast Guard oversight, regulation, or action; (2) a description of potential limitations and shortcomings of relying on current Coast Guard authorities to address emerging issues; and (3) an overview of adjustments and additions that could be made to existing Coast Guard authorities to fully address emerging issues." The emerging issues encompassed in the legislation were those "reasonably likely to occur within 10 years."

Pursuant to this legislation, the Coast Guard tasked NASEM with conducting a study of "emerging issues that are likely to demand Coast Guard services over the next decade and consider whether the Service's existing statutory authorities are

sufficient to meet this demand, and if not, where the Service’s authority could be expanded to do so.” The committee was specifically tasked with considering “changes in technological capabilities, industry trends, cybersecurity risks, climate and environmental conditions, and geopolitical factors that could affect governance and activities in the maritime domain.” Although the statement of task emphasized that the committee should focus on the Coast Guard’s statutory authority to address these emerging issues, it also called for the committee to consider “related abilities” that the Coast Guard would need to respond to the identified developments over the next decade.

In accord with these directions, the NASEM study aimed to assess the adequacy of the Coast Guard’s statutory authority to address challenges arising under its existing missions over the next ten years. The committee sought to identify those emerging issues or foreseeable developments that, as noted in the statement of task, “it believes are likely to have the greatest relevance to and effect on the Coast Guard’s missions.” The study was thus not intended as an overall strategic re-assessment of the roles and missions of the Coast Guard. Moreover, given Section 8249’s emphasis on the Coast Guard’s statutory authority to engage in “oversight” and “regulation,” as well as limitations deriving from the lack of access to classified information, the committee did not engage in systematic inquiry of military actions in response to armed conflicts that could potentially arise in the coming decade. The committee was, however, attentive to national security considerations in full recognition of the Coast Guard’s valuable and essential law enforcement, intelligence, and military responsibilities. Finally, in keeping with the study’s statement of task, the committee focused on statutory authority and not the design of Coast Guard regulations or other legal issues.

Within these parameters, the statement of task called for a sweeping inquiry. To address the fundamental question of the Coast Guard’s potential statutory authority needs, the committee first needed to determine which *foreseeable developments* might hold “greatest relevance” over the next decade to the Coast Guard’s numerous missions—whether as an emergency responder, a maritime law enforcer, a manager of waterways, a defender of maritime safety and security, or a protector and steward of the environment. Next, the committee sought to identify what *potential actions* the Coast Guard would likely need to take in fulfilling these missions in response to the foreseeable developments. Only then was the committee able to assess whether the Coast Guard’s existing *statutory authority* would permit it to undertake these likely actions. The figure at the top of the next page, excerpted from the committee’s report, illustrates the three-step approach the committee took to fulfill its study task.

Figure: NASEM Study Committee Approach



Based on the committee’s engagement with Coast Guard officials and other experts, as well as the committee members’ own experience and judgment, we identified 10 foreseeable developments that the Coast Guard is likely to confront in the coming years. These 10 developments are:

- Autonomous systems;
- Cybersecurity risk;
- Commercial spaceflight operations;
- Offshore wind energy;
- Aquaculture;
- The Arctic domain;
- Ship decarbonization;
- Disasters;
- Migration; and
- Illegal, unreported, and unregulated (IUU) fishing.

To inform the committee’s assessment of these developments, we sought direct input on each from the Coast Guard as well as independent experts. Some of these developments present challenges already facing the Coast Guard but which will only grow in significance in coming years. Others represent new challenges that are only starting to become discernible.

For each of these 10 foreseeable developments, the committee identified a range of actions—34 in total—that the Coast Guard would likely need to take in response, such as issuing regulations, conducting or expanding operations, and improving

monitoring and oversight. (See the Appendix to this testimony for a chart from the NASEM report that lists each of the types of actions considered.) Having identified the types of actions the Coast Guard will likely need to take to address the 10 foreseeable developments, the committee then considered whether existing statutes provide the Coast Guard with sufficient authority to undertake the identified actions over the next decade.

In the next section of my testimony, I detail the committee's principal findings with respect to statutory authority. But before turning to the committee's conclusions and recommendations, five additional clarifications of the study's scope will be helpful to keep in mind.

First, although the committee judged the 10 foreseeable developments listed above as ones having greatest relevance to the Coast Guard's missions in the coming decade, the committee makes no claim that these are all the important issues that the maritime domain will confront in this time period. As the committee's report makes plain, we cannot rule out "new, unforeseen scenarios." Moreover, plenty of existing and longstanding challenges confronting the Coast Guard are unlikely to disappear even as new challenges emerge.

Second, although the committee addressed each of the 10 foreseeable developments separately in its report, they are unlikely to manifest as entirely separate and distinct problems. As the report notes, the effects of these developments on the Coast Guard's missions "are likely to be additive and generative." By way of illustration, consider how a cybersecurity breach could lead an autonomous vessel to damage an offshore energy platform. It seems undeniable that, as the committee notes, "[e]ach of the 10 developments could produce incidents or phenomena that occur simultaneously or in quick succession."

Third, the scope of the committee's legal analysis was necessarily conducted at a high level, with the aim of identifying glaring gaps or priority areas needing additional attention. A more complete legal analysis of the Coast Guard's many existing authorities would need to delve into greater detail with respect to any of the issues considered by the committee. The study committee's task had been defined in terms of breadth rather than depth, in light of the number of major issues likely to confront the Coast Guard in the coming decade. As a result, the study focused on general types of actions that the Coast Guard will likely need to take, even though firm legal conclusions ultimately depend on specifics. Developing those specific details for any new action might well demand its own separate study. We did not, for example, make any determinations about the specific design or content of any new Coast Guard regulations that may be needed to address safety concerns related to autonomous vessels.

Fourth, even though the committee was charged with assessing questions of statutory authority, this does not mean that statutory authority questions will be the only legal questions facing the Coast Guard in the coming decade. As noted in the report, and discussed further below, some important legal questions will arise under international law. Even other important domestic law questions, such as those involving potential federal-state conflicts, fell outside the scope of this study of statutory authority.

Finally, as much as adequate statutory authority is a necessary prerequisite for the Coast Guard to respond effectively to future challenges, such authority will hardly be sufficient. The committee highlighted three "foundational" capacities and capabilities that Congress and the Coast Guard must together ensure are further developed and maintained: data management, government contracting, and workforce readiness. These core capacities and capabilities are discussed further in the next part of this testimony after a review of the study committee's conclusions and recommendations on statutory authority.

CONCLUSIONS AND RECOMMENDATIONS

Major forces such as climate change, technological innovation, and global economic and political competition are driving change in the maritime domain and presenting new challenges to the Coast Guard. Meeting these challenges will necessitate that the Coast Guard take a broad range of actions in response to foreseeable developments over the coming decade. The NASEM committee reached key conclusions and recommendations about the Coast Guard's statutory authority to take these actions. Just as importantly, it reached conclusions and recommendations about the Coast Guard's need for strong and nimble mission support capacities and capabilities. Finally, it also offered conclusions and recommendations about the Coast Guard's need for integrating strategic foresight, along with legal analysis, into ongoing planning and decision-making.

Statutory Authority

For each of the 34 actions identified in the study, the committee considered questions such as the following: Does the action clearly fall under the Coast Guard’s existing authority? Is the action specifically precluded under existing law? Are there obvious instances where authority to act is missing, insufficient, unduly restricted, or substantially in need of clarification?

In general, the study committee answered these questions by concluding that “the Coast Guard possesses sufficient statutory authority that can be exercised to allow it to respond to most developments foreseeable in the maritime domain over the next decade.” As the committee report further notes, “[f]or an agency with so many vital responsibilities, the Coast Guard is already bestowed with much statutory authority to act, including authority that affords the Coast Guard latitude to take a wide range of actions, both existing and new.”

The Coast Guard’s extensive authority notwithstanding, the range of developments and the number of likely actions needed to respond to them made it not unreasonable to inquire whether the Coast Guard might need some new or modified authority for at least some types of actions. After methodically addressing 34 actions need to respond to the 10 foreseeable developments, the study committee found that “[i]n only a few instances did the committee find reason to suspect that existing authority could have limited or questionable applicability to the kinds of future actions the Coast Guard will likely need to take over the next decade.” In particular, the Coast Guard likely lacks sufficient statutory authority “to respond fully” with specified actions with respect to two of these developments: autonomous vessel technology, and commercial space operations. For a third development—cybersecurity risks—the committee concluded that the Coast Guard already possesses sufficient authority to take all the likely actions needed; however, the committee also noted that it might nevertheless be prudent for Congress to consider clarifying that the Service’s general security authority also includes authority specifically to address cyber incidents. Together, these three areas deserving of additional congressional attention are summarized in Table 1 below, which is excerpted from the committee’s report.

Table 1: Three Candidates for Legislative Attention

Likely Action	Summary Assessment
Autonomous systems: <i>Regulatory</i>	Amend statutory manning requirements (or authorize waivers to them) to allow the Coast Guard to approve, as appropriate, fully autonomous vessels.
Commercial spaceflight activity: <i>Mitigating and responding to risks</i>	Weigh statutory and international law limitations on the Coast Guard’s authority to establish safety zones that are binding on foreign-flagged vessels in the exclusive economic zone.
Cybersecurity risk: <i>Regulatory updates</i>	Consider possible amendments to the Maritime Transportation Security Act and the Magnuson Act to parallel recent changes to the Ports and Waterways Safety Act clarifying that the Coast Guard has authority to address cyberincidents.

As the committee’s report makes clear, even with respect to autonomous vessels and commercial space operations, the Coast Guard possesses sufficient authority to take most needed actions. It is simply that, as indicated below, without further legal change the Coast Guard could find itself constrained to take some specific actions that may be needed to address facets of these developments.

Autonomous systems. When it comes to autonomous vessels, it is important to note that the degree of autonomy can vary from mere decision support for the onboard crew to a full level of autonomy that would make it possible for a vessel to operate without any human crew on board. For most of these levels of autonomy, the Coast Guard will have sufficient authority to address safety concerns that may arise for vessels operating with this new technology. As the committee report notes:

The Coast Guard has a broad range of statutory authorities intended for safety at sea, including those related to vessel operation, safety management systems, navigation, and design and engineering. These authorities will likely allow the Coast Guard to address most regulatory needs for autonomous systems, such as perhaps even by eventually creating a com-

prehensive regulatory regime that addresses a range of issues presented by these systems.

Nevertheless, the committee concluded that the Coast Guard will likely find its authority constrained with respect to taking action that would allow fully autonomous, uncrewed vessels to operate in the marine transportation system (MTS). As noted in the report, “manning requirements for vessels currently call for human operators to be on board all vessels and may thus limit the Coast Guard’s ability to approve, as appropriate, vessels that use autonomous systems in lieu of an onboard crew.”

Currently, federal statutory law requires that “vessels propelled by machinery or carrying passengers shall have a licensed master” and “shall be under the direction and control of a pilot” with “a suitable number of watchmen.” As these so-called manning requirements contemplate human personnel being present on vessels, it would seem to require statutory change for the Coast Guard to allow the operation of uncrewed vessels. Congress has authorized, of course, the Coast Guard to grant limited waivers from these manning requirements, but so far only with respect to one specific use of autonomous technology: uncrewed vessels used for at-sea recovery of components of commercial space vehicles. At some point in the coming decade, uncrewed autonomous vessel technology may have demonstrated sufficient safety to justify its more widespread general use. For this reason, the NASEM committee recommended that the Coast Guard and Congress continue to monitor this technology as well as assess whether, at an appropriate time, to lift statutory “constraints on the ability of the Coast Guard to approve vessels that use fully autonomous systems in lieu of an onboard crew.”

Commercial space operations. Over the last five years, commercial space launches and reentries in the maritime domain have more than doubled. The Coast Guard has already taken a host of regulatory actions to protect safety and security of waterways during periods of space operations, including by establishing hundreds of safety zones at varying times every year. The Coast Guard possesses sufficient statutory authority to establish these safety zones for all vessels in U.S. territorial waters and for U.S.-flagged vessels even outside of territorial waters. But as commercial space operations move farther to sea, the Coast Guard lacks the authority to impose binding safety orders on the operation of foreign-flagged vessels outside of territorial waters. At present, the Coast Guard can only provide non-enforceable safety warnings to such foreign-flagged vessels operating outside territorial waters. The committee concluded:

Limitations on the authority to establish spaceflight-related safety zones that are binding on foreign-flagged vessels in the exclusive economic zone (EEZ) may impede the Coast Guard’s ability to protect both those vessels and commercial spaceflight operations in the EEZ.

It is imperative to note, though, that these two limitations on the Coast Guard’s statutory authority—both for commercial space operations as well as autonomous vessel technology—have corresponding constraints in international law. With respect to autonomous vessels, for example, several international maritime conventions include manning requirements similar to those reflected in U.S. legislation. And the limitation on the Coast Guard’s authority to impose mandatory safety zones on foreign-flagged vessels outside of U.S. territorial waters derives as much from international law’s protection of the freedom of navigation as it does from a lack of statutory authority. It is for this reason that the committee did not recommend any specific legislative changes at this time, but instead simply recommended that Congress “closely analyze” these matters further. As the committee report notes, before making any legislative changes with respect to these two issues, Congress “should carefully weigh [such changes] against U.S. adherence to principles of international law” and “consider coordinating any statutory changes with any changes in international legal standards.”

Cybersecurity risk. With respect to a third foreseeable development—cybersecurity—the study committee noted that “it may be prudent for Congress to consider making a clarifying set of changes” to statutory law. Cyberattacks are increasing across all sectors of the economy, including in the maritime domain. In the coming years, as maritime transportation further relies on advanced digital systems and satellite navigation, the vulnerability for serious disruption to the MTS from cyber incidents are likely only to increase. The Coast Guard is already taking numerous actions to address cybersecurity risks in the maritime domain, including adopting regulations under the Maritime Transportation Security Act (MTSA). The study committee concluded that the Coast Guard possesses adequate authority to take necessary future actions under the MTSA and other relevant existing statutes. In

2021, however, Congress amended the Ports and Waterways Safety Act to clarify that this legislation does encompass the authority for the Coast Guard to address cyber incidents. Having made this change to one statute, it may be appropriate for Congress now to affirm that the MTSA and the Magnuson Act of 1950 also authorize the Coast Guard to take actions addressing cybersecurity risks.

Mission Support

Beyond these three issues of statutory authority that merit congressional attention, the study committee also concluded that “[o]ther congressional support may be needed to strengthen the Coast Guard’s mission support capacity and capability, ensuring that it has the necessary resources and authority to be nimble and effective in its preparation and responses.” In other words, statutory authority alone will not be sufficient to meet the many demands that the Coast Guard will confront in the years ahead. If the Coast Guard is to meet new and unexpected challenges, it must strengthen three core mission support pillars, namely its ability to (1) manage and analyze data, (2) act nimbly to procure needed technology, and (3) develop and maintain a workforce ready and able to meet future demands.

These three mission support capabilities and capacities will be so crucial to the Coast Guard’s performance over the next ten years that the committee devoted an entire chapter in its report to detailing the abilities that the Service will need in each of these three areas. Table 2 below, taken from the committee report, illustrates the types of institutional capabilities addressed in the report with respect to each of these vital mission support pillars. The report elaborates on these needs in much greater detail and relays important ideas for strengthening each of these pillars.

Table 2: Vital Mission Support Capacities and Capabilities

Foundational Area	Needs
Data management and analysis	<ul style="list-style-type: none"> • New sources of data, management infrastructure, and analytic tools • More data sharing and integration • Protections for critical data and systems
Acquisition and procurement	<ul style="list-style-type: none"> • Rapid prototyping and fielding • Use and strengthening of pilot authority • Multiyear funding for modernizing
Workforce	<ul style="list-style-type: none"> • Training and skill development for new technologies • Increased scope for recruitment, hiring, retention, and contracting • Flexible Reserve force deployment

As the committee report explains, congressional action will be needed not only to provide necessary fiscal resources to sustain these mission support functions but also potentially to make targeted statutory changes that can alleviate barriers or give the Coast Guard new management-related authorities. Although the scope of the study precluded the committee from fully analyzing potential statutory reforms related to mission support, the committee was in agreement that further exploration of these issues would be definitely warranted by both Congress and the Coast Guard. As the committee recommended:

The Coast Guard will need the mission support capacity and capabilities to meet foreseeable demands and to respond quickly and effectively to developments that may not be foreseen. Congress should ensure that the Coast Guard has the requisite statutory authority and flexibility to (a) manage, share, and analyze data; (b) procure and manage assets; and (c) support and develop a workforce, all in a manner that is suited to a fast-changing environment. Because the Coast Guard already has many existing broad authorities for mission support, the Service should continue to review the latitude afforded by these existing authorities, including the procedures and processes used to implement them, to make sure that the authorities are being used in the most effective manner, such as to update internal systems and meet evolving workforce needs.

The committee also emphasized that, “[w]hile these three domains are by no means the only areas of institutional capability that matter, they emerged as recur-

ring themes in the committee's gathering of information, and, in the committee's view, they are foundational to the Coast Guard's ability to respond effectively to a range of future demands."

Strategic and Legal Foresight

The NASEM study revealed more than potential gaps in the Coast Guard's statutory authority and renewed needs for strong mission support. Given the likelihood that "the Coast Guard may well face other developments that are difficult if not impossible to anticipate now," the Coast Guard will need to remain vigilant and ready to adapt as needed to respond to all that comes its way in the next decade and beyond. The undeniable dynamism of the maritime domain means that the Coast Guard will continue to benefit from the scenario-building and other forecasting efforts that are part of its Evergreen process. As the committee concluded:

No matter what the future holds, it behooves the Coast Guard, with its many responsibilities in the vast and varied maritime domain, to continue to monitor the horizon for future developments and assess their likely implications on Coast Guard actions, plans, and preparations.

The committee observed that the Coast Guard's Evergreen process could do more to incorporate a "wider range of strategic foresight methods [that] can be valuable for maximizing insights." The committee also considered "the importance of having a dedicated institutional capacity for the continual execution of strategic foresight planning, as opposed to ad hoc, periodic exercises conducted to inform leadership transitions." Rapid flux in the maritime environment makes plain the need for giving strategic planning "a high priority among the Coast Guard leadership."

At the same time, the NASEM study revealed "the critical importance of building stronger connections between legal foresight and operational and strategic planning." After all, it is not just the operational maritime environment that is changing, but the legal environment can change as well, with new developments occurring in international law or with domestic courts changing their approaches to statutory interpretation. These legal changes, combined with changes in the operational environment, make it critical that the Coast Guard integrate legal foresight into its strategic planning processes. By "legal foresight," the committee means the

regular, systematic assessment of statutory authorities to ensure that they will be sufficient to allow the Coast Guard to take needed actions and to build the capacity to carry them out. Such legal foresight would seek to anticipate not only the likely adverse impacts of foreseeable developments, but also the statutory authority needs that the Coast Guard will require to address them.

Robust strategic planning, combined with legal foresight, will not only help the Coast Guard be better prepared for the future, but it will also better ensure that Congress can "act responsively to ensure that the Coast Guard has the flexibility and capacity, through its statutory authority and other resources, that it will need to face a rapidly changing maritime domain with agility and efficacy."

Finally, the NASEM committee believes that the value from its study goes beyond the insights reflected in its conclusions and recommendations. This study and its conceptual framework also offer a kind of a template for future efforts at legal foresight by the Coast Guard itself. It shows by its example "how to search for obvious instances where new and expanded Coast Guard actions may be needed—and then to assess whether such action might be precluded or inhibited by insufficient or unclear statutory authority."

* * *

In conclusion, I wish to thank you—Chairman Webster, Ranking Member Carbajal, and Members of the Subcommittee—for the opportunity to testify before you about the NASEM committee report, "The Coast Guard's Next Decade: An Assessment of Emerging Challenges and Statutory Needs." The Coast Guard has throughout its history protected the nation by successfully undertaking a broad and diverse array of vital missions that protect, among other things, maritime safety, homeland security, and environmental quality. These mission demands appear likely only to increase in significance over the coming decade. Indeed, precisely because the future will bring new developments and increased challenges calling for continued Coast Guard response, I am grateful for your committee's support in seeking to ensure that the Coast Guard will have the statutory authority and mission support capabilities it needs to act with agility in the face of these future challenges.

APPENDIX: LIST OF 10 FORESEEABLE DEVELOPMENTS AND 34 LIKELY RESPONSE ACTIONS

Foreseeable Development	Likely Coast Guard Action
Autonomous systems	<ul style="list-style-type: none"> • Regulatory • Confronting nefarious uses • Adoption of autonomous technology • Workforce training and development
Cybersecurity risk	<ul style="list-style-type: none"> • Cyberincident response • Collection of cyberincident data • Threat sharing • Regulatory updates • Cyberrisk management • Clarification of roles and responsibilities
Commercial space operations	<ul style="list-style-type: none"> • Mitigating and responding to risks
Offshore wind energy	<ul style="list-style-type: none"> • Interagency coordination • Port access studies • Search and rescue capabilities • Navigational safety aids and security measures
Aquaculture	<ul style="list-style-type: none"> • Assessment of facility siting proposals • Oversight and management of facilities
Arctic domain	<ul style="list-style-type: none"> • Regulatory action • Data and data infrastructure • Expanding and strengthening partnerships
Ship decarbonization	<ul style="list-style-type: none"> • Guidance and regulatory oversight • Workforce training and development • Pollution incident response • Emissions monitoring and reporting • Engagement and collaboration
Disasters	<ul style="list-style-type: none"> • National response framework and contingency plans • Surge operations • Mobilizing Coast Guard Reserve • Preparing Coast Guard facilities
Migration	<ul style="list-style-type: none"> • Contingency planning
IUU fishing	<ul style="list-style-type: none"> • Data collection, sharing, and analysis • Bilateral fisheries agreements • Nontraditional partnerships • Force and asset deployment

Mr. WEBSTER OF FLORIDA. Thank you, Doctor.
 Now, Ms. MacLeod, you are recognized for 5 minutes.

TESTIMONY OF HEATHER MACLEOD, DIRECTOR, HOMELAND SECURITY AND JUSTICE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Ms. MACLEOD. Thank you, Chairman Webster, Ranking Member Larsen, Mr. Auchincloss, and members of the subcommittee. Thank you for the opportunity to be here today to discuss GAO’s recent work related to challenges the Coast Guard faces and the actions it should take to more effectively manage resources.

Coast Guard’s unique authorities allow it to seamlessly operate across missions. Ensuring that the Service has complete and accu-

rate information to manage its workforce, operations, and assets is critical to its ability to meet mission demands.

GAO's recent work has identified specific actions the Coast Guard could take to make certain that it has this needed information. These include collecting and assessing information on workforce needs, safety efforts, and infrastructure investments.

Related to identifying workforce needs, we have found that the Coast Guard has conducted limited assessments. Specifically, as of March 2023, the Service reported that it had assessed workforce needs for just 15 percent of its units—a process that began 20 years ago.

One of our outstanding recommendations from this work is for the Coast Guard to update its workforce planning document with timeframes and milestones for completing these assessments. Fully addressing this recommendation will help ensure that the Coast Guard has the right number of people with the right set of skills to meet its mission demands.

Although we think it is important that the Coast Guard continue to analyze workforce needs Servicewide, the issue could be particularly important for certain portions of the workforce. Last September, we reported on challenges the Coast Guard faces ensuring it has the necessary cyberspace personnel.

We made six recommendations, including that the Coast Guard assess and determine its cyberspace staffing levels needed to meet mission demands. Fully addressing these recommendations could help the Coast Guard better understand the resources it requires, including those to protect its information systems and data from threats.

Now, turning to safety information, for decades we have reported that the Coast Guard faces challenges maintaining an adequate staff of experienced marine safety personnel, including marine inspectors. Marine inspections help the Coast Guard ensure that ships are following safety, security, and environmental laws. But demand for vessel inspections has consistently exceeded the supply of inspectors.

We made five recommendations to strengthen the Coast Guard's marine inspection workforce planning efforts. This included collecting additional data to forecast future industry and workforce trends.

We have also noted that the marine inspector shortage can lead to delays in examinations, including to gas carriers. Gas carrier ships that transport liquefied natural gas and other products can pose safety and environmental risks because the cargo is highly combustible. They are required by law to be inspected each year.

We recommended that the Coast Guard collect information to assess the benefits and risks of changing the annual inspection requirement. Earlier this year, the Coast Guard told us that this assessment is underway. Once completed, these actions could help the Coast Guard determine whether any changes to its authorities are needed.

We have also recently reported on IT and shore infrastructure investments. Our work has shown that, despite considerable recent investments, the Service still doesn't have a comprehensive inventory of its technology or hasn't fully assessed its IT network capac-

ity needs. Subsequently, we have made recommendations to the Coast Guard to improve its IT program implementation.

Finally, we have found that the Coast Guard could increase budget transparency related to its shore infrastructure needs. The backlog of Coast Guard shore infrastructure projects is in the billions, and we have found that the Coast Guard has not provided Congress with accurate information about its funding needs and priorities.

While the Coast Guard has a culture of making do with the resources it has, these backlogs pose financial, safety, and mission performance risks. We have recommended that the Coast Guard include better information in congressional budget requests and related reports.

In closing, addressing our recommendations will help the Coast Guard improve mission execution and better manage its resources.

This completes my prepared statement, and I would be pleased to answer any questions you may have. Thank you.

[Ms. MacLeod's prepared statement follows:]

Prepared Statement of Heather MacLeod, Director, Homeland Security and Justice, U.S. Government Accountability Office

COAST GUARD: ACTIONS NEEDED TO IMPROVE MISSION EXECUTION AND RESOURCE MANAGEMENT

Chairman Webster, Ranking Member Carbajal, and Members of the Subcommittee:

Thank you for the opportunity to discuss our work on the U.S. Coast Guard. The Coast Guard—a multi-mission, maritime military service within the Department of Homeland Security (DHS)—is responsible for conducting 11 statutory missions, such as marine safety and ports, waterways, and coastal security.¹ Coast Guard personnel are responsible for protecting and defending more than 100,000 miles of U.S. coastline and inland waterways, and safeguarding an economic region covering 4.5 million square miles. To carry out its missions, the Coast Guard must use its resources in a manner that allows it to maintain capabilities needed to execute its missions and make necessary investments for the future while operating within its existing resources.

My statement today discusses our prior work that identified areas where the Coast Guard could further improve upon its efforts to carry out its mission and better manage its resources. This statement is based primarily on eight reports published from February 2019 to November 2022 related to the Coast Guard. It also includes selected updates to those reports as of June 2023 regarding Coast Guard efforts to address our previous recommendations. For these products and our selected updates, we analyzed Coast Guard documentation and interviewed agency officials.

We made 39 recommendations to the Coast Guard in the reports covered by this statement. As of June 2023, the Coast Guard has taken action to fully address seven of the 39 recommendations, and 32 remain unaddressed. GAO continues to monitor the Coast Guard's progress in addressing them.

More detailed information on the objectives, scope, and methodology for our work can be found in the issued reports listed in Related GAO Products at the conclusion of this statement. We conducted the work upon which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

¹6 U.S.C. § 468(a). For further information on the Coast Guard's 11 missions, see appendix I. By statute, the Coast Guard is at all times a military service and branch of the armed forces. It is required to maintain a state of readiness, including when functioning as a specialized service in the Navy in time of war or when directed by the President. See 14 U.S.C. §§ 101–103.

IMPROVEMENTS NEEDED TO MORE EFFECTIVELY EXECUTE MISSIONS AND MANAGE RESOURCES

While the Coast Guard has taken steps to more effectively execute its missions, we have identified several specific areas in our recent work where the Coast Guard could improve its information collection, use, and reporting efforts and better manage resources. Such improvements to mission execution are critical to the Coast Guard's ability to meet demands while operating within its existing resources.

- *Collect and assess information related to gas carrier examinations.* Gas carrier ships that transport liquefied natural gas and other products can pose safety and environmental risks because the cargo is highly combustible. In January 2022, we reported on challenges associated with the Coast Guard's examinations of gas carriers.² Specifically, we found that the Coast Guard faces a shortage of marine inspectors in key sectors that conduct compliance exams for gas carriers, which can lead to examination delays. Representatives from six of nine gas carrier industry stakeholders told us that they sometimes experienced delays because the Coast Guard did not have gas carrier examiners available to conduct a compliance exam on their vessel. Coast Guard officials told us that because there have been no serious accidents involving gas carriers at U.S. ports, lowering the frequency of compliance exams would help address this challenge and free up resources to focus inspections on riskier vessels. However, the Coast Guard is statutorily required to conduct annual compliance exams for gas carriers, regardless of risk. Therefore, any changes to the frequency of the compliance exams would require a change in current law.³ The Coast Guard previously considered collecting information to assess the benefits and risks of reducing the frequency of exams but did not complete this effort.

We recommended that the Coast Guard conduct an assessment of the benefits and risks of adopting a risk-based approach for conducting gas carrier compliance exams and take actions to address the results, as appropriate and feasible. In February 2023, the Coast Guard told us that it had entered into contract with the National Academies of Science, Engineering, and Medicine to assess the effectiveness of adopting a risk-based approach to gas carrier examinations and that the study was underway. These actions to collect and effectively use information are consistent with our recommendation. Once completed, these actions should help the Coast Guard determine whether any changes to its authorities are appropriate and ensure that the Coast Guard is efficiently and effectively using its marine inspection resources.

- *Fully implement statutory safety requirements for fishing vessels.* Commercial fishing has one of the highest industry death rates in the U.S., according to the U.S. Bureau of Labor Statistics. Coast Guard efforts to promote commercial fishing vessel safety include conducting dockside exams, engaging with industry, and collaborating with other federal agencies. Since fiscal year 2011, Congress has enacted multiple safety requirements for commercial fishing vessels. These requirements directed the Coast Guard to take specific actions related to commercial fishing vessel safety, such as issuing regulations, and established vessel safety requirements that the agency has the authority to enforce. In November 2022, we found that the Coast Guard had fully implemented five of the 21 key statutory requirements related to commercial fishing vessel safety that were enacted from fiscal years 2011 through 2021.⁴ However, it had partially or not implemented the remaining 16 requirements.

We also found that the Coast Guard has established strategic goals and performance goals for its safety program for commercial fishing vessels. However, it has not fully incorporated other key performance management practices, such as establishing performance goals that fully address all aspects of its strategic

²GAO. *COAST GUARD: Assessment of a Risk-Based Approach for Conducting Gas Carrier Exams is Needed* GAO-22-105432 (Washington, D.C.: January 12, 2022).

³See 46 U.S.C. § 3714. While conducting risk-based gas carrier compliance exams could generate efficiencies, the Coast Guard has also recognized potential consequences of such an approach. Because of the combustible nature of their contents, gas carriers pose safety and environmental risks, and a safety incident or accident could have dire consequences.

⁴At the time of our November 2022 report, the Coast Guard was required to implement 22 statutory requirements related to commercial fishing vessel safety and had partially or not implemented 17 of the 22 requirements. However, since our report, one of the statutory requirements Coast Guard had not implemented was repealed. See Pub. L. No. 117-263, div. K, tit. CXV, § 11509(a)(3), 136 Stat. 2395, 4137 (2022). See GAO. *COAST GUARD: Additional Actions Needed to Improve Commercial Fishing Vessel Safety Efforts*, GAO-23-105289 (Washington, D.C.: November 2, 2022).

goals, setting realistic targets for its performance goals, and using performance data to assess progress towards program goals.

We recommended that the Coast Guard develop a plan with time frames and interim milestones to fully implement the other outstanding statutory requirements. As of June 2023, we are waiting for additional information from the Coast Guard about their planned efforts to address this recommendation. Fully incorporating such practices could help the Coast Guard better assess program performance and address any performance issues.

- *Verify vessel response plan information.* The Coast Guard has the authority to verify certain information in vessel response plans, which could improve marine safety and environmental protection. Tankers and other large vessels are required to develop vessel response plans that identify contracts in place for response resource providers, such as oil spill removal, and salvage and marine firefighting services. These plans help ensure that vessel owners and operators are prepared to respond in a timely manner of a marine incident to protect lives, property, and the environment. In September 2020, we reported on Coast Guard efforts to assess the regulatory compliance of vessel response plans.⁵

Specifically, we found that while the Coast Guard has processes to assess vessel response plans, officials stated that their efforts do not include verifying certain aspects of response resources in their plan reviews. For example, the Coast Guard does not verify information about the location and capability of equipment, which could help determine whether the vessel owners have engaged response resources that are able to be responsive when called upon. Coast Guard officials stated that they have authority to do more to verify response resource capability and availability. For example, they noted the Coast Guard could conduct verifications to validate the vessel owner's certification regarding response resource providers.⁶

To improve its assessments, we recommended that the Coast Guard establish a process to analyze incidents where vessel response plans have been activated to determine whether or how the Coast Guard should improve its review processes—including its approach to verifying plan information, contracts, and the quality of data used in review processes. In February 2022, Coast Guard officials indicated that they were in the process of evaluating potential tools to establish ways of gathering information from real-world incidents and exercises involving vessels with a vessel response plan. They stated that they anticipated such tools and information would help confirm the adequacy of resources and identify potential deficiencies in vessel response plans that may need to be addressed by the vessel owner or operator.

In April 2023, Coast Guard officials told us that the agency is in the final stages of revising its Marine Environmental Response and Preparedness Manual to reflect these changes. Officials estimated that the new version of the manual will likely be promulgated by September 2023. Developing a process for more thoroughly analyzing incident data to identify whether or how its review processes for vessel response plans should be strengthened could help the Coast Guard mitigate the risks identified in the review processes and provide greater assurance of vessel response plan effectiveness.

- *Collect better vessel accident information.* The Coast Guard has the authority to collect more information on marine accidents, which could help it assess the efficacy of lifesaving equipment and improve marine safety. In March 2021, we reported that the Coast Guard's vessel accident investigators are not required to collect information on passengers' dates of birth or potential disabilities, or its use of lifesaving equipment, when conducting their investigations.⁷ However, Coast Guard officials told us that collecting this information could help the service assess risk and identify opportunities for regulatory changes or issuing safety bulletins to improve marine safety. Moreover, the Coast Guard Authorization Act of 2016 requires that the Coast Guard report every 5 years on the number of casualties from water immersion involving people with disabilities,

⁵ GAO: *COAST GUARD: Improved Analysis of Vessel Response Plan Use Could Help Mitigate Marine Pollution Risk* GAO-20-554 (Washington, D.C.: September 29, 2020).

⁶ The regulations identify 15 selection criteria that vessel owners are to consider when determining the adequacy of salvage and marine firefighting response resource providers included in their plans and they are required to certify in their plans that they considered those factors when choosing their response resource providers. 33 C.F.R. § 155.4050.

⁷ GAO: *COAST GUARD: More Information Needed to Assess Efficacy and Costs of Vessel Survival Craft Requirements* GAO-21-247 (Washington, D.C.: March 31, 2021).

children, and the elderly, and what impact the carriage of out-of-water survival craft has on improving their survivability.⁸

We recommended that the Coast Guard revise its guidance for investigating vessel accidents to require investigators to collect date of birth, known disability, and use of lifesaving equipment of people in vessel accidents. DHS did not concur with our recommendation, noting that Coast Guard investigators are not required by statute or regulation to collect this information. In addition, DHS noted that investigators already collect this information on a case-by-case basis when it is needed for a specific investigative purpose, such as to determine causal factors of a vessel accident or personnel casualty. However, we maintain that not having of statutory or regulatory requirements does not prevent the Coast Guard from issuing requirements for its investigators to collect this information. For example, the Coast Guard routinely issues guidance to its personnel to take certain actions—such as through Commandant Instructions and Tactics, Techniques, and Procedures—and these requirements are not all outlined in statute and regulation. As of April 2023, DHS’s position remained unchanged; we continue to follow up with the department on actions the Coast Guard may take in the future in response to our recommendation. By not collecting this information, the Coast Guard cannot fully assess the efficacy of life-saving equipment.

- *Identify workforce needs.* The Coast Guard has conducted limited assessments of its workforce needs, which could help inform its recruiting goals. For example, in February 2020 we reported that since the Coast Guard began using its workforce requirements determination process in 2003, it has assessed only a 6 percent of its workforce needs.⁹ We made four recommendations to the Coast Guard which addressed limitations with Coast Guard’s workforce requirements determination process. As of April 2023, the Coast Guard implemented three of these recommendations by updating its guidance, determining necessary personnel to conduct the workforce determination process, and tracking the extent to which it completed this process for its units. However, as of May 2023, it had not determined time frames and milestones to fully implement its workforce requirements plan. Fully addressing this recommendation will help ensure that the Coast Guard has the right number of people with the right set of skills to meet its mission demands.

With respect to its cyberspace workforce needs, in September 2022, we found that because the Coast Guard had not determined necessary staffing levels and skills to meet mission needs, it was not positioned to fully understand the resources such a workforce requires.¹⁰ However, the Coast Guard is increasingly dependent upon its cyberspace workforce to maintain and protect its information systems and data from threats. We recommended that the Coast Guard take six actions, including to determine the cyberspace staff needed to meet its mission demands and fully implement five recruitment and retention leading practices, such as establishing a strategic workforce plan for its cyberspace workforce.

As of March 2023, Coast Guard officials noted that they are in various stages of taking actions to address the recommendations. Fully addressing these recommendations could help the Coast Guard better understand the resources it requires, including those to protect its information systems and data from threats.

- *Ensure certain technology is inventoried and has appropriate cyber controls.* Historically, the Coast Guard has had longstanding issues managing its technology resources, yet it relies extensively on IT systems and services to carry out its 11 statutory missions. It also relies on operational technology, which encompasses a broad range of programmable systems or devices that interact with the physical environment, such as sensors and radar. In July 2022, we found that the Coast Guard did not consistently apply a process to ensure cyber controls were in place for all types of its operational technology, due in part to not hav-

⁸Pub. L. No. 114–120, tit. III, § 301(b)(1)(A), (C)(ii), (3), 130 Stat. 27, 50–51 (2016) (as amended by Pub. L. No. 114–328, tit. XXXV, subtit. A, § 3503(a), 130 Stat. 2000, 2775 (2016)).

⁹The Coast Guard’s manpower requirements determination process is its preferred method for determining workforce needs because it identifies the workforce needed to conduct required mission activities. See GAO, *COAST GUARD: Actions Needed to Evaluate the Effectiveness of Organizational Changes and Determine Workforce Needs* GAO–20–223 (Washington, D.C.: February 26, 2020).

¹⁰GAO, *COAST GUARD: Workforce Planning Actions Needed to Address Growing Cyberspace Mission Demands* GAO–22–105208 (Washington, D.C.: September 27, 2022).

ing a comprehensive and accurate inventory of these technologies.¹¹ According to Coast Guard officials, the inventory does not include all of the Coast Guard's operational technology due to resource constraints.

We made three recommendations to the Coast Guard to (1) establish a comprehensive and accurate inventory of all operational technology; (2) develop a plan or strategy to ensure that appropriate cyber controls are identified and applied for all types of operational technology; and (3) ensure that the plan is effectively implemented. As of January 2023, the Coast Guard reported that it is in various stages of taking actions to address the recommendations. Ensuring that it has adequate cybersecurity measures in place for all its systems could help the Coast Guard manage risks of unauthorized access to those systems or devices, potentially leading to system disruptions and loss of data.

- *Report shore infrastructure information more completely and accurately.* In February 2019, we found that the Coast Guard could increase budget transparency for shore infrastructure.¹² Specifically, we found that the Coast Guard's budget requests (1) had not clearly identified funding allotted for routine shore infrastructure maintenance needs, and (2) had not generally addressed deferred maintenance and repair deficiencies, resulting in increases to its backlogs. In addition, the Coast Guard had not included information in its Unfunded Priorities Lists and other related reports that clearly articulated trade-offs among competing project alternatives, as well as the impacts on missions conducted from shore facilities in disrepair. This information could help to inform decision makers of the risks posed by untimely investments in maintenance and repair backlogs.

We also found that the Coast Guard budget requests had not been aligned with its requirements-based budget targets for shore infrastructure. According to the Coast Guard, a requirements-based budget is an estimate of the cost to operate and sustain its shore infrastructure portfolio of assets over the life cycle of the asset, from initial construction or capital investment through divestiture or demolition. We found that Coast Guard targets for recapitalization of shore assets exceeded \$290 million annually. However, its budget requests for fiscal years 2012 through 2021 ranged from about \$5 million to about \$99 million annually. Notwithstanding the mismatch between Coast Guard budget requests and its requirements-based budget targets, Coast Guard's allotments for this area for years 2016 through 2018 exceeded the Coast Guard's requests. For example, in fiscal year 2016, the Coast Guard's allotment of \$130 million was almost three times the nearly \$47 million requested. In 2018, the almost \$45 million allotted was more than four times the \$10 million requested.

We recommended that the Coast Guard include supporting details about competing project alternatives and report trade-offs in congressional budget requests and related reports. The Coast Guard agreed with our recommendation, but noted that addressing this recommendation is challenging due to limitations imposed by the Office of Management and Budget and DHS. As of May 2023, the Coast Guard was working toward publishing some related information on its website, according to officials. Without such information about Coast Guard budgetary requirements, Congress will lack critical information that could help to prioritize funding to address the Coast Guard's shore infrastructure backlogs.

In closing, by taking action in these areas Coast Guard could improve mission execution and better manage its resources.

Chairman Webster, Ranking Member Carbajal, 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.

APPENDIX I: INFORMATION ON THE U.S. COAST GUARD'S 11 MISSIONS

This appendix details the U.S. Coast Guard's 11 missions (see table 1).

¹¹GAO. *COAST GUARD: Actions Needed to Enhance IT Program Implementation* GAO-22-105092 (Washington, D.C.: July 28, 2022).

¹²GAO. *COAST GUARD SHORE INFRASTRUCTURE: Applying Leading Practices Could Help Manage Project Backlogs Of At Least \$2.6 Billion*, GAO-19-82 (Washington, D.C.: February 21, 2019).

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

Mission	Description
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.
Defense Readiness	Maintain the training and capability necessary to immediately integrate with Department of Defense forces in both peacetime operations and during times of war.
Drug Interdiction	Stem the flow of illegal drugs into the United States.
Ice Operations	Establish and maintain tracks for critical waterways, assisting and escorting vessels beset or stranded in ice, and remove navigational hazards created by ice in navigable waterways.
Living Marine Resources	Enforce laws governing the conservation, management, and recovery of living marine resources, marine protected species, and national marine sanctuaries and monuments.
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.
Marine Safety	Enforce laws which prevent death, injury, and property loss in the marine environment.
Migrant Interdiction	Stem the flow via maritime routes of unlawful migration and human smuggling activities.
Other Law Enforcement	Enforce international treaties, including the prevention of illegal fishing in international waters and the dumping of plastics and other marine debris.
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.
Search and Rescue	Search for, and provide aid to, people who are in distress or imminent danger.

Source: 6 U.S.C. § 468(a); GAO summary of Coast Guard information. GAO–23–106852

Mr. WEBSTER OF FLORIDA. Thank you for your testimony.

We will now turn to the questions from the panel, and I will now recognize myself for 5 minutes.

So, Admiral Poulin, as cybersecurity incidents continue to proliferate, the National Academy’s report underscores the need to clarify certain roles and responsibilities of various agencies with regards to cyber response in the maritime domain.

As the Coast Guard expands its cybersecurity capabilities, what is being done to ensure the Service is not suffering mission creep and duplicating the work of other agencies, such as CISA, which also plays an important role in this area? What is the Coast Guard doing to leverage existing Government capabilities?

Admiral POULIN. Thank you for the question, Mr. Chairman.

We are building our cyber capability, one, to protect our own systems; two, to ensure adequate oversight of regulated facilities and vessels under the Maritime Transportation Security Act and the

Ports and Waterways Safety Act; and then working to build capability to leverage cyber as an operating domain for the Coast Guard. We do this in collaboration with all our interagency partners, including CISA.

Currently, vessels and facilities that are regulated by the MTSA are required to do a cyber vulnerability assessment and then include in their plans measures to mitigate those cyber effects.

For our oversight responsibilities, we are hiring cyber specialists, and have hired quite a few, but continue to hire into positions at every echelon of the Coast Guard—at the area command level, at the district command level, and at the sector command level—to provide support and assistance to private industry and public-sector facilities to ensure cybersecurity.

So, I am happy to go into more detail, Chairman, but I think we have the adequate authority, we have the plans in place, and we have the collaborative efforts of the interagency to make sure that we are leveraging all available capability.

I should also note that, on our unified regulatory agenda, we have noted our intent to do a notice of proposed rulemaking to bolster cybersecurity requirements for regulated facilities and vessels.

Thank you, sir.

Mr. WEBSTER OF FLORIDA. So, are these civilian positions only?

Admiral POULIN. Most of our cybersecurity specialists that are helping facilities and vessels with the assessments are civilian positions.

With respect to our Cyber Protection Teams—and we have three Cyber Protection Teams that are built—those are largely Coast Guard Active Duty and Reserve members. There are some civilian support there as well. But it is largely an Active Duty force that is well-nested with the National Security Agency and also with U.S. Cyber Command.

Mr. WEBSTER OF FLORIDA. Thank you very much.

Doctor, the report examined the Coast Guard's acquisition and procurement authorities and practices, and notes that, despite having generally the same authorities as other services, the Coast Guard has been comparatively less successful in executing an acquisition system that is lean and agile.

Can you discuss some of these barriers, and what the Coast Guard can learn from other services? And to what degree would increased use of off-the-shelf commercial technologies, which the Coast Guard has historically opposed, support the Service's acquisition efforts?

Mr. COGLIANESE. Thank you very much.

The area of procurement the committee identified as very important, as you say. We did not do an intensive study of procurement itself. The focus of the study was on statutory authority to address those major foreseeable areas. But because of these mission support functions, procurement being one of them—in addition to that, we focus on data analysis and management; we also focus on workforce readiness—but procurement being an important one to make sure that the force has the technology that is ready today.

Chapter 4 of the report does detail ideas that came before us, but, to be very frank, we heard from different points of view from different experts we consulted with, whether the Coast Guard has

adequate authority right now to address the needs to be flexible in its procurement.

It would be an important area—and this is what the committee concluded—it would be an important area for further inquiry to really fully address the question that you ask.

Mr. WEBSTER OF FLORIDA. Thank you very much.

So, my time has expired.

Mr. Larsen, the ranking member of the full committee, you are recognized.

Mr. LARSEN OF WASHINGTON. Thank you very much.

Admiral, on the issue of commercial space recovery and the pilot, are there standards yet established, say, at IMO or anywhere else, for international cooperation on recovery?

Admiral POULIN. No, sir. Customary international law authorizes a coastal state to provide a 500-meter safety zone around offshore installations. So, there is nothing in customary international law right now that would recognize the safety zone.

However, there is a process to have areas to be avoided, which are advisory areas. And, functionally, that is what we are doing under the pilot program with respect to foreign vessels.

Mr. LARSEN OF WASHINGTON. For outside the EEZ?

Admiral POULIN. For outside the EEZ, yes, sir. I am sorry. Yes, inside the EEZ, we have plenary authority to establish safety zones, security zones. Outside the EEZ is where really the issue is that was pointed out by the National Academy of Sciences.

Obviously, if we establish a safety zone outside the Territorial sea, it is binding on U.S. vessels, because U.S. vessels are always subject to U.S. jurisdiction. It is an issue with respect to foreign vessels.

However, even though it may be advisory in nature, that doesn't mean that we don't have other levers that we might be able to use. So, if a foreign vessel is engaging in negligent operations, impeding the safe recovery of commercial space operation, that is a factor that we might consider if they are looking to come into a U.S. port.

There are ongoing discussions at the International Maritime Organization. But, largely, we think the advisory nature of this, plus the other levers that we have right now, is suitable for ensuring the safety of commercial space.

Mr. LARSEN OF WASHINGTON. So, that is U.S. Coast Guard's thought. Other countries' Coast Guards, or your equivalents, given that this is not a—we have a very robust industry in the U.S., but it is not just in the U.S.

Admiral POULIN. Yes, sir. I am not sure of any equivalent with any other country. I think most countries support freedom of navigation. And I think we want to assure freedom of movement, mobility, and navigation in waters that are outside national jurisdiction.

Mr. LARSEN OF WASHINGTON. Yes.

Doctor, did you look at that question?

Mr. COGLIANESE. We did not identify any other country that would have addressed that matter.

Mr. LARSEN OF WASHINGTON. Were you asked to do that, and then you—

Mr. COGLIANESE [interrupting]. No. No, we were not. I mean, that would have been outside of the scope of our focus on the statutory authority here in the U.S.

Mr. LARSEN OF WASHINGTON. I will write you a letter then. How is that? I will get an answer for it.

In your recommendations on people, recruiting and such, did you make any recommendations to the Coast Guard to types of folks or subject-matter-expert types of folks, really, about where to focus recruitment?

Mr. COGLIANESE. Absolutely. I mean, the workforce challenges for the Coast Guard in the coming decade will principally—not exclusively, but principally—lie in the area of high technology, digital technology, cybersecurity. Those are absolutely critical areas for workforce development and readiness for the Coast Guard in the coming decade.

Mr. LARSEN OF WASHINGTON. I was at the Academy earlier this year and met with some of the cybersecurity students, and all of them, very excited. But I can tell it is—there is a bigger demand and a smaller supply, and so—in a highly competitive environment. So, thanks.

Ms. MacLeod, in last year's Coast Guard Authorization Act, we required the Service to produce a detailed assessment and report on its infrastructure needs.

Do you believe that report addresses the GAO's concerns about the transparency and accuracy of the infrastructure needs, or are there other actions the Coast Guard needs to take?

Ms. MACLEOD. We did review that as well, and I think that what remains is a systematic review of priorities.

For example, it was unclear to us on items that the Coast Guard was putting forth and then removing from prior years' lists—it kind of comes on and off the lists, and while that is happening, it is unclear if they are using a systematic approach to evaluate the needs and priorities.

Mr. LARSEN OF WASHINGTON. Yes. OK. Great.

Admiral, in my remaining time, I will give it to you. Did you have any other update on the search for the *Titan* folks there?

Admiral POULIN. Sir, just what I mentioned at the outset, that the unified command is doing everything that they can to locate and rescue those who are missing.

I want to recognize the tremendous efforts of those responders who are out there working around the clock, doing their best to rescue those who are missing.

Mr. LARSEN OF WASHINGTON. Thank you.

With that, I yield back.

Mr. WEBSTER OF FLORIDA. Mr. Babin, you are recognized for 5 minutes.

Dr. BABIN. Thank you, Mr. Chairman.

I would like to thank you, witnesses, for being here today. We appreciate you very much.

The Coast Guard is a well-known and vital part of my community in southeast Texas and the Greater Houston area. And I represent Coast Guard Sector Houston-Galveston and Air Station Houston, each housed in Ellington Field in southeast Houston.

My questions today are related to a subject covered in the National Academy's report.

And, Admiral—is it “Poo-lin” or “Po-lin”?

Admiral POULIN. “Poo-lin,” sir.

Dr. BABIN. “Poo-lin.” OK. These questions are going to be directed to you, if you don't mind.

I also serve as the chairman of the Space and Aeronautics Subcommittee on the Science, Space, and Technology Committee. In that role, I work regularly with space companies that I know are familiar to the Coast Guard, given the important work that Coast Guard conducts with commercial space operations.

The Coast Guard's important role in commercial space operations is sure to grow as commercial space grows, and Congress needs to ensure the Coast Guard has the personnel, the equipment, and the authority to support these operations.

So, Admiral Poulin, can you please spend a minute or two detailing the current state of play for Coast Guard commercial space operations? What kind of strain and demand is it placing on the Coast Guard? And do you have the supplies and authority that are needed to conduct this mission?

Admiral POULIN. Thank you, sir. I appreciate the question.

We are leveraging the lessons learned at Cape Canaveral and exporting that to other areas of the country to build our IQ on how to safely ensure the safety and security of space operations. We work very closely with the space companies—SpaceX, Blue Origin, others—as well as NASA and FAA to make sure that we have a coordinated approach.

But your point is a good one, sir. This is a growing mission area for us. When we talk to NASA, the projection for increased space operations is an order of magnitude greater than what we are seeing now.

I think what it reinforces is what the Commandant testified to at the budget hearing before this subcommittee. The Coast Guard needs about 3- to 5-percent growth per year to manage our operational requirements. And that means that we need to grow to be a \$20 billion Coast Guard within the next 10 years.

Dr. BABIN. Yes, sir. OK. Thank you.

Another question. This administration's immigration policies have led us to a crisis at the southern border like we have never experienced or seen before. While I am not going to do a deep dive into how this administration's immigration failures have led us there, I do want to hear your thoughts on what the future role of the Coast Guard in combating illegal immigration looks like.

The Coast Guard's migrant interdiction operations are vital to our Nation's border security. Does the Coast Guard have the supplies and the authority needed to conduct this mission? Does the Coast Guard have the personnel needed to conduct its migrant interdiction mission? What can Congress do to improve and assist the Coast Guard in its battle against illegal immigration?

Admiral POULIN. Thank you, sir.

Our focus in the Coast Guard is on maritime migration. We are seeing at present irregular maritime migration at its highest level in 30, maybe 40 years, and we have had to make very difficult decisions in how we handle our operational priorities.

For us, maritime migration is a lifesaving mission, because the migrants that we interdict are taking to sea in vessels that are overloaded and are completely unseaworthy. For us, this is fundamentally a search-and-rescue operation.

And we are taxed. We are doing most of this effort with vessels that are 50 years old. That is why it is critically important that we continue on the path to recapitalize our cutter fleet and build long-range aviation capability and accelerate our transition to H-60 aircraft as well. And that is all in the President's budget request.

It is really important that we recapitalize our aging cutter fleet with the Offshore Patrol Cutter and complete the full program of record for the National Security Cutter as well. These are game-changing capabilities that we are going to be able to apply to maritime migration to ensure the safety of life at sea.

Dr. BABIN. Is Florida one of the worst, if not the worst, area for these types of interdiction? Are you seeing anything in south Texas as well?

Admiral POULIN. Sir, predominantly, irregular maritime migration affects the south Florida region, the Straits of Florida, migrants who are taking to the sea from both Haiti and Cuba and the Bahamas as well. We do see increasing migrant flow from Mexico into southern California.

There has been some irregular migration across the Rio Grande into Texas on the gulf coast as well. That flow rate is not as large as what we are seeing in the Caribbean or that we are seeing in southern California, but it is still a concern. And we are periodically providing support to the Border Patrol by putting Maritime Safety and Security Teams and Boat Forces units on the Rio Grande for the specific purpose of saving people in distress who are trying to cross the river.

Dr. BABIN. Thank you, Admiral. I appreciate it.

My time has expired. I yield back.

Mr. WEBSTER OF FLORIDA. Mr. Auchincloss, you are recognized for 5 minutes.

Mr. AUCHINCLOSS. Thank you, Chairman.

Ms. MacLeod—well, first, thank you to all the witnesses for your excellent testimony, written and oral.

Ms. MacLeod, to begin with you, GAO made 39 recommendations to the Coast Guard, 7 of which are being acted upon, 32 not yet.

Is the Coast Guard responding with a sufficient sense of urgency to the recommendations that you are making? Do you have any ones in particular that you want to see them act on?

Ms. MACLEOD. Yes, overall, the Coast Guard is highly collaborative with GAO in addressing our recommendations. Most of these studies have been completed over the last 3 years, so, they are fairly new in the process. And we monitor the Coast Guard progress on an ongoing basis on all of our recommendations.

It is difficult for me to point to one recommendation or a handful in particular, but I would say, at the core of it, one of the biggest challenges the Coast Guard faces is in its workforce.

Mr. AUCHINCLOSS. Hmm.

Ms. MACLEOD. In this environment and balancing its multiple missions, identifying the workforce that it needs and being able to

allocate that strategically is going to be key for the Coast Guard going forward as it faces shortages in workforce.

Mr. AUCHINCLOSS. Please keep my office apprised if there are any of these that you feel like are being insufficiently addressed. I would be interested to know that.

Ms. MACLEOD. Thank you.

Mr. AUCHINCLOSS. Admiral Poulin, the National Academy's report highlights the Coast Guard's insufficient infrastructure in the Arctic, in particular, icebreaking capabilities. This is at a time when China has declared itself a near-Arctic state and aims to develop a Polar Silk Road, investing billions in the effort.

With increased Chinese and Russian investment and activity in the region, what resources does the Coast Guard need, if any, besides the three planned Polar Security Cutters, in order to uphold the rules-based international order in the Arctic?

Admiral POULIN. Thank you for the question, sir.

Presence matters. Presence matters in the Arctic for us to ensure good maritime governance and for us to ensure a rules-based order.

We are on a trajectory to build the Polar Security Cutters, but we recently delivered to this committee and other committees our fleet mix analysis, and in that fleet mix analysis, we concluded that we likely need eight to nine new icebreakers.

Some of those will be heavy icebreakers like the Polar Security Cutter that is being built at Bollinger Mississippi. Others may be Arctic Security Cutters—

Mr. AUCHINCLOSS [interrupting]. Do we need a permanent presence in the Arctic? Right now, it is on a rotating basis.

Admiral POULIN. We need capability to have a permanent presence in the Arctic, yes, sir.

And that is one of the reasons why, in the President's budget, we have also requested funding for a commercially available icebreaker as well—not as a bridging strategy but to add capability to our Coast Guard fleet to make sure that there is model behavior by anybody operating in the Arctic.

Mr. AUCHINCLOSS. Continuing on this theme of competition with China, the Biden administration's Indo-Pacific Strategy calls for expanding the U.S. Coast Guard presence and cooperation in South and Southeast Asia and the Pacific Islands, with a focus on advising, training, deployment, and capacity-building.

I am a member of the Select Committee on the Strategic Competition Between the United States and the Chinese Communist Party. I know from those activities that there is tremendous demand in the Indo-Pacific amongst our allies and partners for Coast Guard expertise and equipment to help them contest increasingly aggressive PLA and PLAN maneuvers in the South China Sea in particular.

What resources do you need to successfully implement this Indo-Pacific Strategy so that we can be a continued presence not just in the Arctic but also in the Indo-Pacific?

Admiral POULIN. Yes, sir. Thank you.

We need to build capability in the Indo-Pacific region. The more we talk to our partners and allies in the region, the greater the demand for Coast Guard support.

When you talk to them about their greatest national security concerns, they talk about illegal, unregulated, and unreported fishing; they talk about the effects of climate change; they talk about disaster response; they talk about a challenge in maintaining domain awareness on their sovereign waters.

Those are all Coast Guard missions, and I think that is why the Coast Guard is in growing demand.

Mr. AUCHINCLOSS. And would taking the Coast Guard down to fiscal year 2022 levels of funding, would that impair our ability to have a strong Indo-Pacific and Arctic presence as we contest Chinese and Russian influence?

Admiral POULIN. Yes, sir. That would affect our ability to provide operations wherever and whenever, not just in the Indo-Pacific region.

Our unfunded priorities list includes four Fast Response Cutters to help us build capability as a starting point in the Indo-Pacific. Those Fast Response Cutters are critical assets for us. They are proving their value every day, whether it is in the counterdrug transit zone, whether it is in irregular maritime migration, but certainly will prove a high return on investment in the Indo-Pacific region.

Mr. AUCHINCLOSS. And, in 10 more seconds, Admiral, the Atlantic Coast Port Access Route Study for offshore wind, are we going to get that by the end of the year?

Admiral POULIN. The study has been completed, and it is our intent to translate that into a regulation.

Mr. AUCHINCLOSS. By the end of the year?

Admiral POULIN. Yes, sir—well—

Mr. AUCHINCLOSS [interrupting]. I will take it as a “yes.” Time is up. Time is up, Chairman.

[Laughter.]

Admiral POULIN. Let me go back to check, sir. I don’t want to promise something I can’t deliver.

Mr. WEBSTER OF FLORIDA. Mr. Mast, you are recognized for 5 minutes.

Mr. MAST. Thank you, Chairman. And I want to thank you for bringing up Florida East Coast Railway, Brightline, and the St. Lucie Waterway.

Semper paratus, Admiral. In my experience, the Coast Guard does not drop the ball. That has been my experience with the Coast Guard.

I want to bring up a meeting I had yesterday. It was with the United States Coast Guard, Florida Department of Transportation, Florida East Coast Railway, Brightline, the Federal Railroad Administration, and myself. I think it was the first time a meeting like that, with all parties, those stakeholders, had taken place.

And I want to give you an opportunity to refute a claim that Coast Guard dropped the ball. This was a claim made by Brightline or Florida East Coast Railway, that basically they had no knowledge, when talking about this waterway, this bridge, these trains that the chairman brought up, that a temporary deviation to how this bridge would operate—local automobile traffic, local maritime traffic, freight rail and passenger rail—how that would all be affected. They didn’t have an opportunity to weigh in on how that

would all be affected by—and ensuring that waterway has the right of way, which is the law.

So, my question is, did everybody have an opportunity to weigh in on that proposed deviation, this rulemaking process?

Admiral POULIN. Congressman, we have tried to be as transparent as possible with respect to the St. Lucie bridge. I think it was in May of last year—I may have the dates a little bit off—but we issued a notice of inquiry because we were considering what changes needed to be made to the bridge schedule to ensure the reasonable needs of navigation as well as balancing interests of all the stakeholders involved. We—

Mr. MAST [interrupting]. So, in that, you did make all of the stakeholders aware, Admiral, that you were doing this?

Admiral POULIN. Sir, I think we did. We tried to do that. We tried to be transparent. We tried to have open lines of communication—

Mr. MAST [interrupting]. To pause you, Admiral, I believe you, and I just—limited time.

I have the public comments of Brightline and FEC here. It is 14 pages. To your knowledge, they commented in the opportunity, the public comments section on this rulemaking?

Admiral POULIN. Sir, you are showing me the document.

Mr. MAST. Yep.

Admiral POULIN. I will defer to you on that.

Mr. MAST. To your knowledge, they have been participating actively, speaking to the Coast Guard since at least 2015 about their plans for rail, the interaction between passenger, freight, automobile, and maritime?

Admiral POULIN. We have regular discussions and open lines of communication, sir, and we want to be transparent.

Mr. MAST. So, to be clear, then, all of those lines of discussion and open communication, they are not all public?

Admiral POULIN. Some of those are meetings with our Seventh Coast Guard District. Some of those are probably one-on-one phone calls. Any number of different ways to communicate. I think the key point here, sir, again, is open lines of communication.

Mr. MAST. And I expect that they have the opportunity to call you. But just to say, they have had at least the same amount of access as everybody in the public, if not more?

Admiral POULIN. Open lines of communication, sir.

Mr. MAST. Open lines. I will take that.

So, in that, I would say, do you have any comment that you would like to say? It is fair to refute the claim that they had no opportunity to give you input on what these test deviations would look like?

And I am going to pause there 1 second and also say, we worked here on the Coast Guard and Maritime Transportation Subcommittee to actually get language over in the Senate that asked for a number of deviations to try to get to the best place. The current deviation we are talking about is a dividing of an hour in four 15-minute segments. We asked for deviations also that said 30-minute segments and 60 minutes over 120 minutes. It was actually the Senate that rejected that. But we wanted to see the Coast

Guard do an array of tests to make sure that we got to the right place. But that was rejected over there.

But I think you have refuted it, that everybody had the opportunity to comment?

Admiral POULIN. Yes, sir. I wasn't party to the conversation, but, again, we have tried to include all stakeholders and trying to balance the reasonable needs of navigation with the impact and the effects on the rail line, navigation, and other stakeholders.

Mr. MAST. So, moving forward to that, their comments in 2022, the trains did say that, if they were to even have to give 15 fixed minutes of access to the local maritime traffic, that that one 15 minutes of access would result in them stopping 23 trains a day across our roads.

To your knowledge, was that ever brought up in the environmental impact statement discussions back before, in 2015? Because I read it cover to cover several times, and I couldn't find that.

Admiral POULIN. Sir, I am not read in on that, but what I can tell you is that our approach to this thing has been to find a balance of all the competing interests. We want to do that in a transparent way. It is our obligation to—

Mr. MAST [interrupting]. And I thank you, Admiral. My time is about expired, but I think you have worked hard to find that balance and find equilibrium between all parties. And so, thank you for your work on that.

Admiral POULIN. Sir.

Mr. WEBSTER OF FLORIDA. Ms. Scholten, you are recognized for 5 minutes.

Ms. SCHOLTEN. Thank you, Mr. Chair.

And thank you so much to our witnesses for joining us here today, and to the committee as a whole for this critical discussion on the most pressing challenges facing our Coast Guard in the next decade to come.

It is so important to me, as the Representative of Coast Guard City, U.S.A.—Grand Haven, Michigan—proud home of a wonderful Coast Guard installation protecting our Great Lakes.

As we discuss how we, as lawmakers, can prepare our Coasties for the road ahead, it is incumbent on us, as well, to remember that our policies would be useless without the support and dedication of our men and women in uniform, who we rely on every day to execute these policies and to keep Americans safe. I think we would all agree, our Coasties are the most valuable resource of the United States Coast Guard.

Admiral Poulin, a number of the focus areas identified in the report will require significant numbers of well-trained personnel to fulfill the Coast Guard's mission. We have established in past hearings that the workforce and recruiting deficit the Coast Guard faces is significant.

As you have seen, last week, some extremist Republicans indicated that they would be willing to shut down the Government rather than keep their party's promises on Government funding levels. And, as you know, Coasties aren't paid during a Government shutdown.

Can you speak to the likely effect a shutdown would have on Coast Guard servicemember morale, recruitment, and the ability of the Coast Guard to carry out its mission?

Admiral POULIN. Yes, ma'am. Thank you for your support of our Coast Guard men and women and our families.

It is important that we have parity with DoD with respect to pay and benefits. It was hard on our Coast Guard and our families when there was a shutdown, and we didn't get paid. It was demoralizing. It had a profound effect, which translates into an operational effect as well.

We have committed Coast Guard men and women and families who want to get about the Coast Guard business and want to execute missions anytime, anywhere. And it is important that we clearly send a signal that they are valued, that they are respected, and that we are going to stand behind them.

Ms. SCHOLTEN. Thank you. I agree completely. That is why I have introduced with Rep. González-Colón the bipartisan Pay Our Coast Guard Parity Act, to ensure Coasties are treated the same as other members of the DoD, to get parity there, as you said.

I know, as a former civil servant myself in the Department of Justice, what it was like to go through a Government shutdown, as a new mom. And it was certainly difficult, unstable. With the national security issues at stake, it is just a risk we cannot take.

I invite my colleagues, again, to join me in supporting this crucial piece of legislation.

I want to use my remaining time to ask an additional followup question.

Last Congress, this committee passed and included in the NDAA much-needed legislation aimed at reducing sexual assault and sexual harassment in the maritime industry. This legislation granted new authority and built on the Coast Guard's existing authority as law enforcement to investigate these crimes. It is now essential that the Coast Guard act on these authorities to ensure our mariners are safe.

Admiral Poulin, again, does the Coast Guard need additional authorities to continue to investigate and prosecute these crimes?

Admiral POULIN. Thank you, ma'am.

We are fully committed to eliminating sexual assault and sexual harassment not just in our Service but in the maritime industry. We are committed to that end. We don't need any new authorities. We appreciated the authorities that Congress provided in the last authorization bill.

And we are stepping out, and we are stepping out quickly. We have got committed Coast Guard Investigative Service agents who are taking the reports. They will triage those, investigate every report, and, if it is criminal, refer it to DOJ; if it is not criminal, make sure that the companies exercise due diligence.

And then we have the back-end support through our suspension and revocation process if it reaches a threshold of a suspension/revocation action.

Ms. SCHOLTEN. Thank you.

Admiral POULIN. So, we are fully committed to this, ma'am.

Ms. SCHOLTEN. OK. Thank you.

So, just to reiterate, at this point, you feel the Coast Guard has everything it needs to conduct these investigations?

Admiral POULIN. Yes, ma'am. We are fully committed to this.

We are also working with maritime industry to raise awareness of their responsibilities, but also to potential victims and those who have been victimized, what the reporting mechanisms are, so that we can take these claims and investigate.

Ms. SCHOLTEN. Thank you, sir.

I yield back.

Mr. WEBSTER OF FLORIDA. Mr. Ezell, you are recognized for 5 minutes.

Mr. EZELL. Thank you, Mr. Chairman.

Countering illegal, unreported, unregulated fishing is one of the biggest challenges that the Coast Guard will face over the next decade.

No commercial fishing industry has been more harmed by these fishing practices than the shrimpers on the gulf coast. Over 20 percent of the wild-caught shrimp imported into our country is caught illegally, second only to the swimming crab, which is also caught in the gulf.

To add to this concerning number, foreign exporters are feeding their shrimp with fish caught by the IUU and using forced labor to produce their shrimp. All these damaging practices allow these exporters to undercut legitimate shrimpers in our country with artificially low prices.

Admiral Poulin, how is the Coast Guard countering illegal, unreported, and unregulated fishing and protecting our shrimpers?

Admiral POULIN. Thank you, sir.

The first thing we are trying to do is raise awareness globally that this is an international problem. Fish stocks are depleted in many parts of the world, and predatory fishing practices affect all of us, whether it is on the gulf coast, whether it is in another region of the world. So, the first thing is to raise awareness.

The second thing is to provide more persistent presence in areas where we see a congregation of people engaged in illegal fishing. And, again, this is where presence matters and why we talk about building the Coast Guard the 3 to 5 percent per year, getting us to a \$20 billion Coast Guard, recapitalizing those assets so that we can have a more persistent presence.

And then it is about working with our international partners and our allies to leverage their capabilities as well. Much of the work that we do is through something called regional fisheries management organizations. These are consent-based organizations that develop rules-based orders for illegal fishing around the globe.

And in many of those, we have partnership arrangements with other countries where we can go on board their vessels through a boarding and inspection regime. There are other opportunities to take shipriders on board our Coast Guard cutters.

But, again, the bottom line is, this requires Coast Guard presence.

Mr. EZELL. How can the Congress do better to help support the Coast Guard in this area?

Admiral POULIN. Sir, it is critical that we have stable and predictable funding for our major acquisition programs. I have out-

lined many of those. It is our National Security Cutters, our Off-shore Patrol Cutters, our Fast Response Cutters, accelerating our transition to the MH-60 aircraft, building a full fleet of C-130 aircraft, the Polar Security Cutter that we talked about previously.

It is about providing the Coast Guard the ability to deliver mission excellence anytime, anywhere, and provide a more persistent presence rather than episodic engagement.

Mr. EZELL. Thank you.

In Ms. MacLeod's testimony, she mentioned GAO's findings that recommended a risk-based approach to gas carrier inspections that may support the Coast Guard's efforts to address the shortage of marine inspectors and free up resources to do focused inspections on riskier vessels.

Given the substantial shortage of inspectors, does the Coast Guard intend to conduct the GAO-recommended assessment of a risk-based review and inspection system of the LNG carriers, Admiral?

Admiral POULIN. Yes, sir, we do. And we agree with the GAO recommendation. We think conducting a risk-based approach to inspections is the right direction.

Through one of the prior Coast Guard Authorization Acts, you directed us to commission a study through the National Academy of Sciences to look at this. We have contracted that study. We expect the study to be completed in June of 2024. And I think that will give us a good baseline on how we want to move forward on risk-based inspections.

Mr. EZELL. Thank you.

In addition to the gas carrier inspections, are there other areas, particularly other types of tank vessels, where the Coast Guard would benefit from considering risk-based approaches to vessel inspections?

Admiral POULIN. Yes, sir, I think there are. But I think that study from the National Academy of Sciences is going to be an important foundation for us as we make those risk-based determinations moving forward.

Mr. EZELL. Thank you, sir.

Mr. Chairman, I yield back.

Mr. WEBSTER OF FLORIDA. Mrs. González-Colón, you are recognized for 5 minutes.

Mrs. GONZÁLEZ-COLÓN. Thank you, Mr. Chairman.

And thank you to the witnesses for being with us today.

I have, actually, two questions. The first one will be to Admiral Poulin.

According to Coast Guard figures, the migrant flow in the southeast maritime approaches to the United States, which includes the Caribbean transit routes into Florida, Puerto Rico, and the U.S. Virgin Islands, increased by 521 percent from fiscal year 2020 to 2022.

The National Academy of Sciences report concluded that, if current trends hold, in the next decade, migration from Caribbean nations will continue to grow, and this will further strain the Coast Guard, creating additional demands for its cutters and crew.

And I am particularly concerned about the impact this will have on other vital missions, specifically counterdrug operations, espe-

cially when considering that the Coast Guard has already reported that it has been unable to meet the target drug removal rate, partly because of the decrease in the number of available surface assets due to the relocation to migrant interdiction operations.

So, my question will be: In light of those trends, could you tell us, moving forward, how the Coast Guard plans to adapt to effectively monitor and respond to an increase in migrant activity while at the same time supporting and allocating the necessary resources for other missions, such as drug interdiction operations, are going to be handled?

Admiral POULIN. Thank you for the question.

We are seeing irregular maritime migration at record levels, levels that I have not seen in my almost 40-year Coast Guard career. And our Coast Guard is committed to saving lives of those who have taken to the sea in unseaworthy vessels. And as I was mentioning earlier, this is a life-saving mission for us.

It starts with taking a whole-of-Government approach to prevent migration from happening in the first place. That is not solely a Coast Guard function. We can provide a presence offshore, which we are doing, but it requires a whole-of-Government effort to set the conditions to prevent migration from happening.

If irregular maritime migration does happen, we are committed to doing our best to interdict and save those lives. It is critically important for us that we maintain the opportunity to directly repatriate migrants interdicted at sea back to their country of origin, because we have limited Coast Guard cutters, we have limited capacity on those Coast Guard cutters, and the ability to turn those cutters around and bring them into port and into Cuba or Haiti to repatriate those migrants is critically important.

And, as I was mentioning also, we are doing this mission right now with many Coast Guard cutters that are 50 years old or older, and we need to recapitalize that fleet. This is going to be an important mission for the Offshore Patrol Cutter. And it gives us the capability to address illicit flow of narcotics in the transit zone as well, especially in that vector from South America into the Dominican Republic and Puerto Rico.

Mrs. GONZÁLEZ-COLÓN. I was actually in one of the cutters in San Juan last week, so, I know what you are talking about.

My next question will be in terms of how the Coast Guard is dealing or addressing the vulnerabilities within our Nation's maritime transportation system to cyber attacks and those associated risks to our supply chain and economy. And, coming from Puerto Rico, where approximately 80 percent of our goods comes into the island through the Port of San Juan, this is an issue that deeply concerns us.

The National Academy of Sciences report identified a series of actions the Coast Guard will likely need to take to address cybersecurity risks within the maritime environment and highlights the need to strengthen the Service's cybersecurity workforce to accomplish that. And I remember we approved the Jones Act that actually gave some directions to that end.

So, how is the Coast Guard working to build up its cybersecurity workforce, particularly at the district and sector level? And how is the Service partnering with maritime stakeholders?

Admiral POULIN. Thank you, ma'am.

Before I get into the cybersecurity issues, I was remiss in not commending the work of AMO, Air and Marine Operations, in Puerto Rico, the Caribbean port interdiction group that operates out of San Juan.

I was a former director of Joint Task Force-East. I think you and I have talked on the phone. And it would be a failure on my part if I didn't commend HSI, CBP, and all the other organizations that are helping us with maritime migration and illegal drugs.

With respect to cyber vulnerabilities, we have a structure right now that requires facilities and vessels to do a cyber vulnerability assessment and then come up with a mitigation strategy in their plan to address those vulnerabilities.

We have cybersecurity specialists that are in the field helping them conduct those assessments. Those are experts that also help plan regional exercises and local exercises with respect to cybersecurity.

We backstop all of that with our Cyber Protection Teams that are there to deploy, if necessary, to work with our Coast Guard commands or with facilities and vessels to address those vulnerabilities.

Lastly, we are looking to develop new regulatory standards for cybersecurity across the maritime industry. We want to work with CISA and other agencies to make sure that we map over common-sense standards into the maritime domain. We want to harmonize where it makes sense to harmonize.

Mrs. GONZÁLEZ-COLÓN. My time expired, but when do you expect to have all the information for the regulations?

Admiral POULIN. It is hard to predict right now. The regulation is in draft. We are going through the economic impact analysis right now—

Mrs. GONZÁLEZ-COLÓN [interrupting]. A year?

Admiral POULIN. I can't commit. I wish I could. Any time I have predicted a regulation, I have usually failed.

Mrs. GONZÁLEZ-COLÓN. Thank you.

Thank you, Chairman. I yield back.

Mr. WEBSTER OF FLORIDA. Thank you.

So, another round of questions has been requested.

Mr. Mast, you are recognized for 5 minutes.

Mr. MAST. Thank you, Mr. Chairman.

I want to continue, Admiral, where we left off, that the Brightline train said, and the FEC, if there is any fixed window of time for maritime to have access across their own local waterway, it would result in 23 stopped trains a day. Those could be 2-mile-long trains going over dozens of intersections. That is what they said in their public comment.

And I want to go back to the environmental impact statement that was done years prior. I don't expect you to know chapter and verse, so, I hope you will take my word that I am reading you quotes from it. But it did say in the mitigation in the impact statement: Develop a set schedule for downtimes of each bridge. It was in the impact statement that this would take place.

So, can you think of a reason why developing a set schedule for bridges to be down or up, why that wouldn't be calculated as to the

ripples that it would have on local vehicle traffic? In your estimation, would that be calculated?

Admiral POULIN. Sir, I am not going to—I really can't speak to the calculation. This temporary deviation was intended to learn lessons, apply those lessons, understand impacts, understand effects, and then adjust—

Mr. MAST [interposing]. Yes, sir.

Admiral POULIN [continuing]. As necessary, to balance the needs of navigation with other stakeholder interests.

Mr. MAST. Yes, sir, attempted to learn.

But, in that, in the environmental impact statements, they tried to anticipate what was going to happen very, very specifically. I will read you a couple quotes from it.

“Along the north-south corridor, passenger rail service would result in minor increased traffic delays”—not 23 trains a day stopped for 15, 20 minutes.

“This demonstrates the project would not result in the degradation of average level of service”—again, talking about that. This is the environmental impact statement. It wasn't going to do anything to it.

“Would have a minor, not significant, impact on local traffic”—again, they were very specific in this environmental impact statement.

And what I am really wondering is, I have to believe that if this information was told to the Coast Guard, that 20-plus trains would be stopped, if there was just one 15-minute opening for waterway, that you would have been told and you would have passed that on to the FRA.

If you were told that, would you have passed it on to the Federal Railroad Administration?

Admiral POULIN. Sir, we are trying to be transparent and collaborative—

Mr. MAST [interrupting]. I am not saying you were told. I am just saying, if you were told that, you would have passed it on?

Admiral POULIN. Sir, we want to be transparent with everybody, and we want to have a collaborative approach. Our intent is not to stop trains.

Mr. MAST. Yes.

Admiral POULIN. Our intent is to use this temporary deviation to understand the actual—

Mr. MAST [interrupting]. And I don't want you to stop trains, Admiral.

Admiral POULIN. Right.

Mr. MAST. I am just saying, when you would participate in an environmental impact statement, if you are given information and you are working with the Federal Railroad Administration, you would pass it on, correct?

Admiral POULIN. If I was in the position, I would—

Mr. MAST [interposing]. OK.

Admiral POULIN [continuing]. Pass it on.

Mr. MAST. It is a simple question.

Admiral POULIN. Again, we are just trying—

Mr. MAST [interrupting]. Would you pass on important information like that?

Admiral POULIN [continuing]. To be transparent.

Mr. MAST. So, I am trying to wonder: Either it didn't get passed on, or it wasn't told, or FRA for some reason didn't think, "OK, develop a set schedule for the downtimes of each bridge. We better calculate what that is going to do to road traffic," even though they calculated very specifically "minor impacts," "no degradation," "not a significant impact."

That is on the FRA. I am not saying that is on you, provided that Coast Guard didn't withhold any information.

I want to go back to something that the chairman brought up, something I believe is important as well, and that is a new bridge, right?

If they can't cooperatively work with local vehicle/automobile traffic, maritime traffic, freight and rail together, because they have a bridge that is 6 feet above mean-high water above a major waterway—and Coast Guard believes in securing water as the right of way, and so, they rightly gave two 15-minute windows of access to the local waterway users. I thought that was very fair. But we don't want to see all these ripple effects down the line for automobiles and stuff like that.

It seems to me that they shouldn't have put the cart before the horse. They should have built a new bridge first. And this is why I say this: These train companies, they spent, I don't know, let's say \$75 million or more on a new train station in Miami and a new train station in Aventura, Florida, and a new train station in Boca Raton, Florida, and a new train station in West Palm Beach, Florida, probably \$50 million to \$70 million for each one, probably \$100 million-plus for one in Orlando, and they laid over \$1 billion in track is my understanding. I don't have an exact number, but that is my understanding.

Doing all of that, I just can't for the life of me understand why they would omit building a bridge that would have to be built in order to allow for all of those modes of transportation to work together in any kind of acceptable way without holding maritime traffic hostage or without holding local vehicle traffic hostage or without having to stop freight rails from getting their goods from A to B or without having to stop passenger trains from getting people to A to B. It is the known chokepoint, and I can't understand why they didn't calculate it.

I thank you, Chairman, for the extra 15 seconds, and I can't yield you anything back, but I relinquish the microphone.

Dr. VAN DREW. It got so quiet when I walked in.

Mr. MAST. That is what happens when New Jersey walks in.

Dr. VAN DREW. Sorry, everybody. I am in the middle of the Judiciary Committee.

Mr. WEBSTER OF FLORIDA. Mrs. González-Colón, you are recognized if you have a question.

Mrs. GONZÁLEZ-COLÓN. Well, I understand Mr. Van Drew may need the time.

Thank you, Chairman. I just have one extra question, and it will be for Ms. MacLeod.

As you explain in your testimony, in July 2022, the Government Accountability Office found that the Coast Guard did not consistently apply a process to ensure cyber controls were in place for all

types of its operational technology, which may include services such as sensors and radars.

Your office recommended that the Coast Guard establish a comprehensive and accurate inventory for its operational technology and that it should develop and implement a plan to ensure appropriate cyber controls are applied to these systems and devices.

Could you elaborate on the Government Accountability Office findings and the risk associated with the lack of appropriate cyber controls for the Coast Guard operational technology?

And will you also discuss what progress, if any, the Coast Guard has made to date to comply with your recommendations?

Ms. MACLEOD. Sure.

So, without knowing which systems exist where and what exactly they are doing, it is really impossible to protect your systems. And so, our recommendation was a first step: Create an inventory of your systems. Identify what systems you have, what they do, and what levels of protection they may need. So, that is really the basis of our recommendation.

Since our report, we have communicated with the Coast Guard, and they have begun to inventory their IT systems in the units. And then the next step will be to create a more broad inventory Coast Guard-wide.

So, it is in the beginning stages, I would say, which isn't dissimilar from a lot of other Federal agencies that the GAO has looked at these issues on, I will mention. But we are seeing some progress there from the Coast Guard.

Mrs. GONZÁLEZ-COLÓN. Thank you.

Mr. Chairman, I yield back.

Mr. WEBSTER OF FLORIDA. Mr. Van Drew, you are recognized for 5 minutes.

Dr. VAN DREW. Thank you, Chairman.

Thank you all for being here.

Last year, the National Oceanic and Atmospheric Administration proposed rules that would dramatically expand seasonal 10-knot vessel restrictions, as you know, across a large geographic area and many new types of vessels.

The proposed expansion of the speed restriction would seriously impede maritime commerce on the Atlantic coast. It is a blunt tool that would apply to the wrong vessel sizes and the wrong areas.

I submitted comments, supported by the American Association of Port Authorities; the Shipping Chamber of America; the International Organization of Masters, Mates, and Pilots Union; and the American Pilots Association, stating that the proposed NOAA speed restrictions are dangerous to maritime workers and they will hurt our economy.

NOAA's proposed speed restrictions would also affect over 63,000 recreational vessels from Massachusetts to Florida, most of which do not have full AIS equipment.

This would all place a massive new enforcement responsibility on the United States Coast Guard. This is a time where the United States Coast Guard is dealing with an ever-increasing workload and does not have enough resources.

While I hope that NOAA opts for a more moderate approach as they further develop the rule, it is the Coast Guard's responsibility to enforce the rule when it does happen, in any case.

So, my question is for the admiral: Does the U.S. Coast Guard have the budget, the fleet size, and the personnel to enforce the NOAA speed restrictions expansion as they are proposed currently?

Thank you.

Admiral POULIN. Thanks, Congressman. And I just want to note that I was up in Cape May to celebrate the 75th anniversary—

Dr. VAN DREW [interrupting]. Yes. I couldn't be. Oh, it is—

Admiral POULIN [continuing]. Of the home of our enlisted workforce. Thank you for your support.

Dr. VAN DREW. I love you guys. I may be tough on windmills, but that has nothing to do with you, hopefully, but as far as the Coast Guard and the work they do and what they do in Cape May and how important it is. And that is why we are always advocating, whether it is for barracks or other needs that you have. We appreciate you.

Admiral POULIN. Yes, sir. Well, thank you.

I think I would like to respond a little bit more broadly. We have many different missions in the Coast Guard, and, as senior leaders, we are always challenged to prioritize those missions. There is not enough Coast Guard to go around, so, we have to take an operational risk-based approach to our missions.

And that is why I said in earlier testimony we need that 3- to 5-percent growth in the Coast Guard's budget every year to manage those missions. We need to grow to be a \$20 billion Coast Guard in about 10 years. And that is irrespective of what we may do in the Indo-Pacific or other regions where we need to build even greater Coast Guard capability.

But focused on domestic missions, we always engage in those discussions about how do we prioritize, because we have high demand but low-density capability in many respects. So, we are always engaged in that operational risk assessment, sir.

Dr. VAN DREW. I appreciate that. But just to be a little more direct, in this situation, would I be correct if I said it would be stressful for you to have that additional responsibility, that this rule in the process of rulemaking would be a burden placed upon you?

And I know you are up to any challenge, but, still, I mean, would this be a stressful situation?

Admiral POULIN. Sir, I think we have a very collaborative relationship with NOAA. Obviously, we want to fulfill our statutory responsibilities. We are committed to the safety and security of navigation.

And I think it is incumbent upon us, when we see new demands, to make sure that we project that. In fact, the National Academy of Sciences report anticipates that, that we would come to Congress and explain what the demands are and what our resource needs are for growth in current missions or expanded missions elsewhere. And we are—

Dr. VAN DREW [interrupting]. So, you would need more resources for this, correct?

Admiral POULIN. Sir, we always need more resources. We need that 3 to 5 percent—

Dr. VAN DREW [interrupting]. I know, but I am just focused on this one particular area right now.

Admiral POULIN. Yes, sir. I—

Dr. VAN DREW [interrupting]. Because I think the rulemaking could go better or could go worse, and we will see how it works out, but I think the point is to realize that this affects far more than just a very small segment of folks. I mean, there is a broad swath of regulatory groups, of enforcement in what you do, and just others that are in industry of different types, in boating, that it is going to affect.

Admiral POULIN. Yes, sir. I think the Commandant and I have been very clear—I hope we have been very clear—that we are not a Coast Guard that is going to do the same with less or more with less. If we need to do more, we need more.

Dr. VAN DREW. OK. I appreciate you.

And I yield back. Thank you, Chairman.

Please forgive me. I have to leave immediately. I have to go back to the Judiciary Committee.

Mr. WEBSTER OF FLORIDA. I ask unanimous consent that the record for today's hearing remain open until such time as our witnesses have provided answers to any questions that may be submitted to them in writing.

Without objection, so ordered.

I also ask unanimous consent that the record remain open for 15 days for any additional comments or information submitted by the Members or witnesses to be included in the record of today's hearing.

Without objection, show that ordered.

No one else to talk?

The meeting stands adjourned.

[Whereupon, at 11:34 a.m., the subcommittee was adjourned.]