

ROUTEING OF SHIPS, SHIP REPORTING, AND RELATED MATTERS

Area to be Avoided “In the Great South Channel”

Submitted by the United States

SUMMARY

Executive summary: This document sets forth a proposal to establish a recommendatory, seasonal area to be avoided “In the Great South Channel” off the east coast of the United States for consideration and approval, and forwarding to the Maritime Safety Committee for adoption. The objective of this proposal is to significantly reduce the likelihood of ship strike deaths and serious injuries to North Atlantic right whales during the time when a large percentage of right whales are in the Great South Channel and are engaged in activities that make them particularly susceptible to ship strikes.

Strategic Direction: 5.2

High-level Action: 5.2.4

Planned Output: 5.2.4.1

Action to be taken: Paragraph 21.

Related documents: General Provisions on Ships’ Routeing, Eighth Edition, Regulation 10 of Chapter V of the International Convention on the Safety of Life at Sea, MSC 83/28, MSC 82/24, MSC 76/23, MSC 70(23), MSC 69/Inf. 21, MEPC 56/Inf.10, MEPC 55/22, MEPC 40/Inf. 9, NAV 54/3/xx (Note to IMO Secretariat: TSS proposal), NAV 53/3/13, NAV 52/18, NAV 52/3/3, NAV 48/3/5, NAV 47/Inf. 2, NAV 44/3/1.

Introduction

1 The United States proposes to establish a recommendatory, seasonal area to be avoided (ATBA) “In the Great South Channel” for ships 300 gross tons and above as set forth in annex 1. A chartlet of the area is attached to annex 1¹. This proposal is related to the U.S. proposal to amend the Boston Traffic Separation Scheme (TSS), NAV 54/3/x, because the western boundary of the ATBA is directly adjacent to the Traffic Separation Scheme.

¹ The chartlet and Annexes 2 and 3 include the proposed change to the Boston Traffic Separation Scheme set forth in NAV 54/3/XX.

2 The primary area proposed for the establishment of the ATBA is one of the most important feeding habitats for right whales within the species' range and has thus been designated by the United States as "critical habitat" under domestic law necessary for the survival and recovery of the highly endangered North Atlantic right whale. Extensive data show the need for establishing this ATBA (annex 2). The United States proposes that it have a seasonally limited effective period for four months each year (April 1st – July 31st) when a large percentage of the right whale population is in the area. The configuration and limited seasonal duration will minimize the impact on the shipping industry. Maritime safety considerations have also been taken into account in determining the boundaries of the proposed ATBA.

3 Right whales have long been the subject of international protection. The species is listed internationally as endangered on Annex I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora and in the International Union for the Conservation of Nature's Red Book. Additionally, a group of international scientists, convened by the International Whaling Commission (IWC) to evaluate the global status of all right whale species, has recognized the urgent need for protective measures to prevent the demise of this species in the North Atlantic. Moreover, most recently, the report of the Ship Strikes Working Group of the IWC's Conservation Committee was submitted to the October 2006 meeting of the Marine Environment Protection Committee (MEPC)(MEPC 55/22). The MEPC agreed with the IWC's Working Group that the International Maritime Organization is the competent body to address ship strikes of cetaceans and invited delegations to submit proposals to relevant Committees and Sub-committees for consideration. This proposal is in accordance with that invitation.

Background

4 The North Atlantic right whale is one of the world's most endangered large whale species and is in serious jeopardy of extinction. Ship collisions are the greatest known source of human-induced mortality of this whale; such collisions are a major contributing cause to the decline of the right whale and a significant obstacle to the species' recovery. The right whale population is estimated to consist of less than 350 individuals² and has either declined in size or remained static since the 1980s.

5 Right whales are especially vulnerable to ship strikes due to their distribution, behavior, and physical attributes. Right whales have a largely coastal, continental shelf distribution, thereby bringing them into contact with human population centers and major shipping lanes. They are highly buoyant and spend long periods resting at or just below the water's surface. Right whales may occur in surface active groups (*i.e.*, four to twenty individuals engaging in frequent physical contact and courtship behavior), and engage in skim feeding, in which they gather plankton by swimming slowly near the surface with their mouths open. During resting, feeding and surface active situations, whales may be unaware of approaching ships. Mothers nursing calves are frequently observed at the surface, and calves have limited diving capacities so they are the most vulnerable to ship strikes. Right whales are slow-moving, with occasional speeds of up to only five to six knots. They are also difficult for mariners to see, especially in rough seas and at night, due to their low profile and dark coloration. They are black in color, have a broad back, and no dorsal fin.

² Waring GT, Josephson E, Fairfield CP, Maze-Foley K, editors. 2007. See www.nmfs.noaa.gov/pr/pdfs/sars/ao2006_whnr-w.pdf. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments (2006); NOAA Tech Memo NMFS NE 201, 378 See www.nmfs.noaa.gov/pr/sars/species.htm.

6 The Great South Channel off the U.S. east coast is one of the most important habitats for right whales within the species' range, including mothers and nursing calves. More than a third of the world's population of these whales aggregate there from April through July each year to feed on dense patches of their preferred prey, copepods, which are concentrated in this area because of sea floor bathymetry, water convergences driven by coastal and tidal currents, and other oceanographic features. Some individually identified right whales observed in the Great South Channel are seen rarely or not at all in other areas such as the Bay of Fundy, emphasizing the importance of the Great South Channel to the population. Annex 2 provides a map of right whale sighting densities from 1999-2005. In the Great South Channel, the distribution and movements of the whales coincide with substantial commercial ship traffic, leading to a serious risk of collision. This risk is likely exacerbated by right whales engaging in feeding and courtship behavior in this area, because these activities appear to render right whales less aware of sources of impending danger, such as approaching ships. Given the critical importance of this area to right whales and the high percentage of the population that occur there during the four month period from April through July, it is imperative that action be taken to reduce the threat of ship strikes.

7 The risk of ship strikes of right whales has been well demonstrated. Massive wounds (*e.g.*, fractured skulls, severed tails) found on right whale carcasses suggest that collisions with large ships were responsible for the deaths. Two right whales, on average, are known to be killed or seriously injured each year as a result of collisions with ships. During a 15 month period from February 2004 to April 2005, at least four adult females—three of which were carrying near term fetuses—were killed by ship strikes. The loss of these reproductive females is significant, particularly because two of them were at the beginning of their calf-bearing years. Necropsies performed on right whales have shown that over 50% of deaths can be attributed to ship strikes; however, the actual number of deaths from ship strikes may even be higher because many deaths likely go unrecorded as carcasses drift out to sea or the cause of death is undetermined.

8 The proposed ATBA "In the Great South Channel" is an integral part of the United States' approach to reducing the risk of ship strikes. The United States has held a significant number of consultations, public hearings, workshops, and industry and stakeholder meetings on this issue with representatives of the shipping industry, master mariners, harbor pilots, environmental interests, marine mammal researchers, and representatives of national and local governments. These stakeholders' concerns were carefully considered and taken into account in the development of this ATBA proposal, including the impact on industry and the protection of right whales. The United States Coast Guard also conducted a Port Access Route Study in which various options for routing measures were considered as well as the impact on maritime safety of this proposed measure. Additionally, by using information gained from the U.S. Northeast Mandatory Ship Reporting System (MSR),³ it was possible to take into account the burden on, and practical navigation aspects for, the shipping industry.

³ In 1998, the Maritime Safety Committee approved the establishment of two Mandatory Ship Reporting systems off the U.S. east coast, one in the northeast United States (off the coast of Boston and Cape Cod) and one in the southeast United States (off the coasts of Georgia and Florida). Ships of 300 gross tons and above are required to participate in these systems when they cross into the reporting system and report such things as course, speed, entry into system, destination, and route. In response to a ship's report, the shore-based authority sends information to assist mariners navigating through the area, such as the latest known location of the whales and other guidance on ways to avoid a ship strike. GPSR, Part G, I/13-1.

Traffic considerations

9 The Great South Channel is the passage between the easternmost point of the Nantucket Shoals and the westernmost shoals of Georges Bank. The channel is approximately 27 miles wide and has depths of 19 fathoms and greater throughout, with lesser depths along the eastern and western edges. The bottom topography and related features in the area contribute to the presence of the right whales' preferred prey, copepods.

10 Container ships, bulk carriers, passenger ships, cargo ships, and tankers pass in and around the area of the proposed ATBA. Although the exact number of ships that actually transit the area is difficult to determine,⁴ extrapolation from the data obtained from the MSR provides an estimate that around 200 vessels of 300 gross tons and above transit through the proposed ATBA each year during the four month period from April 1st - July 31st. Vessels bound for the port of Boston to and from points to the east, follow the Great Circle route to and from Europe and transit just north of Georges Bank to enter the Boston TSS well north of the proposed ATBA. Using data from the MSR for the period of April-July 1999-2005, it is estimated that there were approximately 1,400 voyages that passed through the proposed area during the four month season over this seven year period. The routes that will be affected by the proposed ATBA can be divided into three major categories:

- a. Vessels that enter or leave points south of Cape Cod appear to follow the Ambrose-Nantucket TSS and then steer a northeasterly course into or out of the associated precautionary area to Europe. These vessels may transit from the southwest to the northeast, cutting across a small portion of the southeastern portion of the proposed area (526 vessel voyages or, if averaged over the 7 year period of the available data, approximately 75 voyages per season). See Annex 3, the area between points A and B;
- b. Vessels coming from Cape Hatteras, Chesapeake Bay, Delaware Bay, or New York usually pass Nantucket Shoals Lighted Whistle Buoy N, and then go though the Great South Channel to Cape Cod or the Gulf of Maine. Some of these vessels transit just east of the Boston TSS (171 vessel voyages or approximately 24 voyages per season) while others use the Boston TSS (335 inbound voyages or approximately 48 inbound voyages per season). These numbers are based on an assumption that only those vessels inbound to Boston from the south through the TSS are reporting and, since the MSR does not require that vessels report in twice, these vessels would not report in on their outbound voyage. Therefore, based on this assumption, the number of actual voyages through the TSS over the seven year period may be double that reported into the MSR or 670 voyages or 96 voyages per season). See Annex 3, the area between points C and D; and
- c. Some vessels proceed from east to west or vice versa across the proposed area (21-28 vessel voyages or approximately 3-4 voyages per season). See Annex 3.

⁴ These difficulties include that some of the reports from ships are duplicative, some ships are simply in transit while others transit the reporting area both inbound and outbound, and, while compliance is increasing each year, it can be expected that some ships do not comply with the MSR. In developing this proposal, the United States attempted to take into account these difficulties by providing a higher estimate of the number of ships that might be impacted by the proposed ATBA.

11 There are adequate surveys and charts of the area and, with modern navigation equipment, mariners are able to determine their positions in relation to the proposed area to be avoided. There are appropriate aids to navigation in place and there is also complete differential GPS coverage and LORAN-C coverage. With respect to environmental conditions during the time of applicability for the proposed ATBA, the weather is highly variable, fluctuating from fair to cloudy to stormy. During April and May, low-pressure systems pass fairly regularly and produce precipitation on an average of one day in three. Much of the rainfall in June and July comes from showers and thunderstorms. The heaviest gales are usually from the northeast or east. The predominant wind direction is west through northwest. Fog is prevalent throughout the year, particularly so in the months of April through July.

Proposal

12 The United States proposes to establish a recommendatory, seasonal ATBA for ships of 300 gross tons and above for the four month period from April 1st– July 31st to significantly reduce the risk of ship strikes of right whales in the Great South Channel. As noted above, this area is of vital importance to right whales, and the whales engage in behavior in this area that makes them particularly susceptible to ship strikes. Right whales face their highest risk of ship strikes in this area during this four month period because of the significant seasonal whale aggregations that occur and their close proximity to ship traffic. Moreover, it is important to note that there are right whales in this area that are rarely, if ever, seen elsewhere. This was one of the bases for establishing right whale critical habitat in this area under U.S. domestic law.

13 The United States has carefully considered the impact on ship traffic that would result from the proposed ATBA. First, the time that the ATBA would be operational has been constrained to address an industry concern that the measure should be limited to that which is strictly necessary to accomplish the biological objectives of protecting the remaining right whales while minimizing the adverse impact on shipping.

14 Second, the ATBA has been configured to minimize adverse impacts on shipping and to take into account maritime safety considerations. For instance, the eastern boundary of the proposed ATBA aligns with part of the MSR boundary. The United States deviated from the right whale critical habitat boundary in this area to avoid mariner use of dangerous waters of the Cultivator Shoals. Additionally, the southern boundary of the proposed ATBA also deviates from the critical habitat boundary to provide an additional margin of protection to the greatest density of right whales and to safeguard maritime safety by aligning the ATBA boundary so that ships will enter the precautionary area at the seaward terminus of the traffic separation scheme.

15 Third, the ship tracks through the proposed ATBA have been carefully examined. The proposed ATBA affects the three major routes differently:

- a. Ships cutting across the proposed area in a southwest to northeasterly direction would have to adjust their bearing to avoid this area for the applicable four month period. The boundary is configured to accommodate ships on this bearing and to reduce the adverse impact on this traffic. The increase in distance is estimated to be approximately 7 nautical miles;
- b. For ships navigating to the east of the Boston TSS, they would presumably not join the TSS until approximately a point south of the major turn in the TSS, where they

would then continue their journey north or south. Since there are clear navigational and operational rules applicable for ships operating in the TSS, maritime safety would be safeguarded and possibly improved for these ships. Additionally, it is estimated that only approximately 24 vessels per season would be moved from navigating in the proposed ATBA to navigating in the TSS. It is not expected that this slight increase in the number of ships per year would adversely affect maritime safety. The increase in distance is estimated to be approximately 14 nautical miles; and

- c. The relatively small number of ships that travel from east to west or vice versa (e.g., 3-4 voyages per season) would be impacted the most by the proposed ATBA. The increase in distance is estimated to be approximately 55 nautical miles.

16 Maritime safety considerations have been carefully taken into account in the development of this proposal, in particular through a Port Access Route Study conducted by the U.S. Coast Guard which considered various alternatives and scenarios. Maritime safety should be enhanced because of a decrease in the potential for any damage to a ship from hitting these large whales. Also, if there is a decrease in ship encounters with whales, there will be a decreased risk of collisions between a ship taking avoidance action and another vessel.

Additional Actions

17 In recognition of the significance of this area to right whales, the United States has taken several measures under domestic law to protect this endangered species. In 1994, the United States designated the area as “critical habitat” for right whales. Under U.S. law, critical habitat is a geographically defined area that is designated because it has physical and biological features essential to the survival and recovery of threatened or, as in the case of the right whale, endangered species. In designated critical habitat, special management considerations apply and special protections can be adopted. In the Great South Channel Right Whale Critical Habitat, the United States has adopted several restrictions to protect right whales, including measures applicable to U.S. fishermen. Examples include: closing the area to gillnet fishing during the spring to reduce the potential for entanglement in gillnet gear; in other times and places there are required gear modifications such as breakaway buoys, weak vertical lines, or sinking lines designed to allow whales to break through encountered gear or reduce the severity of an entanglement; and periodic workshops are conducted to increase awareness of fishing practices and gear technology that reduce entanglements of right whales.

18 The United States has also taken a number of steps internationally to identify and implement measures to reduce ship strikes of right whales. Importantly, the United States sought—and achieved—approval by this Sub-committee of its proposals to amend the Boston TSS to significantly reduce ship strikes of right and other large whales (COLREG.2/Circ. 58) and to establish two mandatory ship reporting systems which educate mariners about the threat of ship strikes and provide them with the last known location of right whales (GPSR, Part G, I/13-1).

19 Other steps that the United States has taken include the examination and identification of relevant information and management options. These options have formed the basis for the development of the U.S. Right Whale Ship Strike Reduction program, which addresses such issues as research and development of technologies to reduce the risk of ship strikes, a merchant mariner education and outreach program, and targeted operational measures. Guidelines for measures that mariners may take to avoid right whales are now published in various navigational aids such as U.S.

Coast Pilots, Notices to Mariners, Sailing Directions, and Admiralty Publications and broadcast over VHF radio by NOAA weather radio and U.S. Coast Guard facilities. Information brochures, placards, and computer CDs are also being distributed to mariners. Additionally, a combination of aerial and vessel surveys are conducted seasonally to attempt to locate right whales and this information is provided via various telecommunication networks to mariners operating in the vicinity of whales. While these surveys cannot result in a comprehensive picture of whale locations due to whale movement and weather limitations, they are the best means currently available for detecting the location of right whales and thus provide valuable information to mariners.

20 In addition to the actions taken by the United States, Canada—as the other State where the North Atlantic right whale occurs—has taken extensive measures to protect right whales, in particular from ship strikes. It sought—and achieved—approval by this Sub-committee and adoption by the Maritime Safety Committee of its proposal to amend the Bay of Fundy Traffic Separation Scheme (COLREG.2/Circ.52) and the establishment of a recommended, seasonal area to be avoided in Roseway Basin to reduce the risk of ship strikes (SN.1/Circ. 263).

Action requested of the Sub-Committee

21 The Sub-Committee is asked to approve this proposal for the establishment of a recommendatory, seasonal area to be avoided “In the Great South Channel” as set forth in the annex and forward the proposal to the Maritime Safety Committee for adoption. The United States also requests that the effective date of implementation be six months after adoption.

ANNEX 1

IN THE GREAT SOUTH CHANNEL

(Reference charts: United States 13009, 2007 edition; 13200, 2007 edition. *Note:* These charts are based on North American 1983 Datum which is equivalent to WGS 1984 datum.)

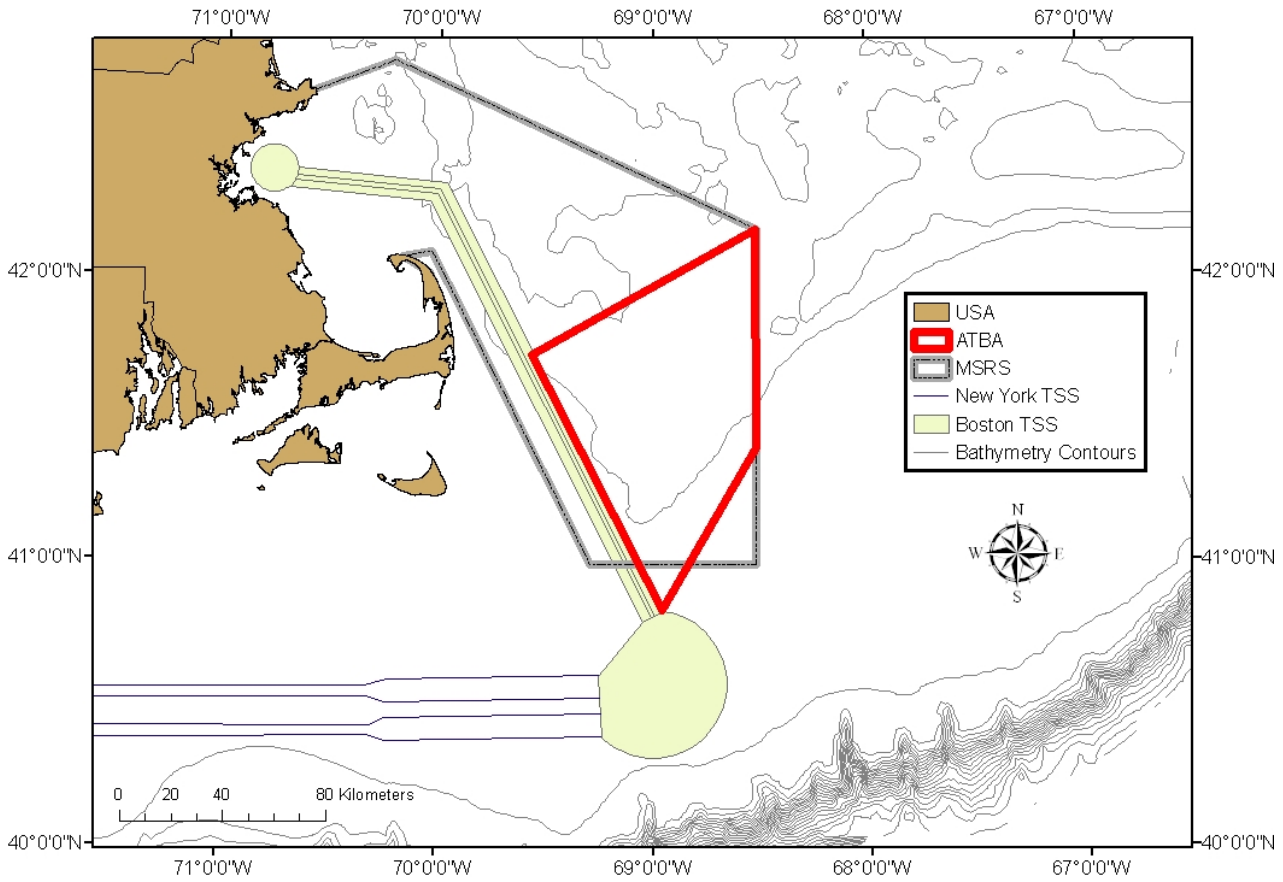
Description of the Area to be Avoided

In order to significantly reduce ship strikes of the highly endangered North Atlantic right whale, ships of 300 gross tons and above—during the period of April 1st through July 31st—should avoid the area bounded by lines connecting the following geographical positions:

- (1) 41° 44'.08 N - 069° 34'.97 W
- (2) 42° 10'.00 N - 068° 31'.00 W
- (3) 41° 24'.89 N - 068° 31'.00 W
- (4) 40° 50'.47 N - 068° 58'.67 W

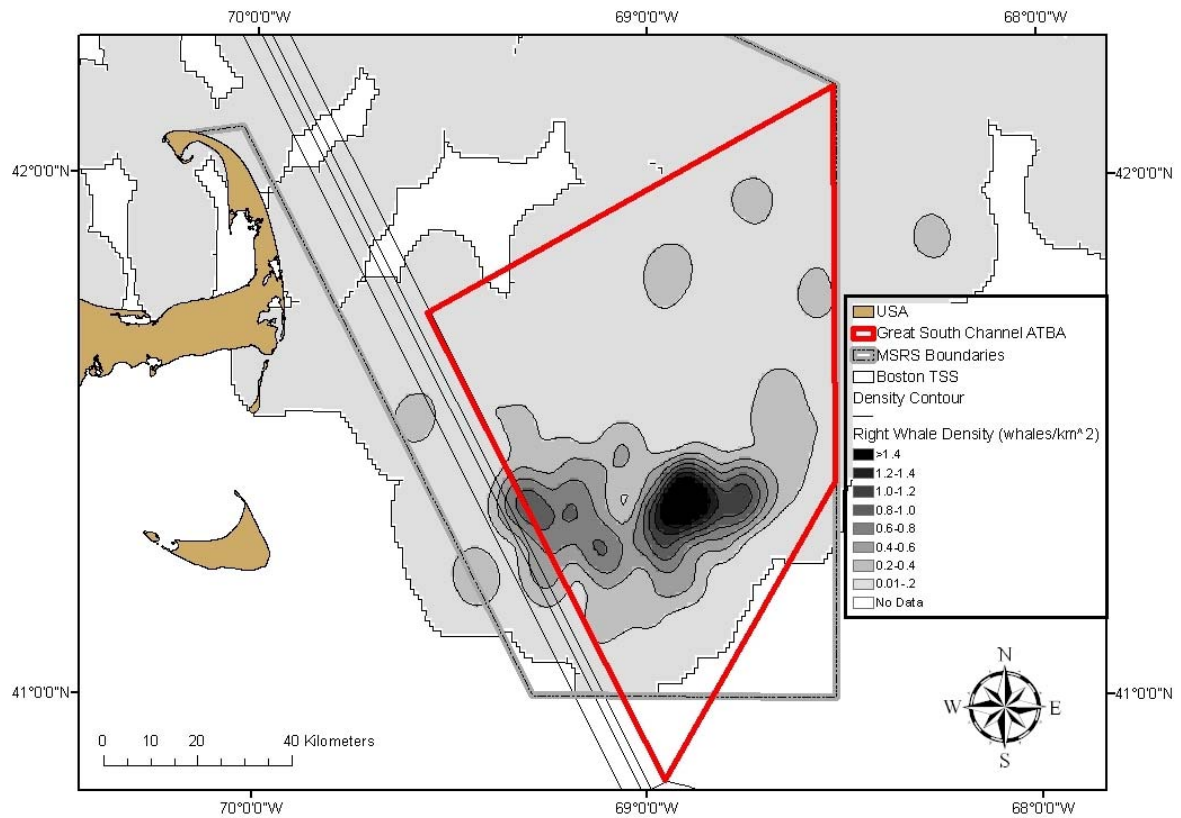
Annex 1

Chartlet



ANNEX 2

Northern right whale sighting densities (whales/km²) in the Great South Channel during April-July, 1999-2005.



ANNEX 3

Mandatory ship reporting system boundaries and densities of ship track (km of ship track/km²) through the proposed ATBA and existing TSS for April-July, 1999-2005.

