

Study Results  
Port Access Route Study  
The Race to Cleveland Ledge Channel including Narragansett Bay  
2003 - 2004

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## 1. Background and Purpose

### a. Summary

The Coast Guard conducted a Port Access Route Study (PARS) to evaluate the continued applicability of and the need for modifications to current vessel routing measures in the waters from the Race to Cleveland Ledge Channel including Narragansett Bay. The goal of the study is to help reduce the risk of marine casualties and increase vessel traffic management efficiency in the study area.

### b. History

The Approaches to Narragansett Bay, RI and Buzzards Bay, MA were last studied in 1979, and the final results were published on January 7, 1982 (47 FR 879). The study concluded “a need to make two minor modifications to the existing TSS in the Approaches to Narragansett Bay, RI and Buzzards Bay, MA”.

### c. Statutory Requirements

The 1978 amendment to the Ports and Waterways Safety Act (PWSA) 33 U.S.C. 1223(c), requires that a PARS be conducted prior to establishing or adjusting a traffic separation scheme (TSS). The Coast Guard initiated this PARS to determine if there is a need to adjust the TSS in the study area to make optimum use of the available depths of water.

A TSS is an internationally recognized measure that minimizes the risk of collision by separating vessels into opposing streams of traffic through establishment of traffic lanes. Vessel use of a TSS is voluntary; however, vessels operating in or near an International Maritime Organization (IMO) approved TSS are subject to Rule 10 of the International Regulations for the Prevention of Collisions at Sea, 1972 (72 COLREGS). The elements of a TSS may include a two-way route, a recommended track, an area to be avoided, an inshore traffic separation zone, a roundabout, a precautionary area, and/or a deep-water route.

A two-way route is a route within defined limits inside which two-way traffic is established, aimed at providing safe passage of ships through waters where navigation is difficult or dangerous.

A recommended track is a route which has been specifically examined to ensure so far as possible that it is free of dangers and along which ships are advised to navigate.

An area to be avoided is a routing measure comprising an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which all ships, or certain classes of ships should avoid.

An inshore traffic separation zone comprises a designated area between the landward boundary of a TSS and the adjacent coast and is used in accordance with Rule 10(d) of the 72 COLREGS.

A roundabout is a routing measure comprising a separation point or circular separation zone and a circular separation zone and a circular traffic lane within defined limits. Moving in a counterclockwise direction around the separation point or zone separates traffic within the roundabout.

A precautionary area is a defined area where ships must navigate with particular caution and within which the direction of traffic flow may be recommended.

A deep-water route is a route within defined limits, which has been accurately surveyed for clearance of sea bottom, and submerged obstacles as indicated on nautical charts.

The International Maritime Organization has many guidelines for establishing a TSS. Traffic lanes should be designed to make optimum use of available depths of water and the safe navigable areas, taking into account the maximum depth of water attainable along the length of the route. Where there is sufficient space, separation zones should be used in preference to separation lines to separate opposing streams of traffic. The minimum widths of the traffic lanes and of traffic separation zones should be related to the accuracy of the available position-fixing methods, and where space allows the use of traffic separation zones, the width of the zone should, if possible, be not less than three times the transverse component of the standard error (measured across the separation zone) of the most appropriate position-fixing methods.

The Notice of Study was published on December 23, 2003 (68 FR 246). The purpose of conducting the study was to solicit comments and opinions from shipping and other maritime interests concerning the following:

- Maintain the current vessel routing measures;
- Modify the existing TSS in the Approaches to Narragansett Bay and Buzzards Bay;
- Designate a Recommended Track encompassing the routes typically used by merchant and naval vessels transiting the study area;
- Create additional Precautionary Area(s);

- Create an Inshore Traffic Zone(s) near either or both approaches;
- Establish an area to be avoided (ATBA) in shallow areas where the risk of grounding is present;
- Establishment, relocation or removal of existing Aids to Navigation;
- Establish, disestablish, or modify anchorage grounds; and
- Establish a Regulated Navigation Area (RNA) with specific vessel operating requirements to ensure safe navigation near shallow water.

d. *Study Area*

The study area will encompass the approaches to Narragansett and Buzzards Bay, Cleveland Ledge to The Race, Narragansett Bay East Passage, the area offshore of Connecticut, Rhode Island and Massachusetts, which are used by commercial and public vessels transiting to and from Long Island Sound and the Cape Cod Canal.

**2. Elements Considered**

a. *Vessel Traffic Density*

Vessel size, traffic density, channel depth and width have changed since the 1979 study. The U.S. Army Corps of Engineers’ report entitled “Waterborne Commerce of the United States” states that from 1997 to 2001 annual trips through the Cape Cod Canal decreased by 38% from 1,635 to 1,007; the number of trips to and from the Port of Providence, RI, decreased by 36% from 1,449 to 930; the number of trips to and from the Port of Fall River, MA, decreased by 18% from 380 to 313 and the number of trips to and from the Port of New Bedford/Fairhaven, MA decreased by 16% from 2665 to 2242.

*See Waterborne Commerce of the United States data.*

b. *Port Descriptions*

*See Coast Pilots.*

c. *Port Improvements*

The Approaches to Narragansett Bay, RI and Buzzards Bay, MA were last studied in 1979, and the final results were published on January 7, 1982 (47 FR 879). The study concluded “a need to make two minor modifications to the existing TSS in the Approaches to Narragansett Bay, RI and Buzzards Bay, MA”.

Since the last PARS was conducted many improvements have been made to the ports of Providence, RI, New Bedford, MA, Fairhaven, MA and the Cape Cod Canal, indirectly or directly affecting the amount of traffic and types of vessels serving these ports.

Improvements include: Maintenance dredging which is currently underway in the Providence River and port of Providence, RI where shoaling has reduced the depths in the channel by as much as 10 to 12 feet in places. Dredging the navigation channel to 40 feet and 600 feet wide will restore the channel to the full, congressionally authorized project dimensions. Since 1944 the Army Corps of Engineers Federal Navigation Project for the Cape Cod Canal has maintained a depth of 32 feet

#### *Economic Impacts*

The Coast Guard does not anticipate any adverse economic impacts as a result of any changes made to this study area.

#### *d. Vessel Safety*

The safety and security of the United States is a top priority for the nation. As the awareness of threats to this country increases, the plans for preparedness for and prevention of emergency situations have evolved to address any threats against America's shorelines. Since every scenario cannot be perfectly planned for, it's important to provide flexibility for alternatives. As an example, if an inbound vessel is not granted permission to enter the Cape Cod Channel for any reason, it is important for the vessel to have a designated place to maintain station or anchor else the vessel may introduce an increased navigational threat to vessels conducting their normal business near the approaches to Cleveland Ledge Channel. In a designated anchorage area, the position and status of a vessel may be monitored and easily accessed by security or inspection personnel.

Within the study area exists areas that could support anchoring any of the largest vessels that transit the Canal. Designated as anchorage areas, these areas could provide a temporary place for vessels to be directed while the appropriate authorities determine their situation under the authority of the Magnuson Act.

#### *e. Regulatory Action*

Since the start of this study, new regulations were proposed. A Notice of Proposed Rulemaking for **110.140 Buzzards Bay, Nantucket Sound, and adjacent waters, Mass.**, has been drafted to relocate anchorage area "L".

### **3. Environmental Considerations**

The Coast Guard does not anticipate any adverse impacts on the environment as a result of any changes made to this study area. Any rulemaking that results from this study

will meet all National Environmental Policy Act requirements. The results of this study identify methods of decreasing risk to the environment.

#### 4. Public Comments

*See Ports and Waterways Safety Assessment Workshop Report (PAWSA) for Buzzards Bay 9-10 September 2003.*

#### 5. Analysis of Study Area

A Recommended Track for Deep Draft vessels will be In March, 2004, a Voluntary Vessel Route was established from The Race through Buzzards Bay to the entrance of Cleveland Ledge and including Narragansett Bay. This Voluntary Vessel Route is intended to improve navigation safety by de-conflicting commercial and recreational traffic, and to provide safe navigation routes for tugs and barges, and other commercial traffic, transiting the area.

Cleveland Ledge Light will remain an active Aid to Navigation. The light has proved itself invaluable as a visual reference for inbound/outbound/maneuvering vessel traffic and as a platform for meteorological data gathering.

A request was made by the Northeast Pilots to relocate specific buoyage within Buzzards Bay. The following configuration was considered in the study and will be implemented on or about 17 April 2004:

<b>Relocate</b>	Buzzards Bay Lighted Gong Buoy 3 (LLNR 16010) to PA 41-27-15N, 071-00-34W.
<b>Relocate</b>	Buzzards Bay Lighted Bell Buoy 6 (LLNR 16035) to PA 41-28-04N, 070-56-41W.
<b>Relocate</b>	Buzzards Bay Mid-Channel Lighted Bell Buoy BB (LLNR 16055) to PA 41-30-33N, 070-49-54W.
<b>Add</b>	Buzzards Bay Lighted Bell Buoy 9 (LLNR 16058), Fl G 4s, in PA 41-32-52N, 070-46-27W, Replaced by LIB when endangered by ice.
<b>Relocate</b>	Buzzards Bay Lighted Gong Buoy 10 (LLNR 16060) to PA 41-34-37N, 070-43-15W.
<b>Relocate</b>	Cleveland Ledge Channel Lighted Buoy 3 (LLNR 16100) to PA 41-37-19N, 070-42-10W, Replaced by LIB when endangered by ice.

Chart(s): 13218, 13230 LNM 11/04 (CGD1).

Anchorage area "L" will be relocated to a location near Nashon Island that could be used to temporarily anchor ships unable or not approved to enter the Cape Cod Canal. This anchorage should make the best use of naturally deep water so as to be suitable for deep draft vessels and where it will not interfere with vessel operations through the Recommended Track for Deep Draft Vessels.

#### 1. Conclusions and Recommendations

The Notice of Proposed Rulemaking to amend the regulations for Buzzards Bay, Nantucket Sound, and adjacent waters of Massachusetts should be modified as follows:

Anchorage “L” would be that area of Buzzards Bay, MA enclosed by a rhumb line connecting the following points:

<i>Latitude</i>	<i>Longitude</i>
41° 30' 11"N	070° 48' 10"W; thence to
41° 30' 46 "N	070° 48' 45"W; thence to
41° 32' 24"N	070° 45' 50"W; thence to
41° 31' 48"N	070° 45' 15"W; returning to start

All proposed coordinates are North American Datum 1983. This proposal will significantly enhance safety of navigation and efficiency for deep draft vessels transiting Buzzards Bay