



Motor Lifeboat Assessment

February 22, 2021

Fiscal Year 2020 Report to Congress



Homeland
Security

United States Coast Guard

Foreword

February 22, 2021

I am pleased to present the following report, “Motor Lifeboat Assessment,” which has been prepared by the U.S. Coast Guard.

Senate Report 116-125 accompanying the Fiscal Year 2020 Department of Homeland Security Appropriations Act (P.L. 116-93) directs the Coast Guard to provide a report on the placement and allocation of 47-foot motor lifeboats in the northeastern United States, examining the current and future needs for motor lifeboats operating in both nearshore and offshore environments.

Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable Lucille Roybal-Allard
Chairwoman, House Appropriations Subcommittee on Homeland Security

The Honorable Chuck Fleischmann
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable Christopher S. Murphy
Chair, Senate Appropriations Subcommittee on Homeland Security

The Honorable Shelley Moore Capito
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

I am happy to answer any further questions you may have, or your staff may contact my Senate Liaison Office at (202) 224-2913 or House Liaison Office at (202) 225-4775.

Sincerely,



Karl L. Schultz
Admiral, U. S. Coast Guard
Commandant





Motor Lifeboat Assessment

Table of Contents

| | | |
|-----|---|---|
| I. | Legislative Language | 1 |
| II. | Data Report | 2 |
| | Table 1 – Boat Characteristics | 2 |
| | Figure 1 – Coast Guard Stations from Boston, Massachusetts, to Eastport, Maine | 3 |
| | Figure 2 – Coast Guard Stations from Sandy Hook, New York, to Provincetown, Massachusetts | 3 |
| | Figure 3 – Boat Classes | 4 |
| | Table 2 – Northeast U.S. Coast Guard Stations..... | 5 |
| | Appendix: List of Abbreviations | 7 |

I. Legislative Language

This document responds to the direction set forth in Senate Report 116-125 accompanying the Fiscal Year (FY) 2020 Department of Homeland Security (DHS) Appropriations Act (P.L. 116-93).

Senate Report 116-125 states:

Motor Lifeboat Assessment.—Not later than one year after the date of enactment of this act, the Coast Guard shall complete and submit to the Committee a study on the placement and allocation of 47-foot motor lifeboats in the northeastern United States. At a minimum, the study shall examine the current and future needs for motor lifeboats operating in both nearshore and offshore environments. Additionally, the study shall analyze the necessity to have timely and responsive transit times to cases, given the operational capabilities and limitations of the platform.

II. Data Report

The Coast Guard has stations distributed along the Atlantic coast in the northeastern United States. Each of these stations is provided with boats that can respond to cases within the station's area of responsibility (AOR) and, when required, provide support to the adjacent station's AOR. The stations range from near the Canadian border in Eastport, Maine, to just south of the entrance to New York Harbor in Sandy Hook, New Jersey.

Three primary classes of boats are deployed at the stations and are used to respond to cases in the nearshore and offshore environment: the 47-foot Motor Lifeboat (47 MLB), the 45-foot Response Boat - Medium (45 RB-M), and the 42-foot Special-Purpose Craft – Nearshore Lifeboat (42 SPC-NLB). These boats are supplemented with smaller, outboard-powered boats to provide rapid response to inland and nearshore cases. The smaller boats also provide additional speed and agility for Ports, Waterways, and Coastal Security (PWCS) missions and can provide shallow water response. The most common class is the 29-foot Response Boat – Small (29 RB-S). The characteristics of the 47 MLB, 45 RB-M, 42 SPC-NLB, and 29 RB-S are shown in Table 1, with pictures of the boats provided in Figure 3.

Table 1 – Boat Characteristics

| | 47 MLB | 45 RB-M | 42 SPC-NLB | 29 RB-S |
|---|---------------|----------------|-------------------|----------------|
| Length (feet) | 47.9 | 45.0 | 42.8 | 31.6 |
| Beam (feet) | 15.0 | 14.8 | 13.8 | 8.4 |
| Top Speed (knots) | 25 | 40+ | 30 | 47 |
| Cruising Speed (knots) | 20 | 30 | 25 | 25 |
| Range @ Cruising Speed (nautical miles) | 200 | 250 | 250 | 175 |
| Maximum Winds (knots) | 50 | 50 | 50 | 25 |
| Maximum Seas (feet) | 30 | 12 | 20 | 6 |
| Maximum Surf (feet) | 20 | 0 | 15 | 0 |
| Towing Capacity (tons) | 150 | 100 | 100 | 10 |

Figures 1 and 2 show the distribution of the stations with the arcs representing how far the primary response boats at the stations can respond within 2 hours. The 47 MLB, represented by the red arcs, is based on transiting at 16 knots in 8-foot seas. The 45 RB-M, represented by the green arcs, is based on transiting at 20 knots in 6-foot seas. The blue arc, for the 42 SPC-NLB, is based on transiting at 15 knots in 6-foot seas. Overall, the figures show considerable overlap in coverage; please note that arcs were not drawn for stations if they did not extend the coverage area offshore. Additionally, the distribution of the 47 MLBs and 42 SPC-NLBs provides heavy weather (HWX) and surf coverage throughout the northeastern United States.

Figure 1 – Coast Guard Stations from Boston, Massachusetts, to Eastport, Maine

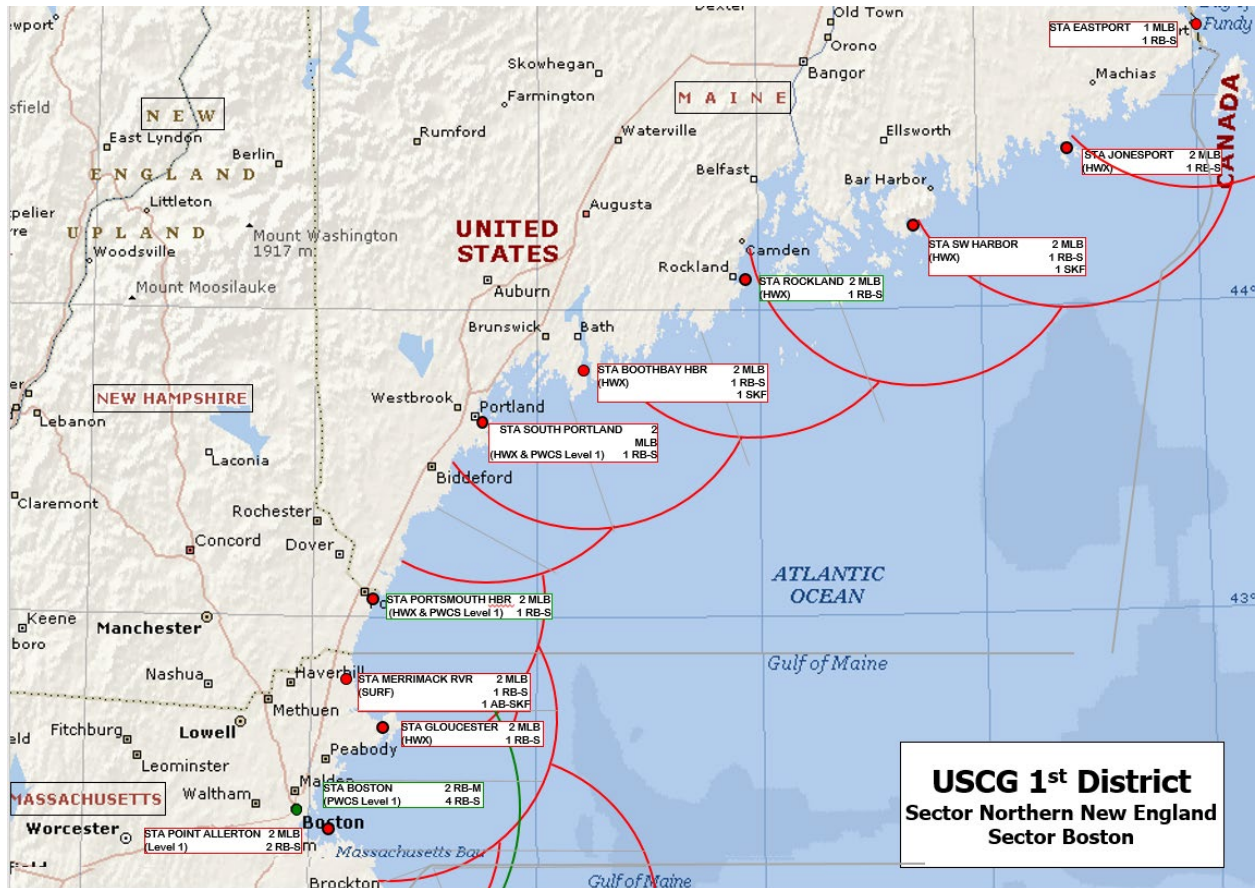


Figure 2 – Coast Guard Stations from Sandy Hook, New York, to Provincetown, Massachusetts



Figure 3 – Boat Classes



47-foot Motor Lifeboat (47 MLB)



45-foot Response Boat – Medium (RB-M)



42-foot Special-Purpose Craft – Nearshore Lifeboat
(SPC-NLB)



29-foot Response Boat – Small (RB-S)

The stations are classified to reflect special operational requirements for their AOR if such designation is assigned. A surf station is one where surf of at least 8 feet in height occurs at least 36 days per year averaged over a 5-year period in a federally maintained navigable bar or entrance that falls within the station's AOR. An HWX station is one that does not meet the criteria of a surf station but has an AOR with seas greater than 10 feet and/or winds that exceed 30 knots for at least 36 days per year averaged over a 5-year period.

The boats deployed to the units are matched, as much as possible, to the station's operational need. To reduce the logistics and training burdens and to minimize the potential for human error, the boat allocation calls for one class of the larger boats to be at a station. The surf and HWX units have at least two boats assigned so that they can have a backup safety boat when they conduct training in severe conditions. A listing of the stations in the northeastern United States, along with the stations' designations and boats assigned, is provided in Table 2.

Table 2 – Northeast U.S. Coast Guard Stations

| Unit Name | Specialty | City | State | 47 MLB | 45 RB-M | 42 SPC-NLB | 29 RB-S | OTHER |
|---------------------------|-------------|----------------------|-------|--------|---------|------------|---------|-------|
| Station Eastport | | Eastport | ME | 1 | -- | -- | 1 | -- |
| Station Jonesport | HWX | West Jonesport | ME | 2 | -- | -- | 1 | -- |
| Station Southwest Harbor | HWX | Southwest Harbor | ME | 2 | -- | -- | 1 | 1 |
| Station Rockland | HWX | Rockland | ME | 2 | -- | -- | 1 | -- |
| Station Boothbay Harbor | HWX | Boothbay Harbor | ME | 2 | -- | -- | 1 | 1 |
| Station South Portland | HWX & PWCS1 | S. Portland | ME | 2 | -- | -- | 1 | -- |
| Station Portsmouth Harbor | HWX & PWCS1 | New Castle | NH | 2 | -- | -- | 1 | -- |
| Station Merrimack River | SURF | Newburyport | MA | 2 | -- | -- | 1 | 1 |
| Station Gloucester | HWX | Gloucester | MA | 2 | -- | -- | 1 | -- |
| Station Boston | PWCS1 | Boston | MA | -- | 2 | -- | 4 | -- |
| Station Point Allerton | PWCS1 | Hull | MA | 2 | -- | -- | 2 | -- |
| Station Provincetown | HWX | Provincetown | MA | 2 | -- | -- | 1 | -- |
| Station Chatham | HWX | Chatham | MA | -- | -- | 3 | -- | 1 |
| Station Brant Point | HWX | Nantucket | MA | 2 | -- | -- | -- | 1 |
| Station Woods Hole | PWCS1 | Woods Hole | MA | -- | 2 | -- | 1 | -- |
| Station Menemsha | HWX | Chilmark | MA | 2 | -- | -- | -- | 1 |
| Station Cape Cod Canal | | Sandwich | MA | -- | 1 | -- | 1 | -- |
| Station Castle Hill | PWCS1 | Newport | RI | -- | 2 | -- | 2 | -- |
| Station Point Judith | PWCS1 | Point Judith | RI | -- | 2 | -- | 1 | -- |
| Station New London | PWCS1 | New London | CT | -- | 1 | -- | 2 | -- |
| Station New Haven | | New Haven | CT | -- | 2 | -- | 1 | -- |
| Station Montauk | HWX | Montauk | NY | 2 | -- | -- | 1 | -- |
| Station Shinnecock | | Hampton Bays | NY | 1 | -- | -- | 2 | -- |
| Station Fire Island | | Babylon | NY | -- | 1 | -- | 1 | -- |
| Station Jones Beach | | Freeport | NY | -- | 1 | -- | 1 | -- |
| Station Eatons Neck | | Northport | NY | -- | 1 | -- | 1 | -- |
| Station Kings Point | PWCS1 | Kings Point | NY | -- | -- | -- | 3 | -- |
| Station New York | PWCS1 | New York | NY | -- | 6 | -- | 3 | -- |
| Station Sandy Hook | HWX & PWCS1 | Sandy Hook | NJ | 2 | -- | -- | 2 | -- |
| Station Manasquan Inlet | HWX | Point Pleasant Beach | NJ | 2 | -- | -- | 2 | -- |

Note: Stations without a specialty designation conduct standard operations, to include search and rescue and law enforcement, but are not resourced for HWX, surf, or PWCS activities because their AOR does not warrant such designation.

The Coast Guard's Office of Boat Forces works closely with the Coast Guard's operational commanders at the area, district, and sector levels to monitor the conditions at the units and to adjust unit designations and assets as situations change.

Of the three primary classes of boats at the stations, the 47 MLB is the most capable with regard to extreme sea conditions, with the ability to operate in up to 20-foot surf and 30-foot open ocean wave conditions combined with up to 50 knots of wind. The production model 47 MLBs were delivered first in 1997, and the Coast Guard has 117 boats in inventory. Of those, 107 are in active use.

After careful consideration, the Coast Guard decided to perform a service life extension program (SLEP) on the 47 MLBs to add an additional 20 years to their service life. The primary focus of the SLEP is to replace the obsolete propulsion engines, which are increasingly difficult to maintain and repair; however, several other items will be replaced during the SLEP, ranging from structural components to seats and navigational electronics.

The Coast Guard established a DHS Level 1 acquisition program, and in August 2019, a contract was awarded to Birdon America, Inc. for the SLEP of up to 107 boats. During the last year, the detailed design effort was conducted and the SLEP work on the first boat has been completed at Birdon America's facility in Bellingham, Washington. This boat was delivered to the National Motor Lifeboat School for extensive testing during the FY 2021 winter surf season. Assuming that testing is successful and that funding is available, the Coast Guard then will move forward with the program with the intent to complete the SLEP on all 107 boats by FY 2027. The 47 MLBs in the Pacific Northwest see the most severe service because of the prevalent sea conditions, which is why production began on the West Coast. However, Birdon America will open a second production facility on the East Coast to conduct the SLEP on the East Coast 47 MLBs, thereby minimizing transportation expenses.

The 45 RB-M is not as capable in severe sea conditions as the 47 MLB; however, it is also self-righting and was designed for operations in up to 12-foot seas and 50-knot winds. With a 40-plus knot top speed, the 45 RB-M is considerably faster than the 47 MLB, which goes 25 knots only, and with twin waterjet propulsion, the 45 RB-M has a shallower draft and enhanced maneuverability. With these attributes, the 45 RB-M has proven to be a very capable multimission asset, particularly for PWCS missions. There were 174 RB-Ms delivered between 2008 and 2015.

There are only three 42 SPC-NLBs, and they were procured specifically for the challenging conditions at Station Chatham, Massachusetts, where the shallow water harbor entrances prevent the 47 MLBs from operating. The boats were delivered between 2008 and 2011 and recently have become difficult to support because of engine obsolescence issues. The Coast Guard is studying whether to replace these boats or to renovate them with a newer propulsion system, such as that being installed during the 47 MLB SLEP.

Appendix: List of Abbreviations

| Abbreviations | Definition |
|---------------|--|
| AB-SKF | Aids to Navigation Boat – Skiff |
| AOR | Area of Responsibility |
| DHS | Department of Homeland Security |
| FY | Fiscal Year |
| HWX | Heavy Weather |
| MLB | Motor Lifeboat |
| PWCS | Ports, Waterways, and Security |
| RB-M | Response Boat - Medium |
| RB-S | Response Boat – Small |
| SKF | Skiff |
| SLEP | Service Life Extension Program |
| SPC-NLB | Special Purpose Craft – Nearshore Lifeboat |
| SPC-SW | Special Purpose Craft – Shallow Water |
| STA | Station |