BACKGROUND – HISTORY OF THE INTRACOASTAL WATERWAY ROUTE "RED LINE"

U.S. Coast and Geodetic Survey[1] starts producing the Waterway Route in 1912

The first known appearance of what is commonly referred to as the "magenta line" is in a set of eight charts (each titled "U.S. Coast and Geodetic Survey INSIDE ROUTE") included in a now-defunct U.S. Coast & Geodetic Survey publication, *Inside Route Pilot*, 1st edition 1912.

As a sample, the chart edition from 1913 is in our Historical Maps & Charts Collection: http://historicalcharts.noaa.gov/historicals/preview/image/4DNo3-13. According to Coast Survey cartographers, the magenta line on the 1913 chart appears to be a precursor to the magenta Intracoastal Waterway line on charts today.

Why did Coast Survey create the new charts and publication? There are few records that we can locate, documenting the development process within Coast Survey. While we have extensive source documentation on literally millions and millions of symbols on over a thousand nautical charts, we have not been able to locate any original source documentation for the development, creation, or maintenance of the "magenta line."

Let's start at what appears to be the beginning of the Intracoastal Waterway line…

In the *Report of the Superintendent of the Coast and Geodetic Survey showing the progress of the work from July 1, 1910, to June 30, 1911,* Superintendent O.H. Tittman reports:

> "The exacting demands of modern navigation, due to increased traffic, larger size and draft of vessels, and the improvement of channels and harbors, require a corresponding extension of the surveys required to keep the charts up to date. A new chart may require extensive corrections soon after it is issued, and when the number of corrections becomes very great, a new edition becomes necessary. Surveys must be made at frequent intervals to keep pace with changes due to natural causes, to artificial improvements, changes in lights and buoys, and newly discovered rocks and shoals. Many waterways formerly but little frequented are now extensively used, and the great development of motor boating, has caused an extensive demand for accurate charts of the inland waterways and shallower waters along the coast…"

Further in the annual report, Assistant W.E. Parker explains more:

EXAMINATION OF INLAND WATERWAYS.
[W. E. PARKER.]

> To meet a growing demand for sailing directions for navigating the inland waterways between the Capes of the Chesapeake and Key West, Fla., an officer was detailed in February to make a careful examination of the entire route and to gather the necessary information. These waterways had previously been shown on the charts and a small leaflet descriptive of them had been published, but as many of the channels are under improvement by the United States Engineers and changes had taken place, it was necessary to examine each link in the system in

[1] USC&GS is a predecessor agency to NOAA. Quick history is at http://www.nauticalcharts.noaa.gov/staff/hist.html

detail in order to show present conditions adequately. The inspection was made in a launch drawing 2 feet forward and 3 feet aft.

The route taken was as follows: Passing up Elizabeth River and through the Dismal Swamp Canal to Elizabeth City, N. C., thence through the new Government canal to Morehead City and Beaufort. From Morehead City the route was through Bogue Sound to Swansboro, thence out to sea at Bogue Inlet, down the coast to Little River Inlet, and through North Inlet to Winyah Bay, thence to Charleston, thence south to Jacksonville, thence to St. Augustine, thence to Miami, and from Miami to Key West.

The entire travel from Norfolk to Key West was through inside passages and waterways, except between Bogue Inlet and Winyah Bay and across Bull Bay. At the latter place low tide prevented crossing in the lee of the shoals at the head of the bay. From Biscayne Bay to Key West the route was north and west of the keys through cuts dredged by the Florida East Coast Railroad Co.

Information was obtained regarding the general conditions at places along the route and their facilities for supplying passing craft.

From Key West the route was retraced to Norfolk, a more detailed examination was made of the waterways, and alternate routes were examined. Particular attention was paid to the shallow waterways not accessible to ocean-going vessels.

Nearly all the inlets on the coast of Florida having depths of 3 feet or more over the bars were examined, and the least depths determined by soundings. Information was obtained also from local pilots.

At St. Augustine a survey was made of the San Sebastian River below the town, which is becoming commercially important. A new inside route around the head of Bull Bay was examined. When this is completed, there will be an inside passage around Bull Bay, limited to drafts of 4 feet at low water. At present this draft can be carried through at half tide.

North Inlet at Winyah Bay, Corncake Inlet at Cape Fear, Wrightsville, New Topsail, and New River Inlets were sounded and examined.

The yacht Triomyx, of New York, sighted offshore and displaying a distress signal, having lost her rudder and sustained other injuries in a storm, was towed to a safe anchorage in Wrightsville Inlet.

On the northward passage the ocean travel was reduced over 15 miles by entering at New River Inlet instead of Bogue Inlet. An inside route, good for 4 feet at high tide, was found to connect the two inlets. From Bogue Inlet the route was through Bogue Inlet to Beaufort, thence through Core Sound, along the eastern side of Pamlico Sound, through Roanoke Sound and across Albermarle Sound to North River and Albemarle & Chesapeake Canal.

Detailed information concerning these routes will be published hereafter.

The “hereafter” seems to be the first edition of the *Inside Route Pilot*, sent to press in October 1912. The forward may explain a tiny bit about the “magenta line” drawn on the charts included in the Pilot:

DEPARTMENT OF COMMERCE AND LABOR
UNITED STATES COAST AND GEODETIC SURVEY
Washington, October 30, 1912

> This volume covers the inland water route from New York to Beaufort entrance and New River Inlet, N.C., the seacoast and inlets between Beaufort entrance and Winyah Bay, S.C., and the inland water route from Winyah Bay to Key West, Fla. It also includes directions for reaching the most important cities near the inland route, but does not cover the rivers and other waterways not necessarily traversed in making the through passage or in going to these cities, except that, when there are two practicable routes between the points, both are described. It also contains information as to where supplies and fuel can be obtained, where pilots can be found, where repairs can be made, and various other subjects usually included in a Coast Pilot.
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> The publication is intended primarily for use on small power boats, and for that reason the sailing directions through the deeper waters, as for instance between Norfolk and Beaufort and again between Savannah and Fernandina, are not given as minutely as would be necessary for vessels of the maximum draft that navigate these waters. It is believed that this volume with the accompanying charts will be found a sufficient guide for boats up to about 3 feet draft; but for vessels of greater draft it should be supplemented by a set of the larger scale charts, enumerated in the list to be found in the back of the book.
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> The information contained herein is derived from surveys by the Coast and Geodetic Survey and by the United States Engineers, and from special investigations by the Coast and Geodetic Survey. The first part of the volume, from New York to Norfolk, was prepared by Herbert C. Graves, Nautical Expert, and remainder by W.E. Parker, Assistant, Coast and Geodetic Survey.
>
> Valuable information was obtained from the United States Engineers in charge of the several engineering districts and from local pilots and boatmen.
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> Navigators are requested to notify the Superintendent of the Coast and Geodetic Survey of any errors or omissions they may find in the book, or of additional matter which they think should be inserted.

O.H. TITTMANN,
Superintendent

During the 23 years between 1912 and 1935, there were six additional editions of the *Inside Route Pilot*.

1935 may be key to charts of the Intracoastal Waterway

The magenta line on Intracoastal Waterway charts updated in 1935 appear to be much the line still charted today, although a more intricate examination would be necessary to determine any changes made in the intervening 77 years.

The history of the 1935 updates is quite interesting. (Source: “Review of the Year,” from the Annual Report of the Secretary of Commerce, 1935.) USC&GS received substantially more appropriations

through the Public Works Administration. The regular appropriation for the agency was $2.2 million but, as part of the massive federal effort to pull the country out of depression, an additional $5.1 million in Public Works Administration funds were allotted to USC&GS. The additional funds more than doubled the manpower: 1,074 employees were paid under regular appropriations and an additional 2,508 employees were paid with Public Works funds. Of the 2,508, 1,991 PW employees were assigned to work in the field.

The PWA funds went to five UC&GS purposes, the first of which was "surveys to modernize nautical charts."

From the "Review of the Year":

> "Fringing the Atlantic coast from New York to the Mexican border is a system of natural waterways; bays, sounds, and lagoons, linked together almost continuously by narrow, tortuous tidal channels. These waters support an extensive motor-boat traffic carrying local products to centers of distribution, other traffic incidental to the sea-food industry, for which the waters are famous, and for pleasure purposes. The growing importance of these waters has resulted in their extensive improvement under river and harbor appropriations, and when the projects now approaching completion are finished vessels having a draft of not exceeding 7 feet can proceed all the way from Delaware Bay to Miami, while from Choctawatchee Bay to Corpus Christi on the Gulf coast a controlling depth of 6 feet will be available with 9 feet available over the great part of the route.
>
> The existing charts of this system of waterways have been based principally on surveys made from 60 to 80 years ago and, necessarily, are obsolete in many respects. Mariners can derive full benefit from the millions of dollars which are being spent in the improvement of the waterways only if those improvements are shown on the charts. For the past several years, therefore, the Bureau has been urging that funds be provided for this purpose. The granting of Public Works Administration funds provided the needed opportunity. Through their use, while the entire area has not been surveyed, by concentrating on the through route and its most important tributaries, sufficient field surveys have been made so the charts of the entire route can be produced. Numerous other needed harbor revision or other local surveys were made notably along both coasts of Long Island and the north shore of Long Island Sound. On the Pacific coast surveys were made around the islands off the coast of southern California. The newly improved channel for ocean-going vessels in the Sacramento and San Joaquin Rivers was surveyed and charted. Important and difficult wire-drag work along the outer coast was carried on to assure greater safety to coastwise shipping which, in stormy weather, follows the coast as closely as possible."

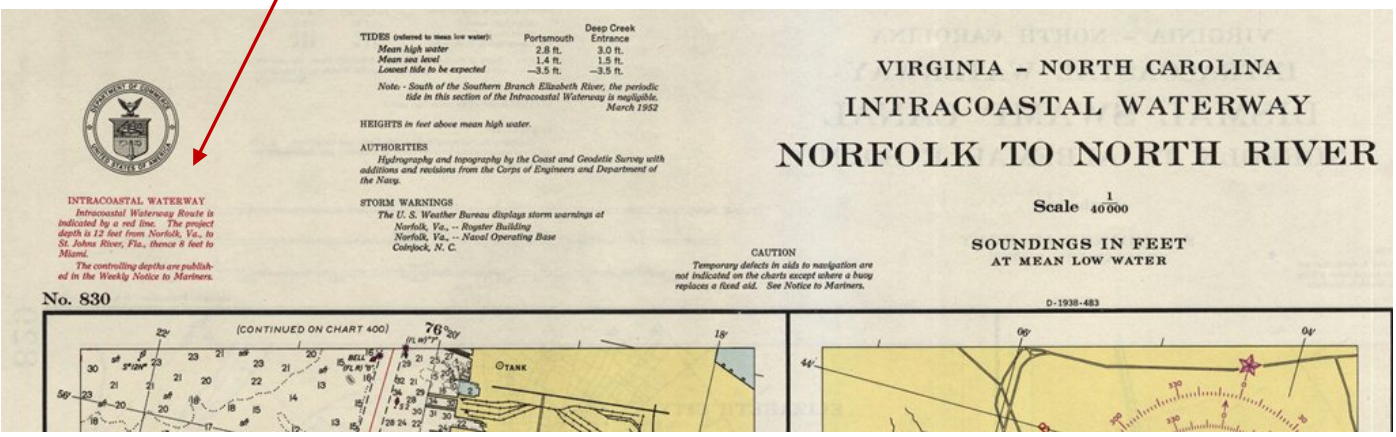
Under the section detailing the hydrographic and topographic work of the Survey, the Review indicates that:

> "Entirely new surveys were made of the principal changeable areas of the intracoastal waterways along the Atlantic and Gulf coasts, from New York to Corpus Christi, and the construction lf larger scare charts is now in progress. This accomplishment does not reduce the regular appropriations necessary for Bureau work during a normal year. It simply means the accomplishment with relief funds of work sorely needed for many years to modernize charts, previously beyond the means of the Bureau's normal appropriations. Fourteen shore parties were engaged on this work during the year… United States Coast Pilots and Intracoastal

> Waterway Pilots, which furnish reliable information to the mariner that cannot be shown on charts, are revised at intervals of 6 to 7 years. Field examinations were made during the year for a complete revision of the United States Coast Pilot, Atlantic Coast, section D, Cape Henry to Key West; United States Coast Pilot, Gulf Coast, Key West to the Rio Grande; and the Intracoastal Waterways Pilots, New York to Key West, and Key West to the Rio Grande."

The 1936 edition of *Inside Route Pilot* (eighth edition) acknowledges the additional surveys.

> "This publication covers the inland water route from New York to Key West, Fla. It is based mainly upon the work of the United States Coast and Geodetic Survey, including the results of a special examination made during 1935."

Post 1936

At some point, the *Inside Route Pilot* was discontinued. The latest edition we have is from 1936. But even though the 1936 edition contains five "Inside Route" charts, it appears that the chart production was changing. Beginning in 1936, the "Inside Route" series of charts were being absorbed into the Intracoastal Waterway nautical charts. See Chart 834 from 1936, which indicates "The Intracoastal Waterway route indicated by a red line." In 1938, the explanation got a little more expansive. On Chart 830: "INTRACOASTAL WATERWAY. Intracoastal Waterway Route is indicated by a red line. The project depth is 12 feet from Norfolk, Va., to St. Johns River, Fla., thence 8 feet to Miami. The controlling depths are published in the Weekly Notice to Mariners."