

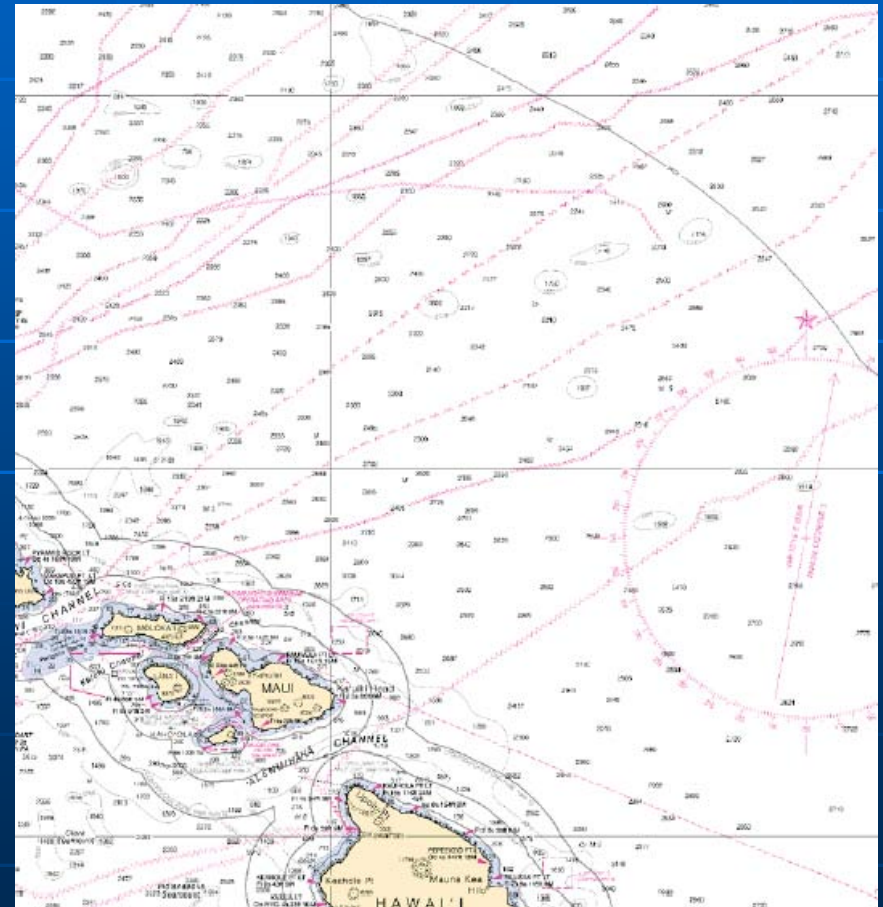
Demystifying the Maritime Zones and Other Marine Boundaries on NOAA Nautical Charts

Ole Varmer

Suzanne Bass

Meredith Westington

NOAA



Charts - Maritime Zones and International Law



Ole Varmer, Attorney

Office of General Counsel for International Law



International Law

- Customary International Law
- Practice of Nations
- Accepted as Law

- Treaties & Conventions

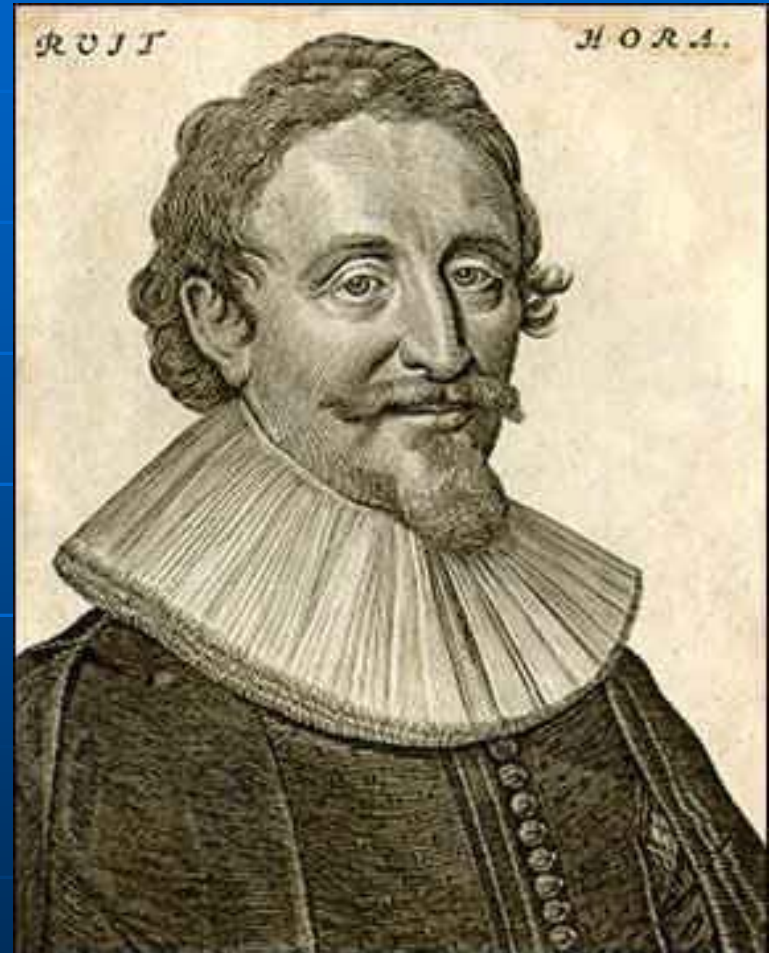


International Law



Origins of the Law of the Sea

- Hugo Grotius Father of international law
- Mare Liberum (The Freedom of the Seas) the sea belongs to all and could not be made the property of any State
- Mare Closeum (Closed Sea) John Seldon Right of nation to control a narrow strip of sea along its coast



Territorial Sea: “Cannon-Shot Rule”

- Extent to which a Coastal State exerted control over the adjacent seas was the reach of its cannon = 3 miles
- 3 nautical miles or 1 marine league
- Geographic or nm is 6080.2 ft one minute of latitude at equator



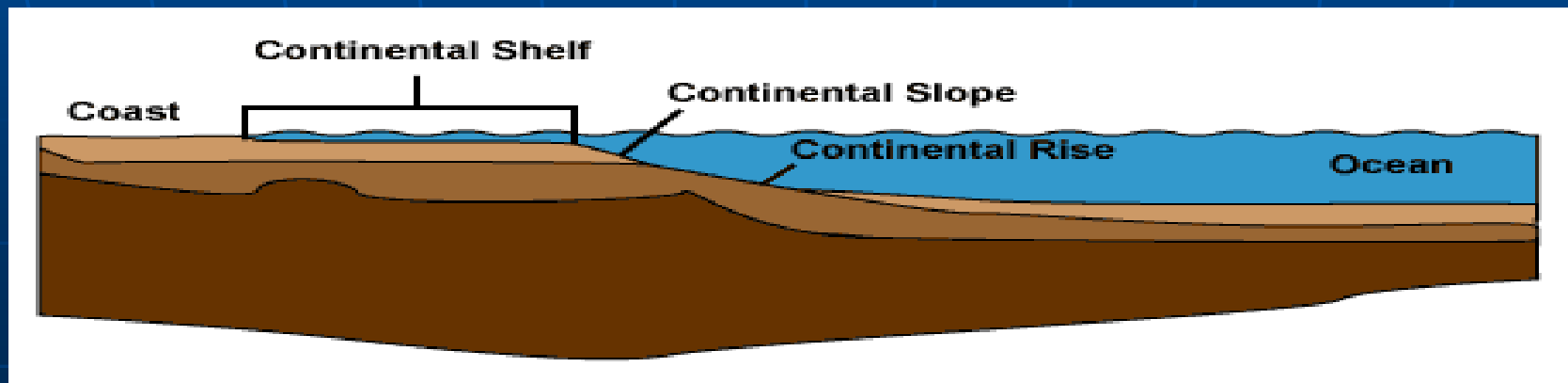
Early US Maritime Zones

- Thomas Jefferson
Diplomatic note to France and Britain 1793 first claim to 3 mile territorial sea beyond that – high seas
- Congress passed legislation in 1799 to allow the boarding of foreign flag vessels within 12 nm from the coast.
- This zone was known as “customs waters” and was later called the “Contiguous Zone.”



Submerged Lands and the Outer Continental Shelf

- Proprietary rights of coastal state over submerged lands and other resources well established by 1930s
- 1945 Truman Proclamation asserts control and jurisdiction over natural resources of the sea bed & subsoil
- 1953 Submerged Lands Act & Outer Continental Shelf Lands Act



1958 Conventions

- Territorial sea and the contiguous zone
- Continental shelf
- High seas
- Fishing and Conservation of the Living Resource of the High Seas



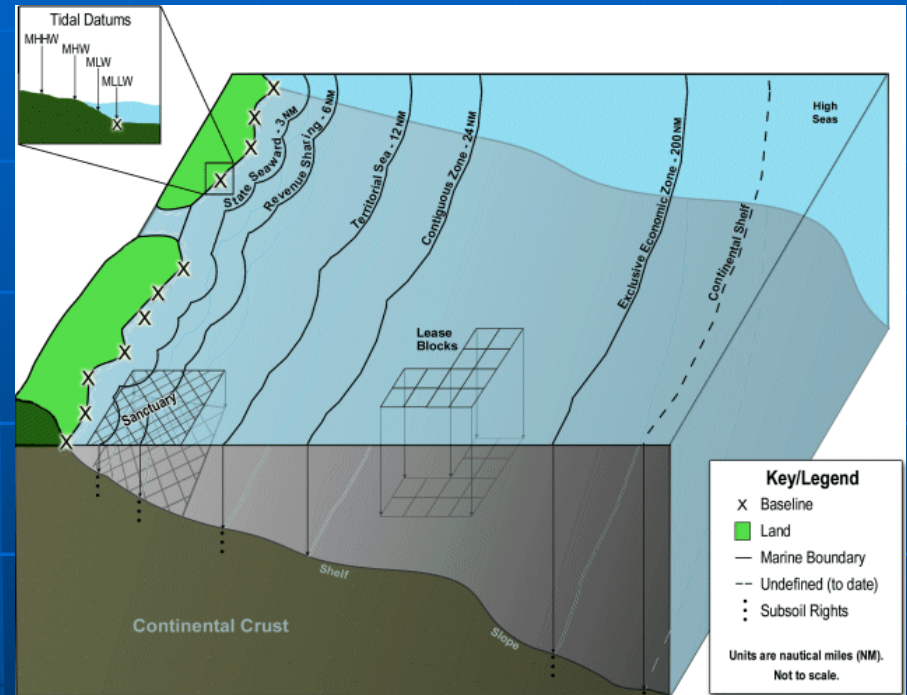
1982 UN Convention on the Law of the Sea

- International legal framework for protection, management and use of the seas, including the EEZ
- Codifies the customary international law of the sea
- The US strictly adheres to the customary international law of the sea reflected in UNCLOS



US Maritime Zones

- Proclamations of EEZ, Territorial Sea, & Contiguous Zone
- US rights and interests in zones are balanced with rights of foreign flag state



Balancing of Rights and Interests under UNCLOS

- Coastal nation regulation of resources and activities in territorial sea & EEZ
- Innocent passage in territorial sea - transit passage in straits
- Flag state's right of over flight, navigation, and laying cables and pipeline in EEZ/continental shelf



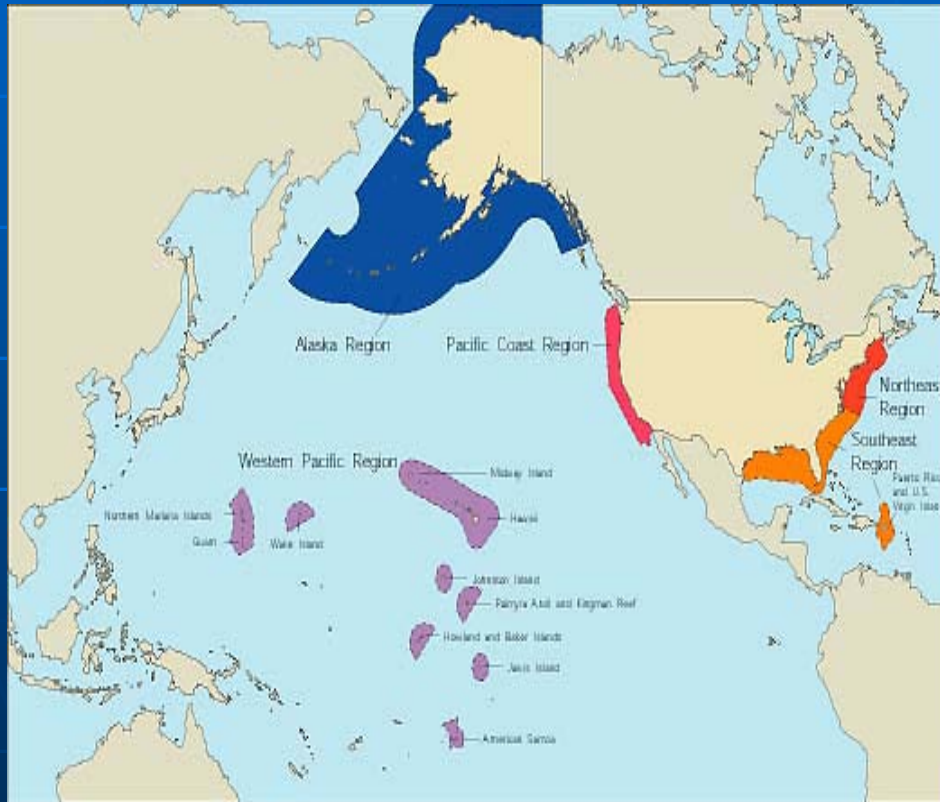
Internal Waters

- Subject to ancient customs where nations should provide safe harbor to ships in danger or distress (*force majeure*), the U.S. may restrict entry or travel through its internal waters
- Restrictions on entry or discharges by Cruise ships



US Exclusive Economic Zone

200 nautical miles from baseline



- 1983 Proclamation
- Sovereign rights over EEZ resources
- Limit is 200 nm from the Baseline
- Respect rights of navigation & over flight consistent with international law

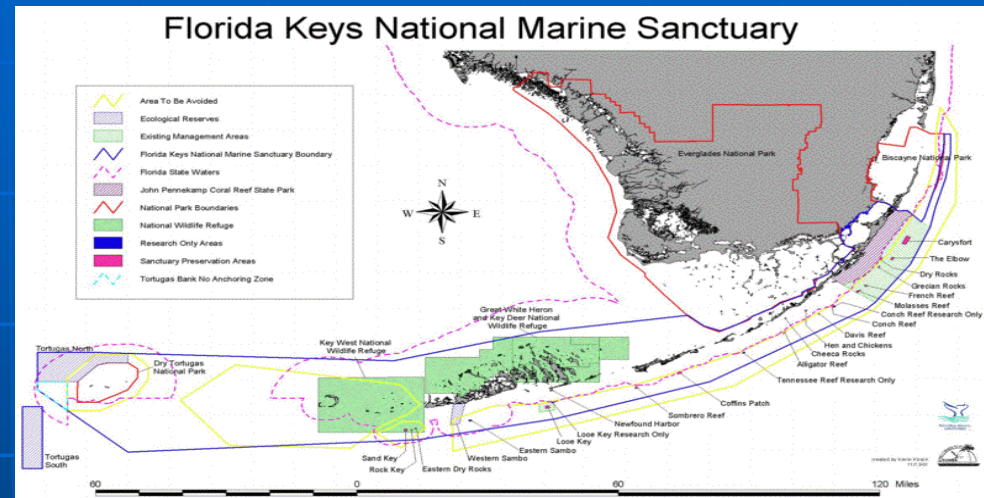
US 12 nm Territorial Sea

- 1988 Proclamation of 12 nautical mile territorial sea

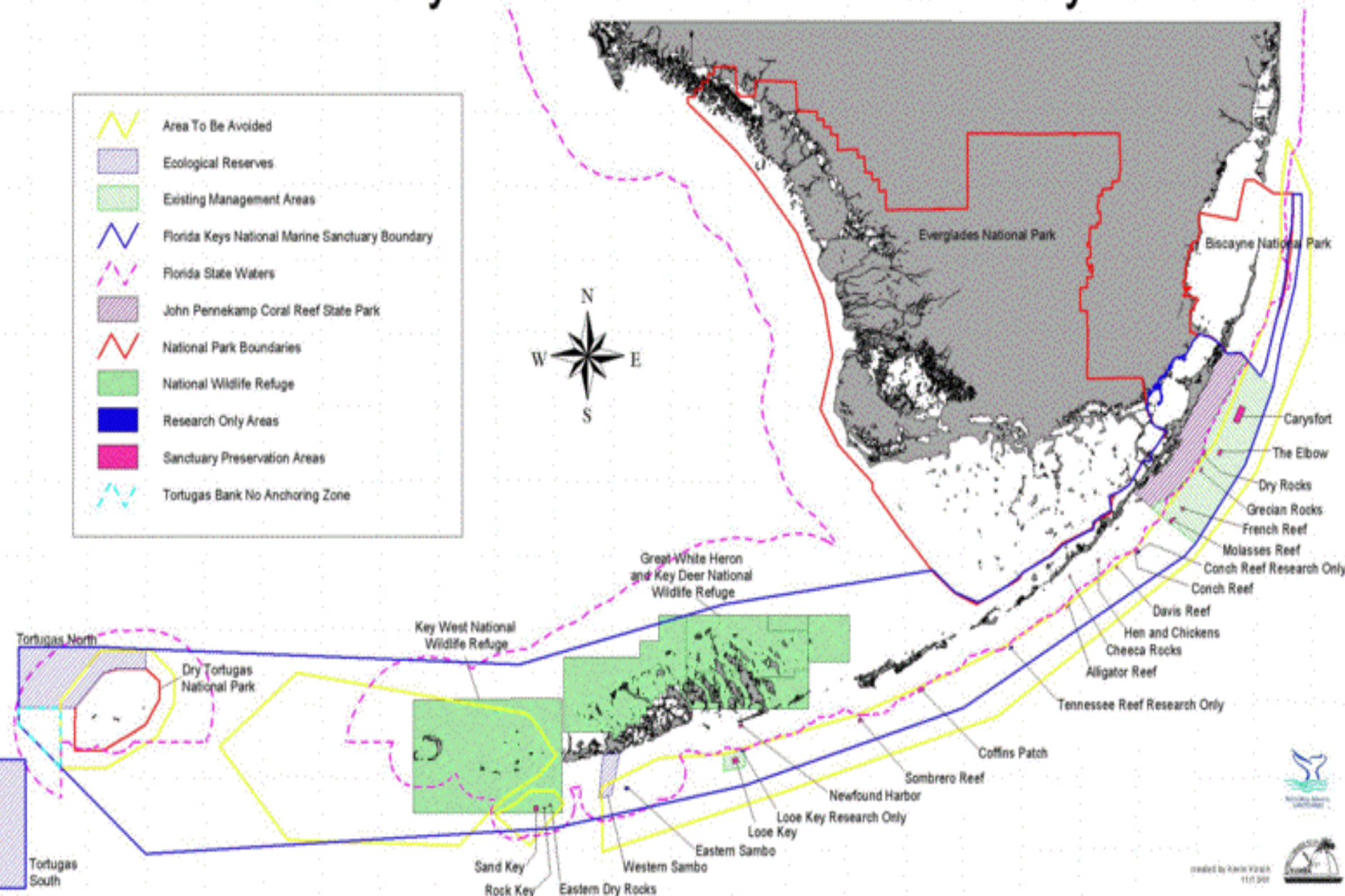


Innocent Passage

- Must be continuous and expeditious, although that may include stopping and anchoring under certain circumstances.
- May prohibit anchoring or even entry into portions, provided vessels may still pass through remainder



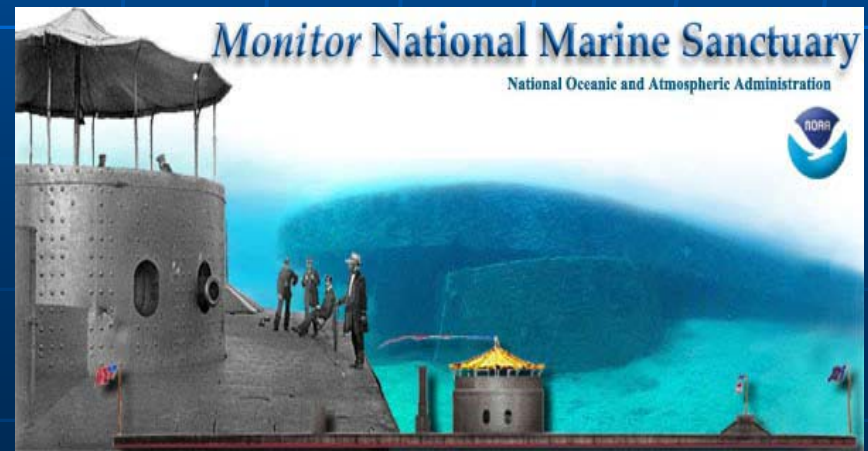
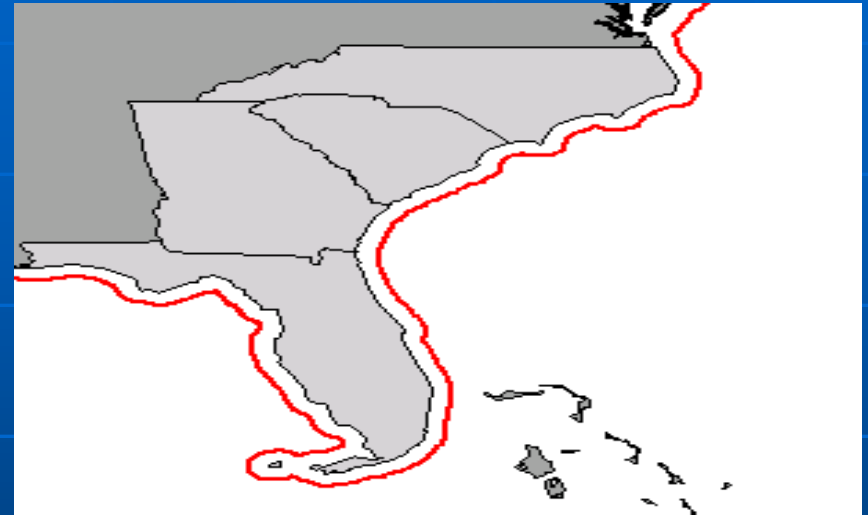
Florida Keys National Marine Sanctuary



Created by Kevin Kratz
11/1/00

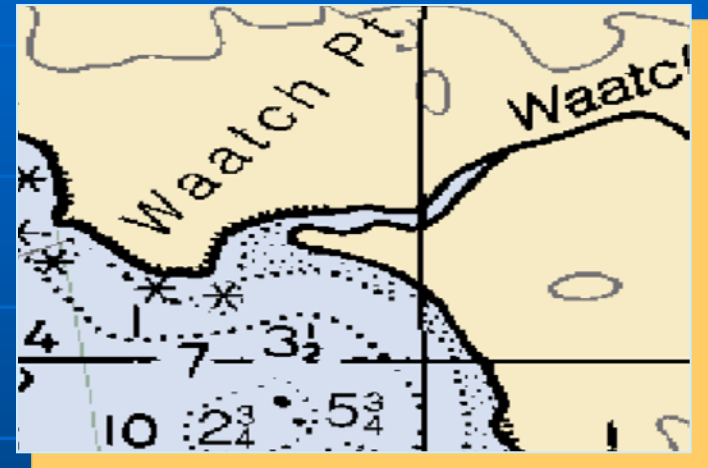
US 24 nm Contiguous Zone

- Proclamation 1999
- Zone from 12-24 nm for enforcement of Customs, Fiscal & Sanitary Laws
- Assert control over Underwater Cultural Heritage out to 24 nm



Baseline for Maritime Zones

- Zones depicted on US Official Charts
- Normal baseline= Low Water Line on Official, Large-Scale Charts
- Ambulatory Baseline & Zones
- International rules on baseline, bay closing lines, low tide elevations (UNCLOS = 1958 Convention)



Charts - Maritime Zones and Domestic Law

Federal Waters

State Waters

Suzanne Bass, Attorney
Office of General Counsel, Ocean Services
Silver Spring, MD

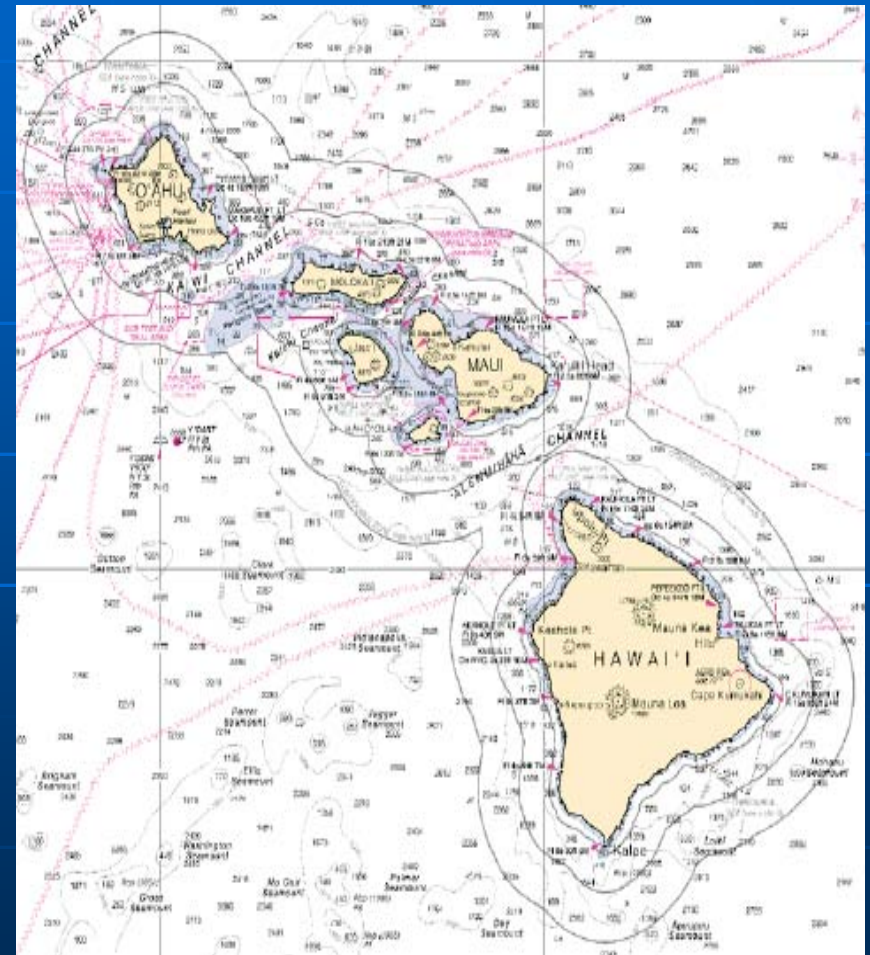
Evolution of the Territorial Sea

Early NOAA Charts Depict:

- Territorial Sea at 3 nm

Post-1988 NOAA Charts Depict:

- Territorial Sea at 12 nm
- Old territorial sea 3 nm is retained- called "Three Nautical Mile Line"



States Have Title to Lands Under “Navigable Waters”

- **Martin v. Waddell:** 13 colonies succeeded to Crown’s rights to submerged lands
- **Pollard v. Hagan:** Subsequently admitted states have same rights to submerged lands, under “equal footing” doctrine.



But Which “Navigable Waters”?



U.S. v. California

- "Conceding that the state has been authorized to exercise local police power functions in the part of the marginal belt within its declared boundaries, these do not detract from the Federal Government's paramount rights in and power over this area."



The Submerged Lands Act, 1953



Granted to States Under the SLA:

- Lands beneath navigable waters within the boundaries of the states, and the natural resources within such lands and waters (natural resources including oil/gas and all other minerals, as well as fish, clams, kelp, and other marine life but not including water power);
- The right to manage such lands and resources.



Not Granted Under the SLA:

- Federal installations/parcels (with accompanying resources) held by the federal government or later acquired from a state;
- Submerged lands held by the U.S. for a native American tribe;
- Structures of the United States necessary for navigational servitude
- In addition, the Act specifically retained for the United States the use and control of granted lands and waters for purposes of navigation, flood control, or production of power.



Baseline/Coastline to Measure States' SLA Boundary

Seaward Boundary of state: "[a] line three geographical [nautical] miles distant from its coast line..."

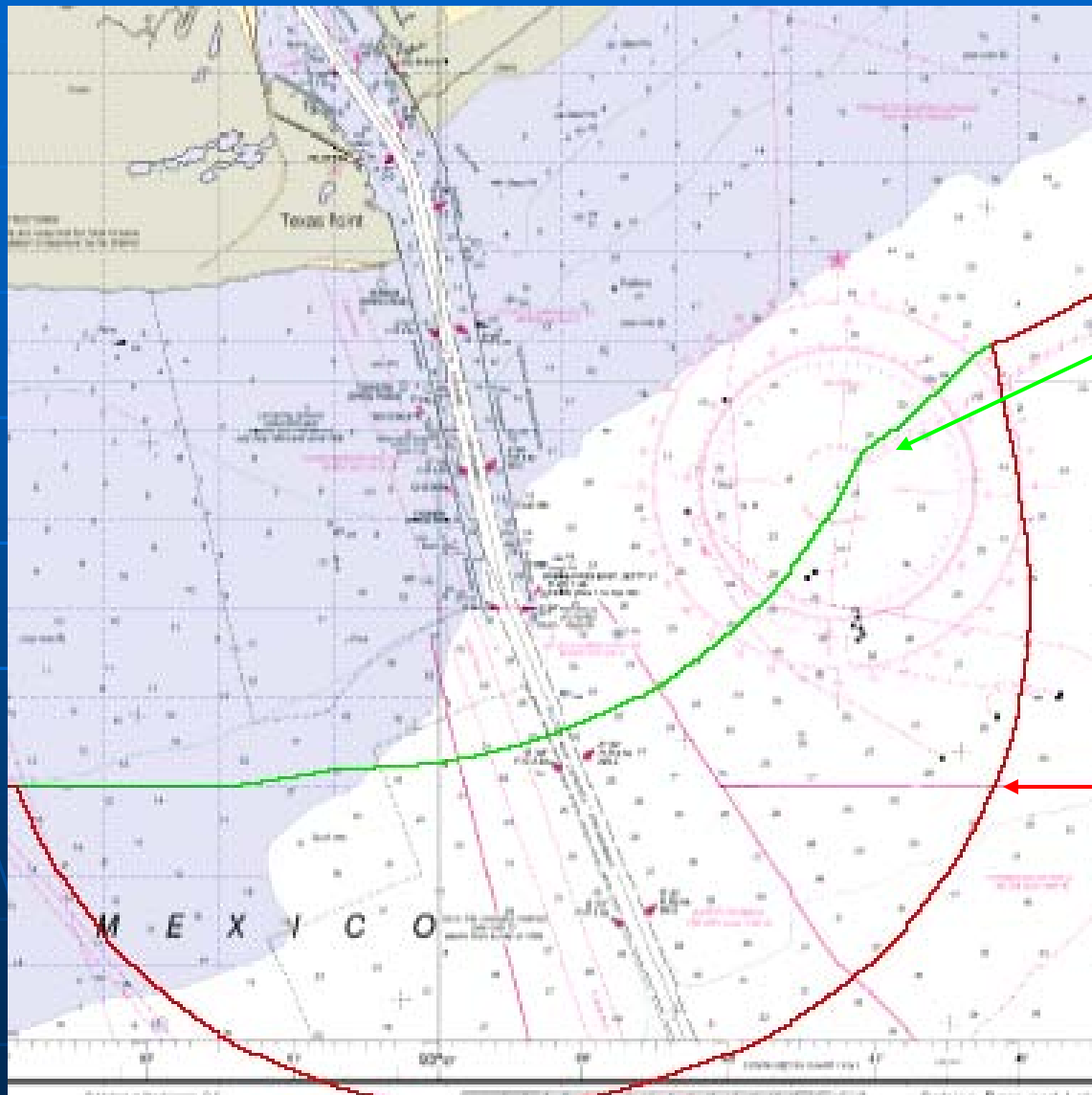
Coast Line of state: "[t]he line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters" and mouths of inland water bodies.



“Old” Territorial Sea Versus Seaward Limit of States



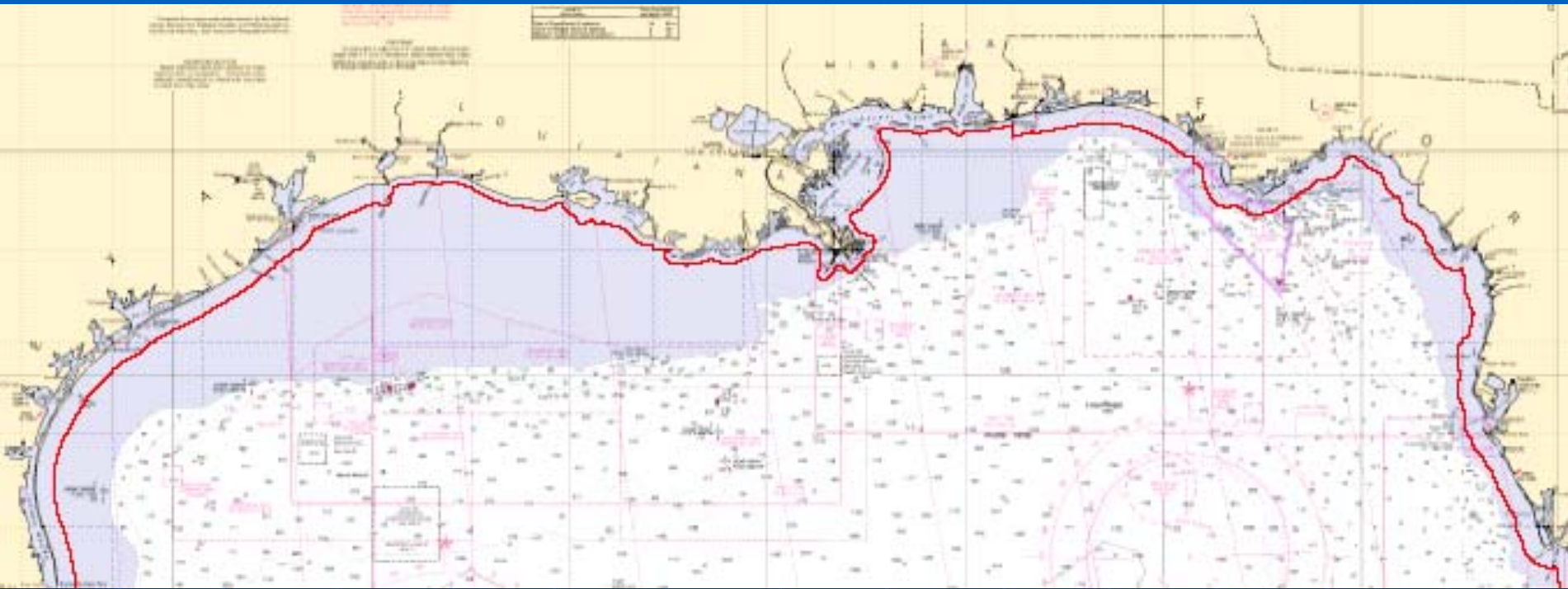
How Boundaries Can Vary



3nm Line
without jetty

3nm Line
with jetty

The 9-Mile Boundary



Texas and Gulf Coast of Florida: 9 nm Natural Resources Boundary

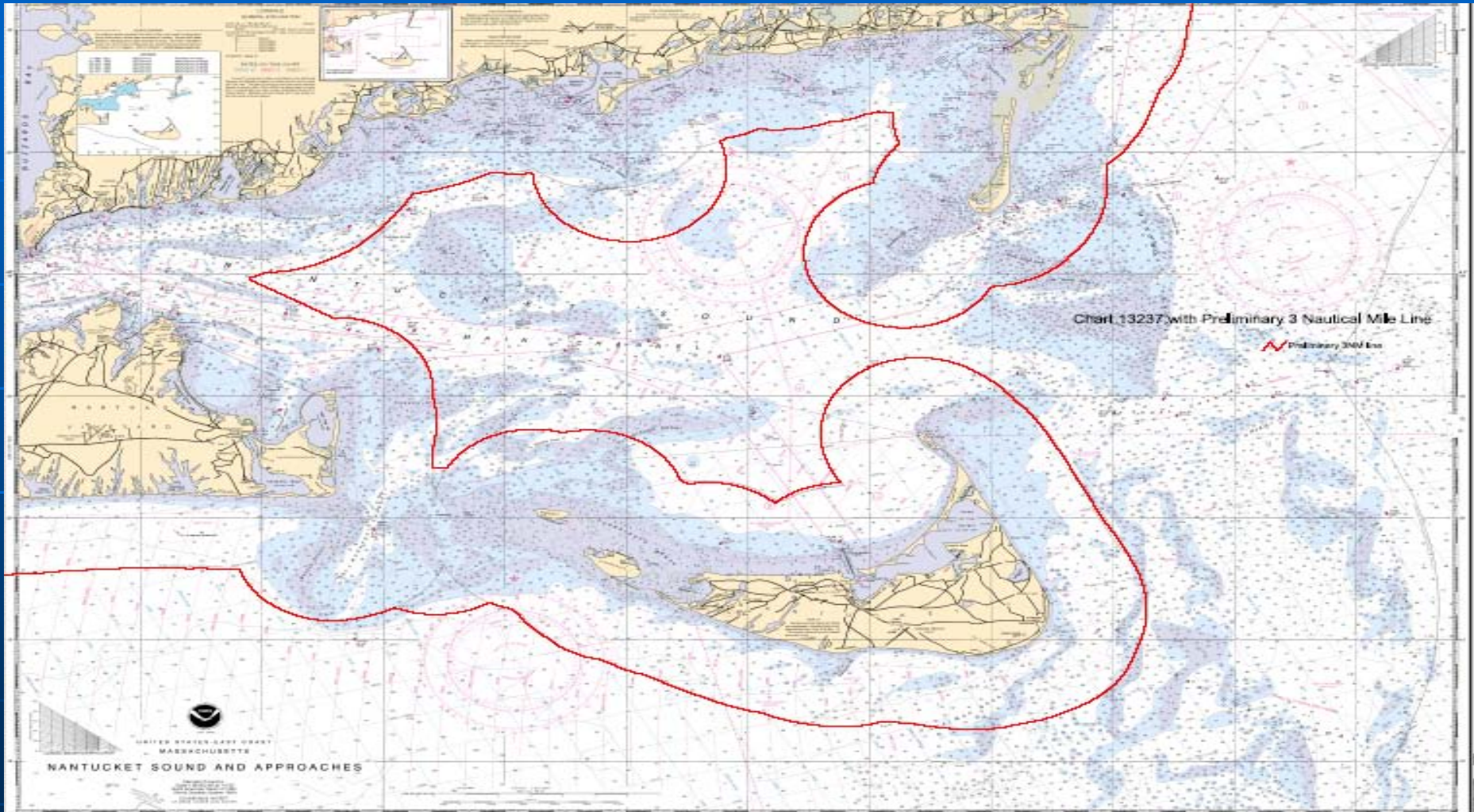


Note X: Explanation to Mariners

"Within the 12-nautical mile Territorial Sea, established by Presidential Proclamation, some Federal laws apply. The Three Nautical Mile Line, previously identified as the outer limit of the territorial sea, is retained as it continues to depict the jurisdictional limit of the other laws. The 9-nautical mile Natural Resource Boundary off the Gulf coast of Florida, Texas, and Puerto Rico, and the Three Nautical Mile Line elsewhere remain in most cases the inner limit of Federal fisheries jurisdiction and the outer limit of the jurisdiction of the states. The 24-nautical mile Contiguous Zone and the 200-nautical mile Exclusive Economic Zone were established by Presidential Proclamation. Unless fixed by treaty or the U.S. Supreme Court, these maritime limits are subject to modification, as represented on future charts. The lines shown on the most recent chart edition take precedence."

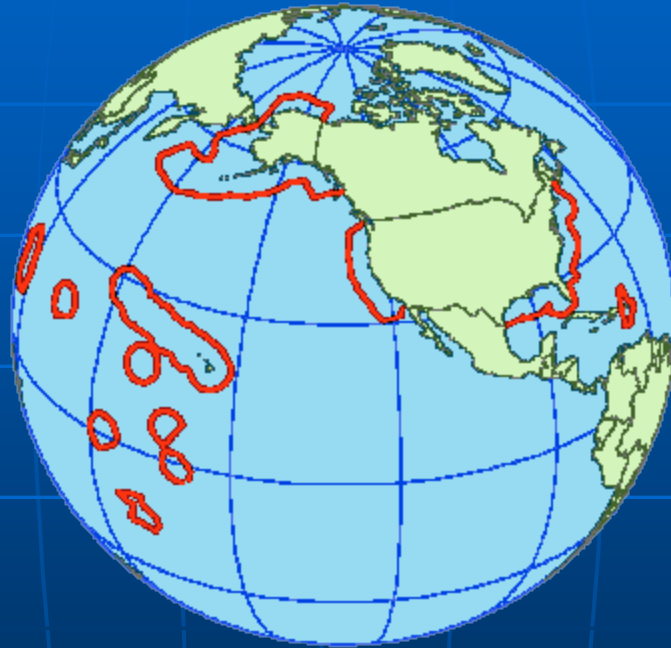


Boundary Variation: Effects



Digital Maritime Zones and Baseline

Project Status and a Preliminary Look at their depiction in the Electronic Navigational Charts



Meredith Westington, Chief Geographer
National Ocean Service's Office of Coast Survey
Silver Spring, MD



Normal Baseline

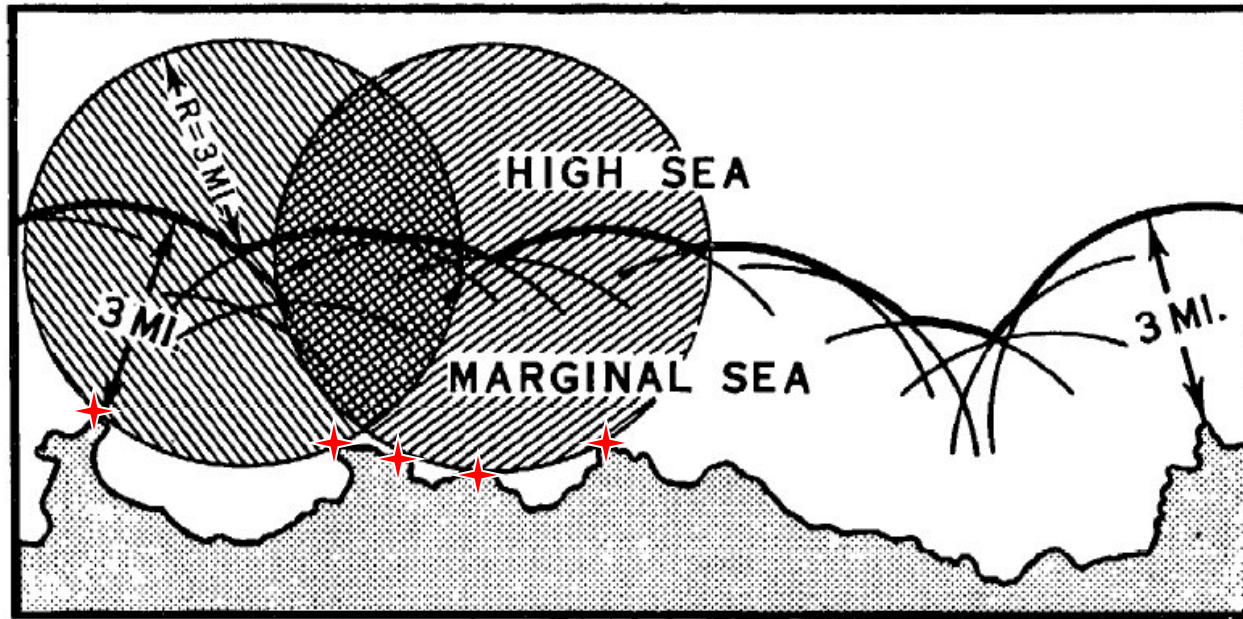


FIGURE 27.—The envelope line is the locus of the center of a circle rolled along the coastline with circumference always in contact with it.

★ Contributing Baseline Points

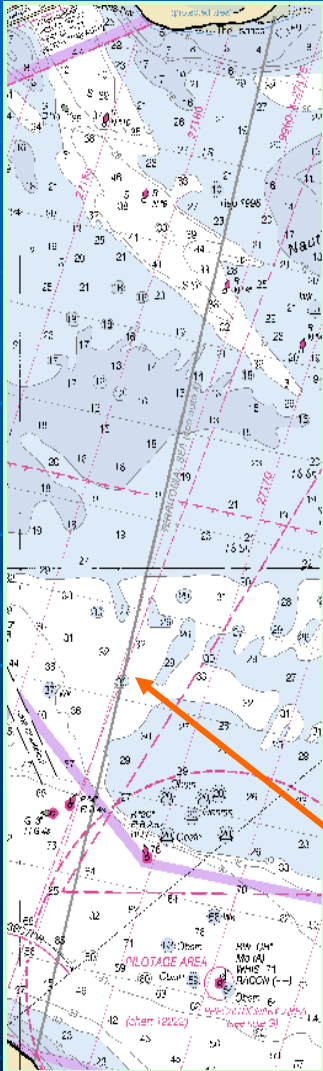
Low-water line along the coast as marked on **large-scale, officially recognized charts**.

U.S. Baseline Committee

- Created: August 7, 1970
- Purpose: To provide an interagency forum to discuss and make recommendations on all questions relating to the official delimitation of the U.S. Coastline
- Chaired by the Department of State with representatives from
 - Department of Commerce (NOAA)
 - Department of Justice
 - Department of Interior (MMS, FWS)
 - Department of Homeland Security (USCG)
 - Department of Navy
 - Department of Defense (NGA)
 - Federal Communications Commission



Evaluating the Baseline



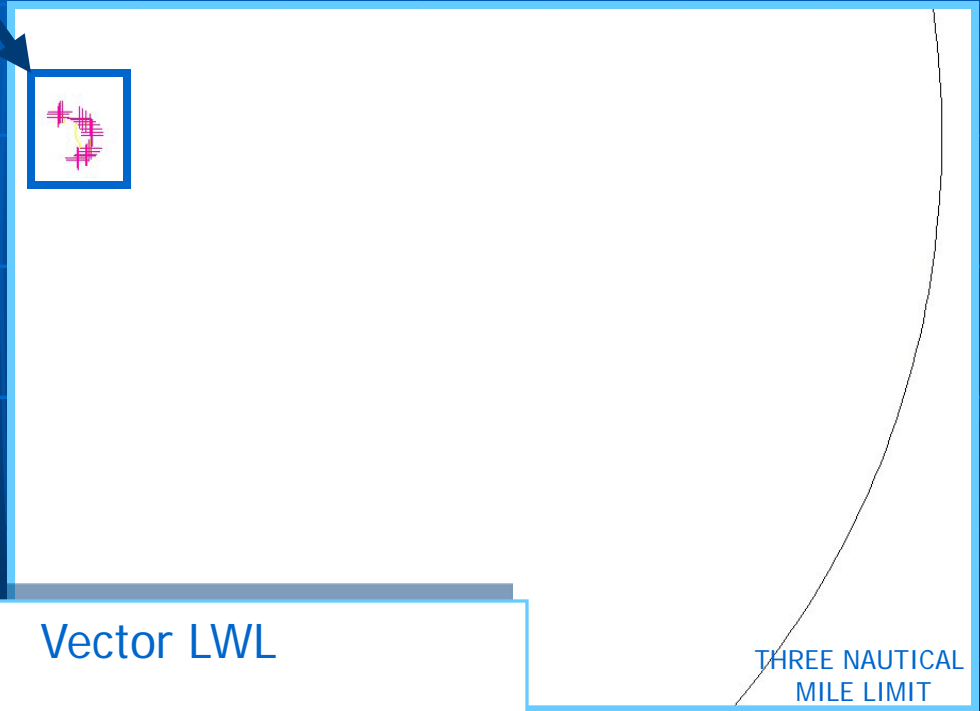
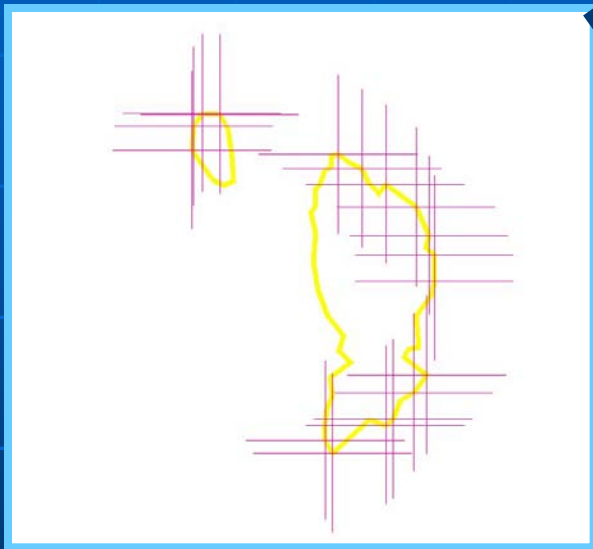
- **Low-tide elevations-** naturally formed features must be dry at the lowest charted datum (Article 13)
- **Permanent harborworks-** features must form an integral part of the harbor system (no artificial islands → Article 11)
- **Bay closing lines-** well-marked indentations of the land that meet several tests can be closed with a straight line (normal baseline only- Article 10)



Caris' Law of the Sea: Limits & Boundaries

Envelope of Arcs

- To retrieve the contributing baseline points and limit line (ex. Gardner Pinnacles, NWHI)



Vector LWL

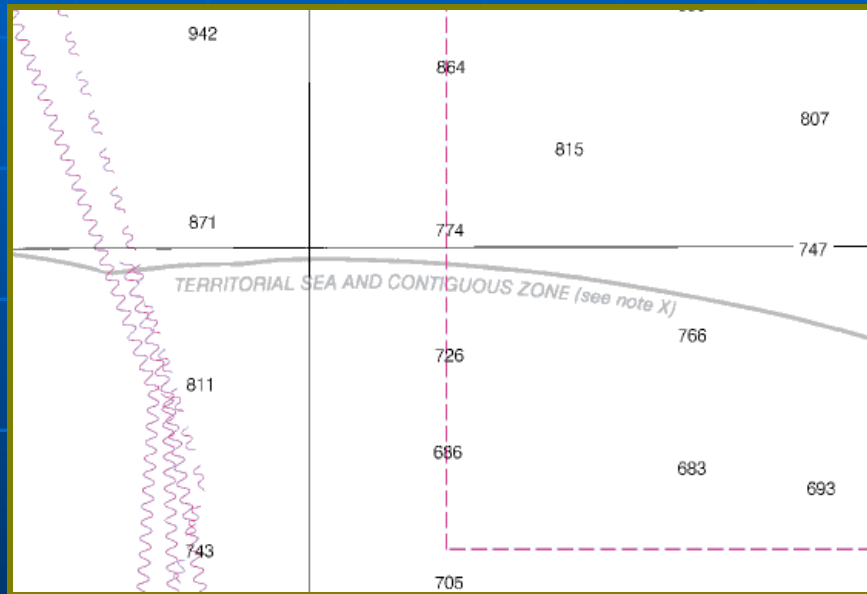


Contributing Baseline Points

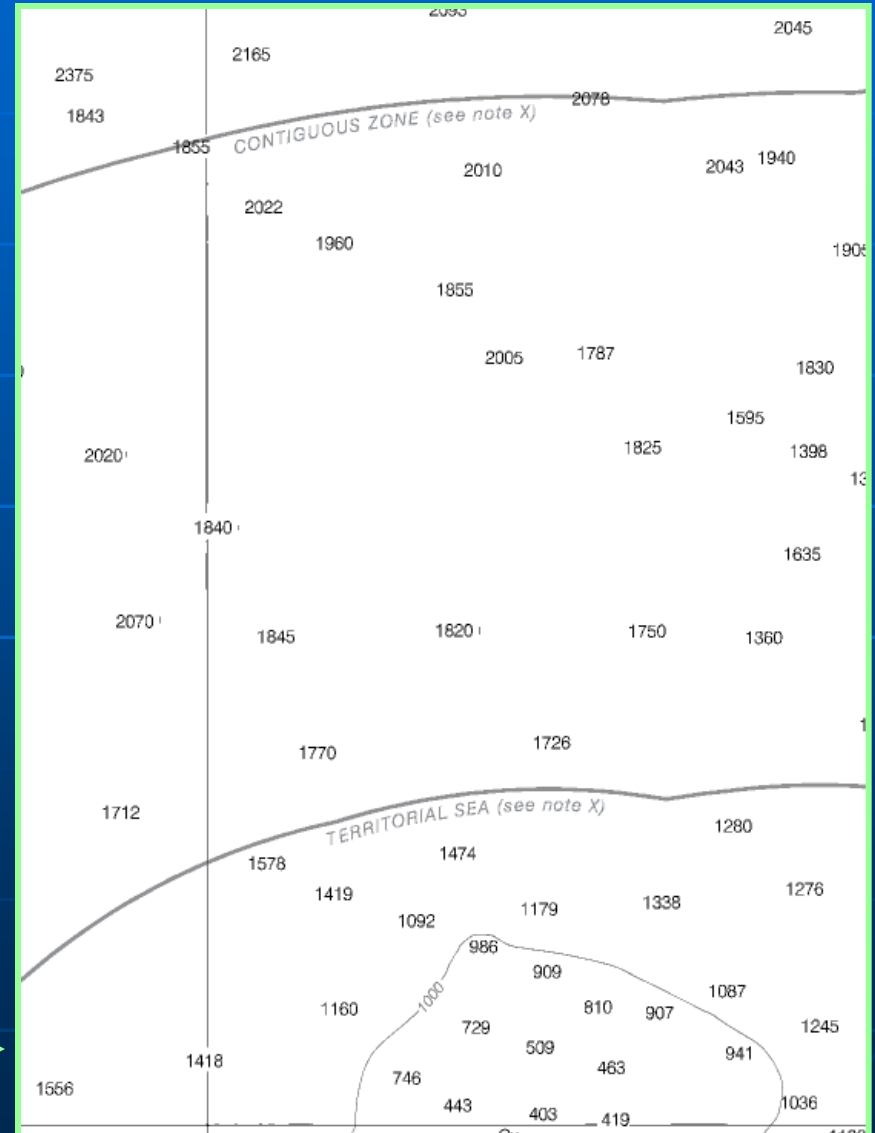
THREE NAUTICAL
MILE LIMIT

Updates to Paper/Raster Nautical Charts

THEN- Territorial Sea and Contiguous Zone are both projected 12 nautical miles from baseline



NOW- Territorial Sea at 12 nautical miles and Contiguous Zone at 24 nautical miles from baseline



Availability on the Web

EEZ is Available Now!

<http://nauticalcharts.noaa.gov/csdl/eez.htm>

Available in shp and dbf formats



Credit: EWC

Created from CARIS software and provided in shapefile format

Office of Coast Survey
Maritime Boundaries
For NOAA/National Ocean Service Nautical Charts

The Law of the Sea

Maritime boundaries for the United States are determined from the official U.S. baseline, recognized as the low-water line along the coast as marked on the NOAA's nautical charts in accordance with the articles of the Law of the Sea. The Office of Coast Survey is responsible for determining and depicting the Three Nautical Mile Line, Territorial Sea, Contiguous Zone, and Exclusive Economic Zone on NOAA's nautical charts.

Download Digital Maritime Limits

The following links contain zipped shapefiles of the Three Nautical Mile Line, Territorial Sea (12 naut. mi.), and Contiguous Zone (24 naut. mi.) as represented on NOAA's nautical charts. For more information about each dataset, metadata is also provided. If you do not have software to view these shapefiles, ESRI has a free viewer to download at <http://www.esri.com/software/arcexplorer/download.html>. This site will be updated frequently with new digital boundary information.

Note: To download the current EEZ data, please go to <http://nauticalcharts.noaa.gov/csdl/eez.htm>.

Location	Metadata?	Date Posted
Hawaiian Islands	Yes	2004-02-23
Northwestern Hawaiian Islands	Yes	2003-08-27
Puerto Rico and U.S. Virgin Is.	Yes	2004-03-01
Maine	Yes	2004-06-15
New Hampshire and Massachusetts	Yes	2004-06-29
Rhode Island and New York	Yes	2004-07-08
New Jersey, Delaware, and Maryland	Yes	2004-07-19
Virginia, North Carolina, and South Carolina	Yes	2004-10-07
Florida and Alabama	Yes	2005-06-09
Mississippi and Louisiana	Yes	2005-03-03

NEW Maritime Limits Website!

<http://nauticalcharts.noaa.gov/csdl/mbound.htm>

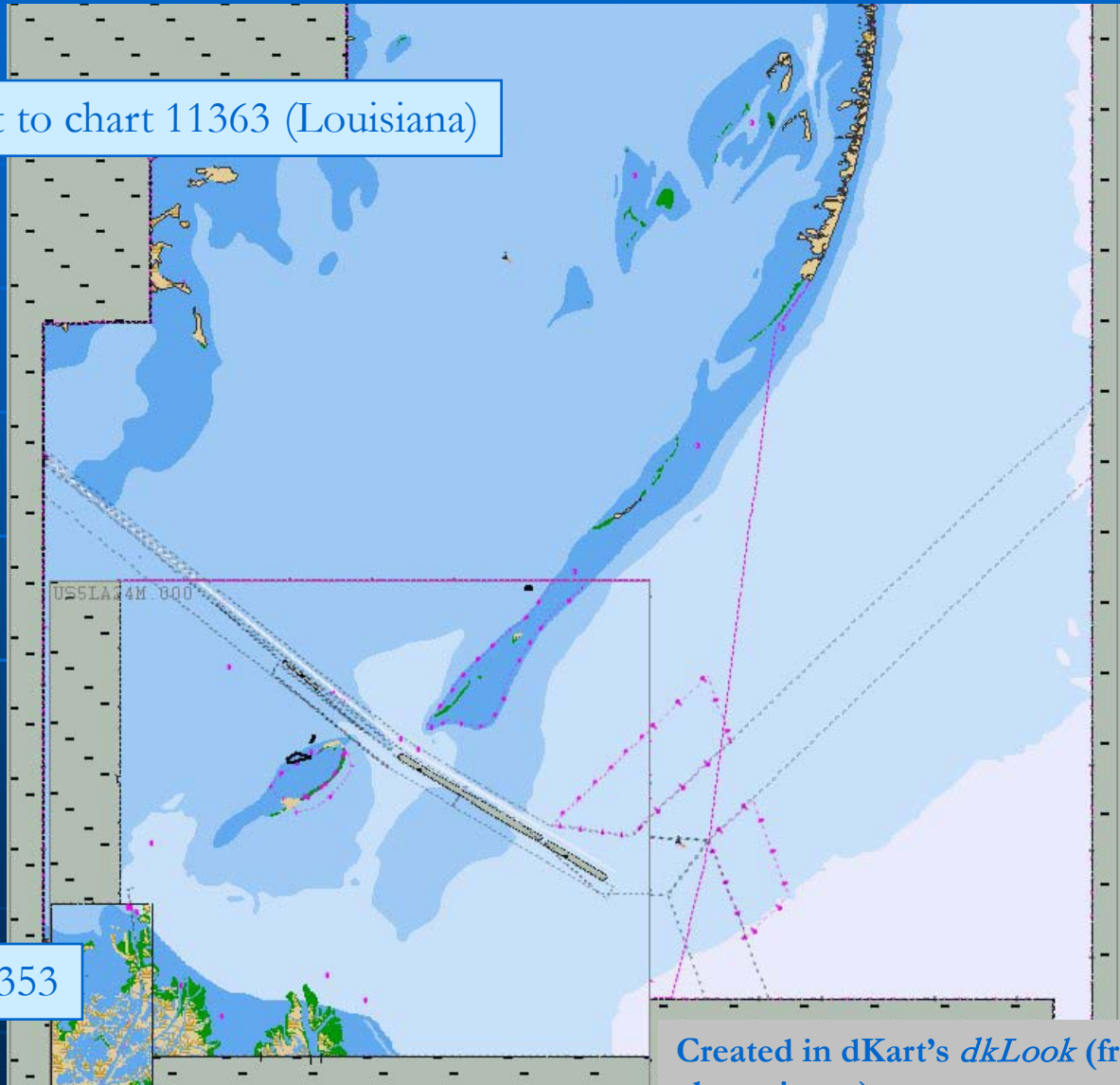


NOAA Electronic Navigational Charts (ENCs)

ENC equivalent to chart 11363 (Louisiana)

The area covered by an NOAA ENC is referred to as a "cell." At present, each NOAA ENC cell corresponds to the largest scale paper chart in a given area. As the NOAA ENC begins to contain more detail and the file sizes get larger, it may become necessary to split the cells into smaller areas

ENC equivalent to chart 11353



Created in dKart's *dkLook* (free chart viewer)



ENCs: Free Internet Download

<http://nauticalcharts.noaa.gov/mcd/enc/download.htm>

Two Methods of downloading ENCs for Navigation

ChartServer
Internet Product Distribution System

Home Select Review Order

Getting started: Use the buttons to view global, view defined area, select ENCs for download, pan, zoom in and zoom out.
Note: For the Graphical Interface, please use Java 2 Runtime Environment (J2RE), Version 1.4.1_xx. Available [HERE](#).

Chart Types

- NOAA ENCs - for download
- NOAA Paper Charts - info only

Scale

- Overview
- General
- Coastal
- Approach
- Harbour
- Berthing

US1BS01M

Lat Lon

Cart

ChartServer
Internet Product Distribution System

Home Select Review Order Help ?

Looking for a specific paper chart number? Click [Here](#).

Sort by:

Number of charts: 456 Show charts a page Go to

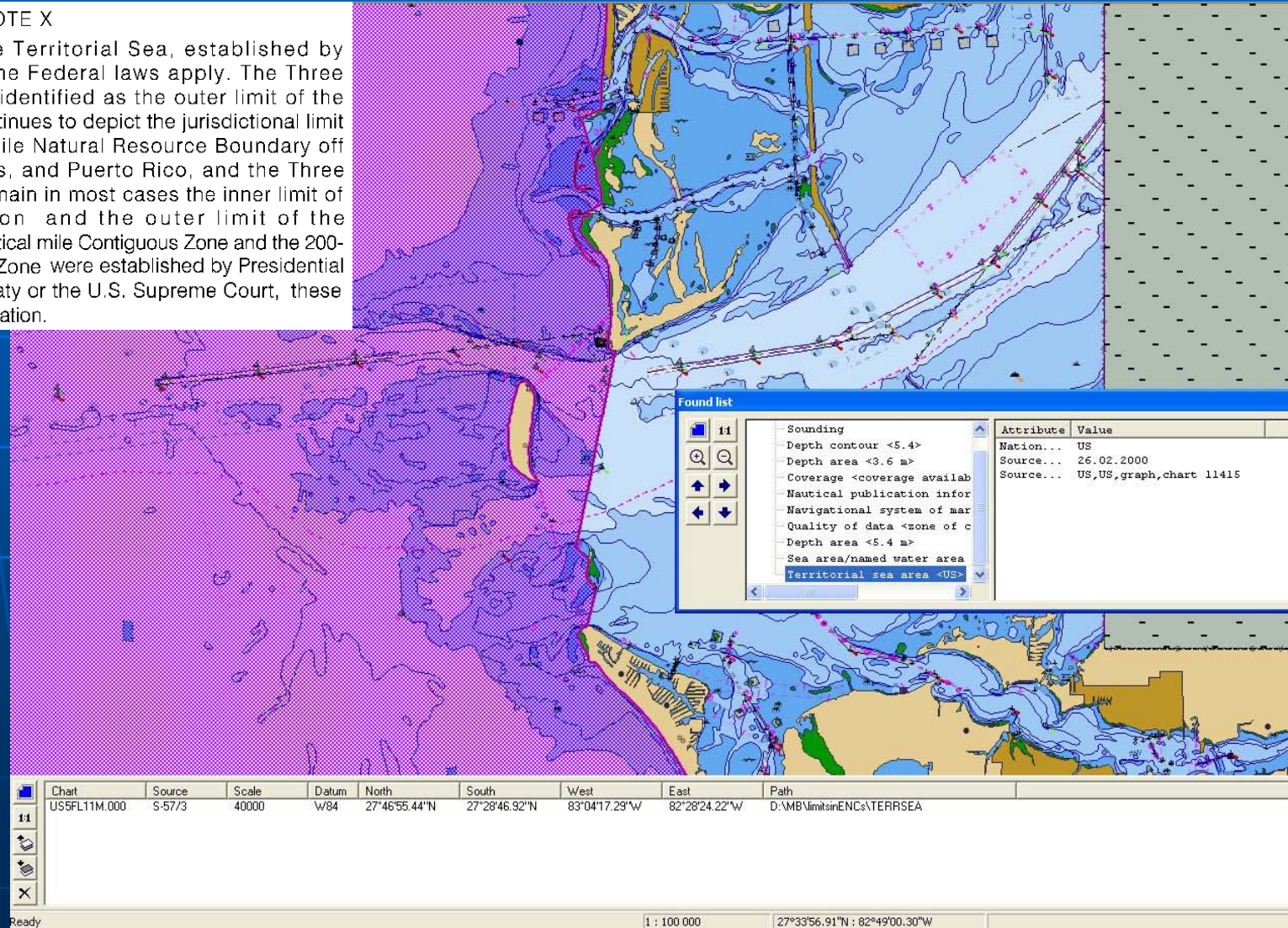
Image	Chart	Title	Ed.	Issue Date	Update Date	Cell Name	Select
	513	Bering Sea - Southern Part A	1	2004-06-14	2004-06-14	US1BS01M	<input type="checkbox"/>
	513	Bering Sea - Southern Part B	1	2004-02-27	2004-02-27	US1BS02M	<input type="checkbox"/>
	514	Bering Sea - Northern Part A	1	2004-05-17	2004-05-17	US1BS03M	<input type="checkbox"/>
	514	Bering Sea - Northern Part B	1	2004-03-08	2004-03-08	US1BS04M	<input type="checkbox"/>
	50	North Pacific Ocean (eastern part) Bering Sea Continuation A	1	2004-03-15	2004-03-15	US1P001M	<input type="checkbox"/>
	50	North Pacific Ocean (eastern part) Bering Sea Continuation B	2	2004-10-13	2004-10-13	US1P002M	<input type="checkbox"/>
	501	West Coast of North America Mexican Border to Dixon Entrance	2	2004-12-06	2004-12-06	US1WC01M	<input type="checkbox"/>
	531	Gulf of Alaska Strait of Juan De Fuca to Kodiak Island	1	2004-08-03	2004-08-03	US1WC02M	<input type="checkbox"/>
	500	West Coast of North America Dixon Ent to Unimak Pass	1	2004-07-21	2004-07-21	US1WC04M	<input type="checkbox"/>
	16016	Dixon Entrance to Cape St. Elias	1	2004-07-30	2004-07-30	US2AK30M	<input type="checkbox"/>
	16004	Point Barrow to Herschel Island	1	2003-12-01	2003-12-01	US2AK91M	<input type="checkbox"/>
	11013	Straits of Florida and Approaches	1	2004-08-04	2004-08-04	US2EC01M	<input type="checkbox"/>
	11009	Cape Hatteras to Straits of Florida	2	2004-11-23	2004-11-23	US2EC02M	<input type="checkbox"/>
	13003	Cape Sable to Cape Hatteras	1	2004-11-17	2004-11-17	US2EC03M	<input type="checkbox"/>
	11006	Key West to the Mississippi River	3	2004-11-22	2004-11-22	US2GC08M	<input type="checkbox"/>
	4015	Mobile Bay to Mexico	1	2004-08-20	2004-08-20	US2GC11M	<input type="checkbox"/>
	4016	New Orleans to Jacksonville	1	2004-09-15	2004-09-15	US2GC12M	<input type="checkbox"/>



Territorial Sea in ENC's: Depiction of Zone at West Coast of Florida

NOTE X

Within the 12-nautical mile Territorial Sea, established by Presidential Proclamation, some Federal laws apply. The Three Nautical Mile Line, previously identified as the outer limit of the territorial sea, is retained as it continues to depict the jurisdictional limit of other laws. The 9-nautical mile Natural Resource Boundary off the Gulf coast of Florida, Texas, and Puerto Rico, and the Three Nautical Mile Line elsewhere remain in most cases the inner limit of Federal fisheries jurisdiction and the outer limit of the jurisdiction of the states. The 24-nautical mile Contiguous Zone and the 200-nautical mile Exclusive Economic Zone were established by Presidential Proclamation. Unless fixed by treaty or the U.S. Supreme Court, these maritime limits are subject to modification.



Territorial Sea in ENC's: Depiction of Inner Limit at West Coast of Florida

ENC Symbology for COLREGS
demarcation line – magenta dashed line

ENC Symbology for "Territorial Sea
Area" – black dashed line

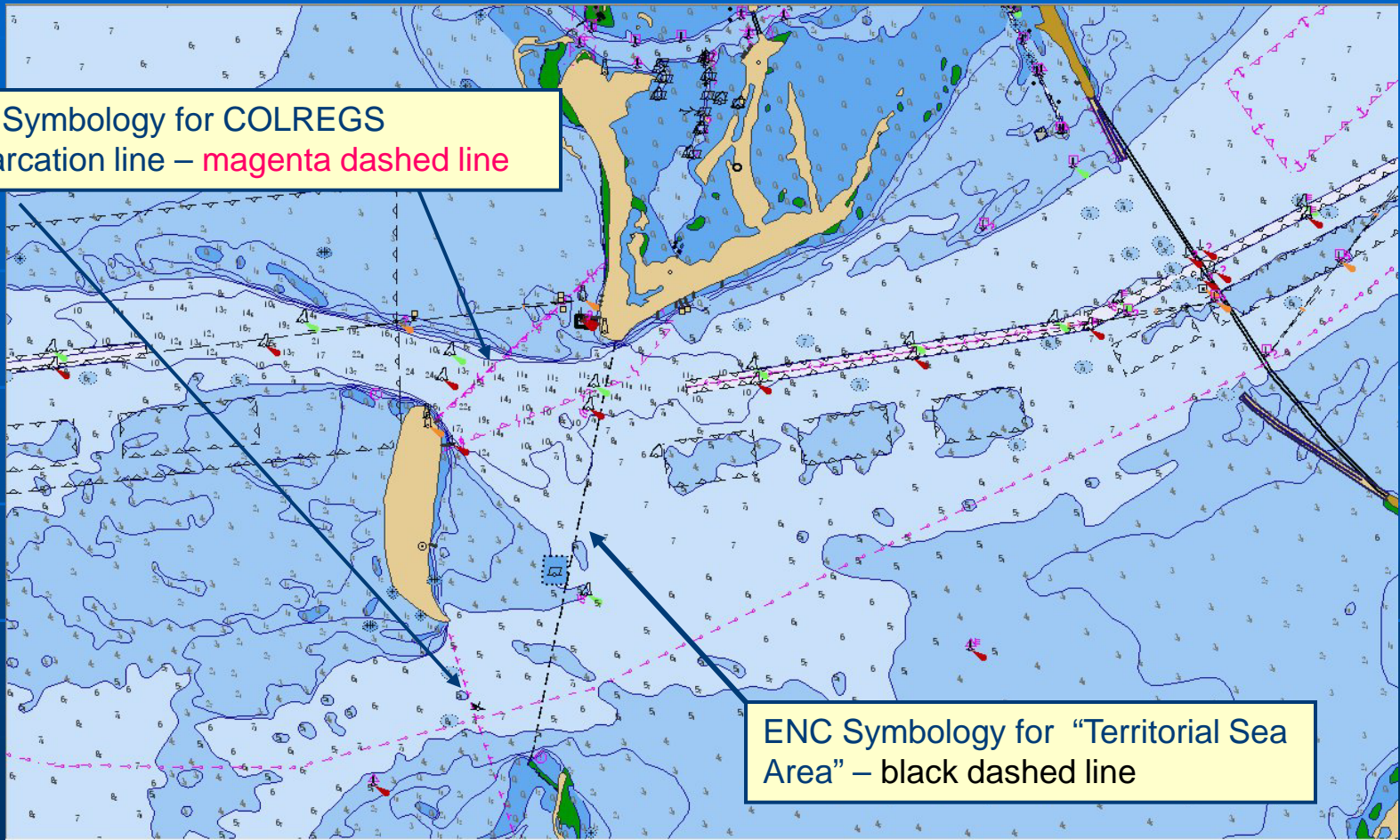


Chart	Source	Scale	Datum	North	South	West	East	Path
US5FL11M.000	S-5773	40000	W84	27°46'55.44"N	27°28'46.92"N	83°04'17.29"W	82°28'24.22"W	D:\MB\limitsinENCs\TERRSEA

Ready

1 : 50 000



For More Information

- *ENC downloads--*
<http://nauticalcharts.noaa.gov/mcd/enc/download.htm>
- *Exclusive Economic Zone--*
<http://nauticalcharts.noaa.gov/csdl/eez.htm>
- *Maritime Limits--*
<http://nauticalcharts.noaa.gov/csdl/mbound.htm>



■ **PROTECTING CORALS, SAVING SHIPS**

- Lee Alexander, University of New Hampshire, Center for Coastal and Ocean Mapping, Joint Hydrographic Center; Kathryn L. Ries, NOAA Office of Coast Survey
- Wednesday, 11:00 a.m. to 12:30 p.m., Galerie 5 – 2nd floor
- TRACK: CORAL REEF MANAGEMENT