WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

Nautical Miles
Yards

NOTE B
Regulations for ocean dumping sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices.

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilots 3 and 4 for important supplemental information.

HYDROGRAPHY
The most recent basic hydrographic survey used in the compilation of hydrography in the general area of Nautilus Shoal was accomplished by the NOAA Ship Pierce, commanded by Commander Carl W. Fisher in 1977.

Formerly C&GS 1233, 1st. Ed., Mar. 1913 G-1952-784

NOTE X
TERRITORIAL SEA AND CONTIGUOUS ZONE
The lines delimiting the territorial sea and contiguous zone represent an interdepartmental committee's interpretation of the best available technical information. The lines are subject to revision when required by correction of the geographic information shown or by reinterpretation of the legal principles involved. Where differences occur between adjacent or overlapping charts, the lines shown on the most recent chart issue take precedence.

RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

SOUNDINGS IN FEET

Nautical Chart Catalog No. 1, Panels D,E

(CONTINUED ON CHART 12238) (CONTINUED ON CHART 12221) (CONTINUED ON CHART 12221) (JOINS CHART 12225) (JOINS CHART 12210) (JOINS CHART 12207)

76° 25' 20' 15' 10' 05' 76° 55' 50' 45' 40' 75° 35'
37° 30' 15' 10' 05' 37° 20' 15' 10' 05' 36° 55' 50'

Inner neatline 80.95cm. N.S. x 107.44cm. E.W.)

LORAN-C GENERAL EXPLANATION

LORAN-C FREQUENCY 100kHz
PULSE REPETITION INTERVAL
9960 ..... 99,600 Microseconds
STATION TYPE DESIGNATORS: (Not individual station letter designators)
M .....Master
W .....Secondary
X .....Secondary
Y .....Secondary
Z .....Secondary
EXAMPLE: 9960-X

RATES ON THIS CHART
9960-W 9960-X 9960-Y 9960-Z

The Loran-C lines of position overprinted on this chart have been prepared for use with ground wave signals and are presently compensated only for theoretical propagation delays which have not yet been verified by observed data. Mariners are cautioned not to rely entirely on the lattices in inshore waters. Sky wave corrections are not provided.

LORAN LINEAR INTERPOLATOR
MICROSECONDS

LORAN-A SOUTH GENERAL EXPLANATION

FREQUENCY CHANNEL (preceding H) ..... 1900 kHz
BASIC PULSE RECURRENCE RATE
H (high) ..... 33 1/3 pulses per second
SECONDARY RECURRENCE RATES assigned for station identification (following H)
4
EXAMPLE: 3H4

RATES ON THIS CHART
3H4 3H5

CAUTION
Sky waves should not be used in determining local lines of position in this area.

NOTE B
YORK SPIT CHANNEL
Depths entering from seaward
Surveys of Nov-Dec 1978 & June 1979
Left outside quarter ..... 40.3 ft.
Left inside quarter ..... 43.7 ft.
Right inside quarter ..... 43.4 ft.
Right outside quarter ..... 41.9 ft.
*The use of the channel shall be restricted to vessels and other watercraft passing up or down the channel. No vessel, craft, or any other watercraft shall cross the channel or enter it at any point other than at its ends and in the direction of its axis. Any vessel having entered the channel shall follow the course thereof for its entire length.

CAUTION
Mariners are warned to stay clear of the protective riprap surrounding navigational light structures shown thus

NOTE E
Chesapeake Bay Bridge & Tunnel
(Privately maintained lights)
Trestles A and B - In each trestle section the fixed navigation lights mark the centerlines of a group of 3 spans. A fixed green light marks centerline of each span and fixed red lights mark outermost bridge support piling on each side of the openings. North Channel & Fisherman Inlet Bridges - A fixed green light marks each mid-channel, with fixed red lights marking channel limits. Fixed red obstruction lights mark each pier in Trestles C and D.

LYNNHAVEN INLET
Lynnhaven Inlet is subject to continual change.
HEIGHTS
Heights in feet above Mean High Water.

NOTE F
CAUTION
The Chesapeake Bay Bridge Tunnel complex has on several occasions suffered severe storm vessel damage due to adverse weather conditions. Currents in excess of 4 knots can be expected in the area. Mariners transiting this area are urged to be particularly alert in regards to the weather situation. The National Weather Service provides 24 hour weather broadcasting on 162.55 MHz. The Local Marine operator also transmits weather information on VHF-FM Ch 11 and 16 and on 2182 kHz on 2536 and 2450 kHz. Transmission schedules are subject to change, see Notice to Mariners. Maneuvering in close proximity of the bridge-tunnel complex is discouraged.

NOTE G
TRAFFIC SEPARATION SCHEME
The RECOMMENDED route for entering and departing from Chesapeake Bay is marked by a tinted purple line centered on a line of fairway buoys which separates the courses of inbound and outbound vessels. Vessels should leave all buoys on their port hand. The pilotage area is marked by a tinted purple band. Traffic within the precautionary area may consist of vessels operating between Thimble Shoal and Chesapeake Channels and one of the established traffic lanes. Mariners are advised to exercise extreme care in navigating within this area.
The traffic separation scheme has been designed to aid in the prevention of collisions at the approaches to Chesapeake Bay but is not intended in any way to supersede or alter the applicable Rules of the Road.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3 and 4, or weekly Notice to Mariners which include new or revised regulations. Information concerning the regulations may be obtained at the Office of the District Engineer, Corps of Engineers in Norfolk, Virginia.
Anchorage regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, Virginia.
Refer to section numbers shown with area designation.

RACING BUOYS
Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other privately maintained buoys are not all listed in the U.S. Coast Guard Light List.

TIDE-TABLE SHOAL CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS REPORTED TO NOVEMBER 1978

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOW WATER (MLW)				DATE OF SURVEY	PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER		WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH (FEET)
TIDE-TABLE SHOAL CHANNEL A	42.3	45.5	44.2	43.8	10-78	1500	0.9	45
NORTH AUXILIARY CHANNEL	32.5	32.0	31.4	30.5	10-78	450	0.9	32
SOUTH AUXILIARY CHANNEL	29.8	29.2	30.6	32.3	10-78	450	0.9	32

A. THE CHANNEL IS RESTRICTED TO EXCLUDE VESSELS AND TOWS DRAWING LESS THAN 20 FEET. THERE IS NO RESTRICTION TO PASSENGER SHIPS.
NOTE--CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

*PRODUCED BY COMPUTER ASSISTED METHODS

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOTE C
HAMPTON ROADS TUNNEL-APPROACH SPANS
HOR. CL. 45 FT. (14 M.) AUTH.
VERT. CL. 15 FT.)

AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

NOAA VHF-FM WEATHER BROADCASTS
The National Weather Service station listed below provides continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.
Norfolk, Va. KHB-37 162.55 MHz

CAUTION
Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Hydrographic/Topographic Center Publication 117 (A & B).
Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
⊙(Accurate location) ⊙(Approximate location)

STORM WARNINGS
The National Weather Service displays storm warnings at the following approximate locations:
Cape Henry (36°55.8'-76°00.4') (36°55.8'-76°00.4')
Weather Service Building Cape Henry (36°55.8'-76°00.4')
Fort Monroe (37°00.1'-76°18.8')
Oyster (37°17.2'-75°59.8')
Little Creek Va. (36°55.0'-76°10.5')

Mercator Projection
Scale 1:80,000 at Lat. 37°05'
North American 1927 Datum
SOUNDINGS IN FEET
AT MEAN LOW WATER

Place	TIDAL INFORMATION (Height referenced to datum of soundings (MLW))			
	Mean High Water	Mean Tide Level	Mean Low Water	Extreme Low Water
	feet	feet	feet	feet
Great Machipongo Inlet	3.9	1.9	0.0	-2.5
Fishermans Island	3.0	1.5	0.0	-2.5
Old Point Comfort	2.5	1.3	0.0	-3.5
Tue Marshes Light	2.2	1.1	0.0	-3.0
Wolf Trap Light	1.6	0.8	0.0	-3.0

LOCAL MAGNETIC DISTURBANCE
Differences of as much as 6° from the normal variation have been observed 5 to 17 nautical miles offshore from Cape Henry to Currituck Beach Light.

NOTE D
DANGER AREA
Area is open to unrestricted surface navigation but all vessels are cautioned neither to anchor, dredge, trawl, lay cables, bottom, nor conduct any other similar type of operation because of residual danger from mines on the bottom.

RESTRICTED AREA
Anchoring, trawling, fishing, and crabbing are prohibited in this area. 207.158, (see note C)

PRECAUTIONARY AREA

DANGER AREA (see note D)

DISPOSAL AREA
Depths from surveys of 1935-1940

DANGER AREA
204.52 (see note D)

BUOY TESTING AREA

DANGER AREA (see note D)

DUMP SITE
Abandoned 64 at center of area (see note E)

REGULATED AREA OR 5(f) (see note A)

COLREGS DEMARCATION LINE

20 LOCAL MAGNETIC DISTURBANCE (see note)

Possible unexploded bombs and ammunition in and adjacent to restricted area

Obstruction, 10 ft. (3 m) depth

Chesapeake area fine wire survey

Wreck

Rock

Foul

Pipeline

Cable

Tunnel

Tank

Church

Radio Tower

Fish Haven

Marsh

Sand

Mud

Shoal

Rocks

Sunken Rocks

Submerged Piles

Dolphin

Fish Trap

Fish Stakes

Oyster Beds

Clam Beds

Crab Pots

Seaplane Landing Area

Ferry Route

Ferry Slip

Ferry Terminal

Pier

Wharf

Bridge

Causeway

Ruins

Boat Ramp

Boat Harbor

Boat Basin

Boat Yard

Boat Launching Ramp

Boat Repairs

Boat Storage

Boat Supplies

Boat Fuel

Boat Water

Boat Ice

Boat Electrical

Boat Engine

Boat Hull

Boat Sail

Boat Canvas

Boat Upholstery

Boat Painting

Boat Cleaning

Boat Rental

Boat Charter

Boat Fishing

Boat Crabbing

Boat Oystering

Boat Clamming

Boat Scalloping

Boat Shrimping

Boat Trawling

Boat Dredging

Boat Cable Laying

Boat Pipe Laying

Boat Surveying

Boat Diving

Boat Salvage

Boat Towing

Boat Pilotage

Boat Anchorage

Boat Mooring

Boat Buoy

Boat Beacon

Boat Light

Boat Fog Signal

Boat Radio

Boat Radar

Boat Loran

Boat Omega

Boat Satellite Navigation

Boat Inertial Navigation

Boat Gyrocompass

Boat Magnetic Compass

Boat Sextant

Boat Chronometer

Boat Barometer

Boat Thermometer

Boat Hygrometer

Boat Anemometer

Boat Rain Gauge

Boat Weather Vane

Boat Wind Sock

Boat Flag

Boat Pennant

Boat Ensign

Boat Jack

Boat Signal

Boat Horn

Boat Whistle

Boat Bell

Boat Gong

Boat Siren

Boat Foghorn

Boat Radio Beacon

Boat Racon

Boat Ramark

Boat Loran-C

Boat Omega

Boat Satellite

Boat Inertial

Boat Gyro

Boat Magnetic