

# National Oceanic and Atmospheric Administration

*One of the least known of US government agencies is also the oldest!*

*by John H. Vargo,  
Publisher*

In 1807, Thomas Jefferson signed a law authorizing a survey of the U.S. coast, leading to the establishment of the U.S. Coast Survey—the predecessor of NOAA, the National Oceanic and Atmospheric Administration. Its mandate was to survey the coast and inlets of our navigable waterways for safe navigation.

In the beginning a boat was sent out with a man in the bow, who held a rope and lead weight. The weight was tossed ahead of the boat and, depending on the number of knots counted in the line after it touched bottom the man would “sing out” the depth of the water.

Another person would record the location and the depth for future reference.

The water depth was very important to visiting vessels as most of our early commerce was built on shipping. Especially ocean shipping. If the captain of the boat did not know the water depth he could not proceed safely.

Today that same intense interest in water depth is required for safe passage of ships. The U.S. Coast Survey, the federal government’s first scientific agency,

ushered in numerous advancements, including the use of geodesy to establish the nation’s foundation of accurate geographic location. In recognition of the additional scientific component, the agency was renamed as the U.S. Coast and Geodetic Survey in 1878. In 1970, President Nixon combined the agency with a number

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of other agencies, including the U.S. Weather Bureau and the Bureau of Commercial Fisheries, to create NOAA. NOAA’s navigational charts and weather data is key to many aspects of our daily lives. One of the most important is safe travel on navigable waterways, by commercial and recreational ships.

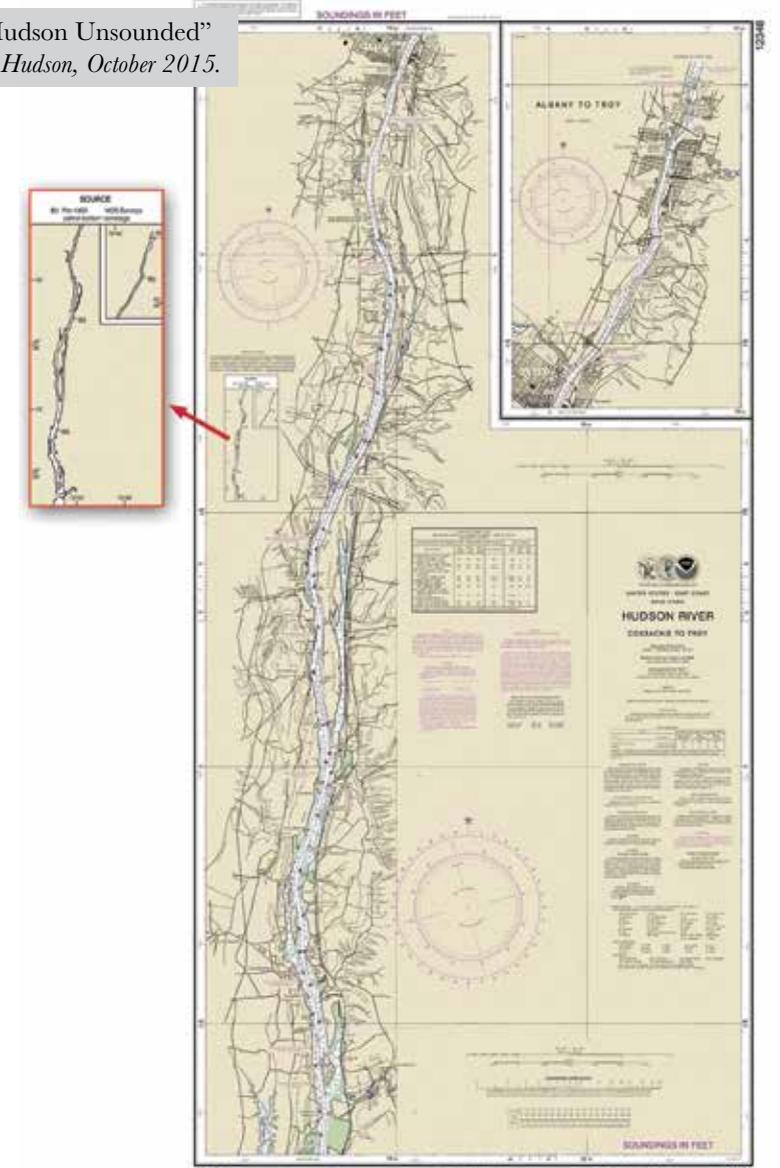
In *Boating On the Hudson & Beyond Magazine* October 2015 issue we brought to your attention the fact that the NOAA charts of the Hudson River were in serious need of being updated. Senator Schumer held a press conference recognizing these facts and requesting additional funds to expedited updating of the NOAA charts on the Hudson River.

The Hudson River Pilots Association and its senior pilot Captain Scott Ireland first initiated the importance of the required updated information. Unbeknownst to the general public, Captain Ireland’s Hudson River Pilots would regularly point out discrepancies in the NOAA charts to the proper authority at NOAA and they in turn would make critical chart updates as well as notify the public via the US Coast Guard as part of regular bulletins to commercial and recreational boats. The Local Notice to Mariners by the US Coast Guard is a good example of this kind of cooperation.

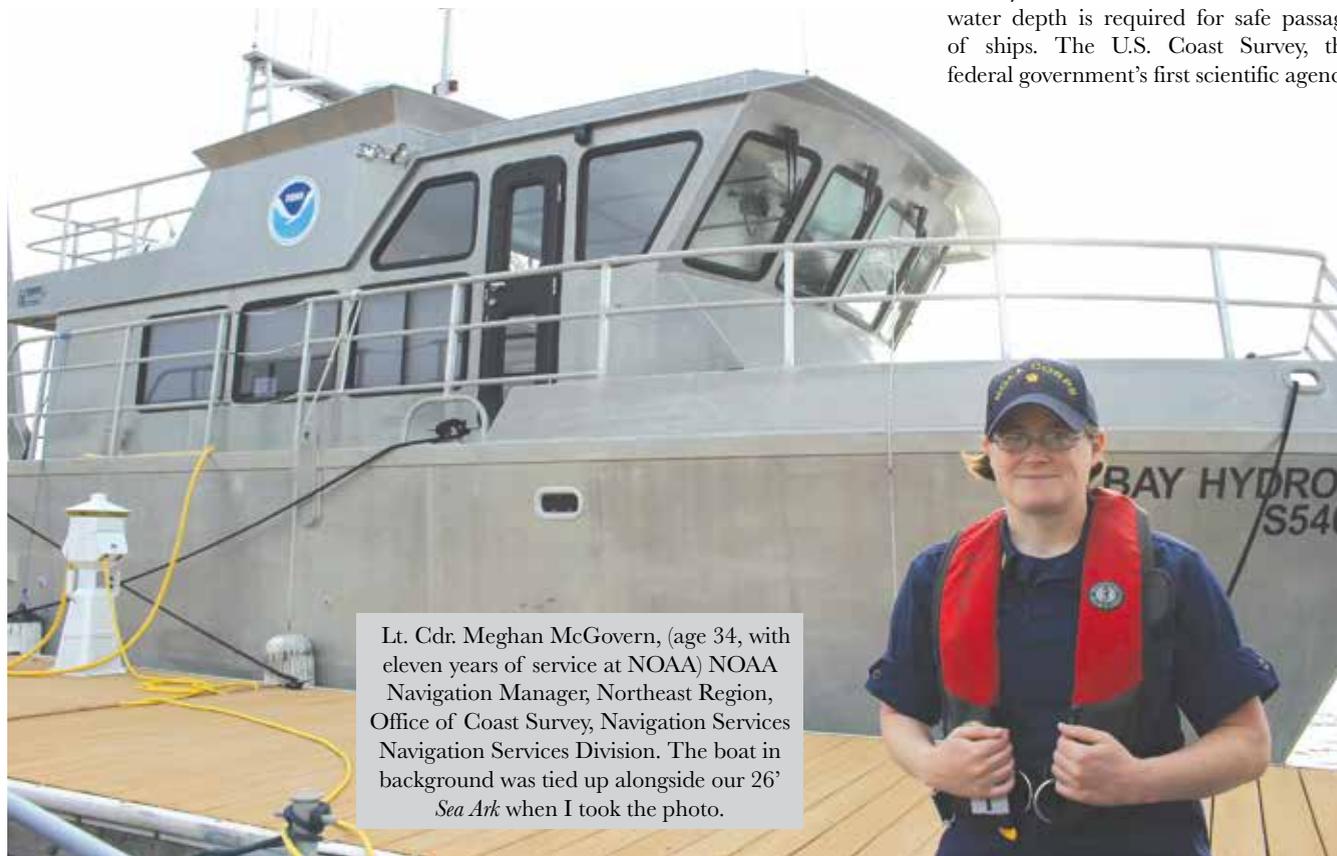
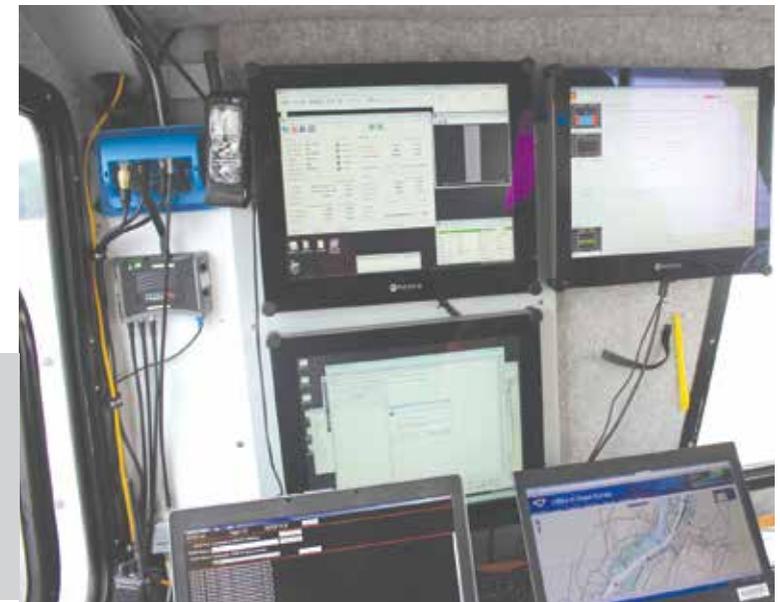
After *Boating on the Hudson & Beyond Magazine* and Senator Schumer’s public support of speeding up the survey of certain portions of the Hudson River a second NOAA boat begun work in the upper Hudson River. Captain Ireland and NOAA, worked closely together to bring the updated information to the publics attention.

Within NOAA there is a series of boats specifically equipped to respond to immediate crisis in our waterways. A good example of this was after Hurricane

Chart from “Hudson Unsounded”  
*Boating on the Hudson, October 2015.*



*Boarding the 26 foot, aluminum Sea Ark equipped with two 200 hp Honda outboards, I was amazed at the array of computers and equipment including transducers, a huge generator housed in the stern to supply power to all the equipment, and various instruments placed “over the side” to report on the data being sent to the computers.*



Lt. Cdr. Meghan McGovern, (age 34, with eleven years of service at NOAA) NOAA Navigation Manager, Northeast Region, Office of Coast Survey, Navigation Services Navigation Services Division. The boat in background was tied up alongside our 26’ Sea Ark when I took the photo.

Sandy when much of the Hudson River, especially New York Harbor was damaged to the point that commercial interests were severely hampered.

This type of boat, small and agile, collects very accurate data using both satellite positioning and ground based control stations.

On July 7th, 2016 I was invited to see for myself what one of these quick response NOAA boats could do.

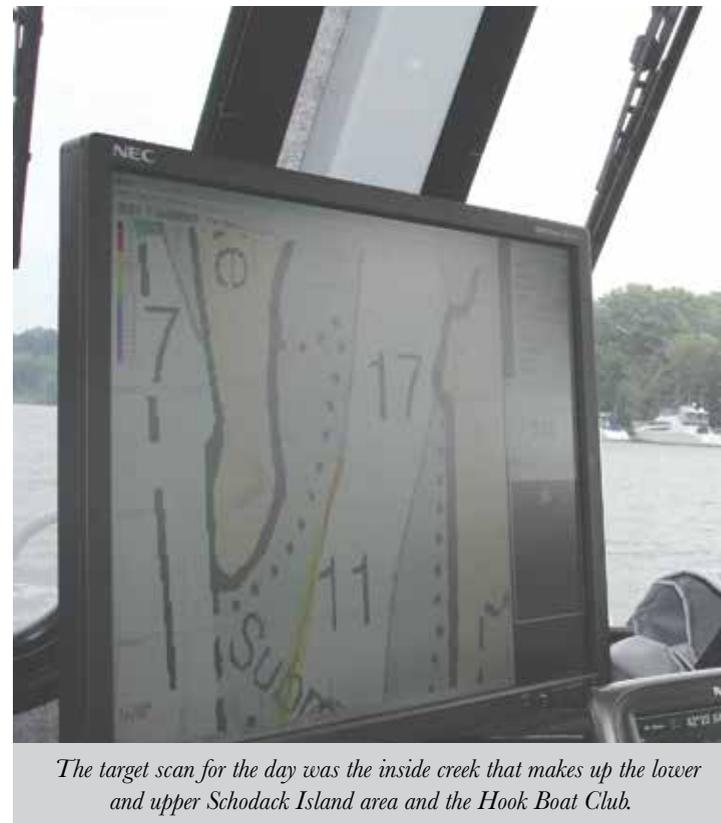
Lt. Cdr. McGovern welcomed me aboard. The 26 foot *Sea Ark*, an aluminum boat equipped with two 200 hp Honda outboards, is loaded with an array of computers and equipment including transducers, a huge generator housed in the stern to supply power to all the equipment, and various instruments placed “over the side” to record data which is sent to the computers. The entire boat is linked to the internet for constant connectivity to NOAA in Maryland and any necessary digital resources.

Lt.(j.g.) Andrew Clos, the navigation response team leader, drives the boat and coordinates the bottom scans back and forth in a specific geographic area by following a track on the screen at the helm. This track is recorded and compiled with the other tracks, and NOAA uses that information to create a new chart. When the information is critical, the U.S. Coast Guard includes it in the Local Notice to Mariners that many boaters are familiar with. Since the vessel is “on the water” continuously, they also monitor obstructions -- floating and fixed -- that could impede navigation or become a major hazard. What is most interesting is the fact that their exact location is determined by a combination of satellite GPS and fixed based stations on shore.

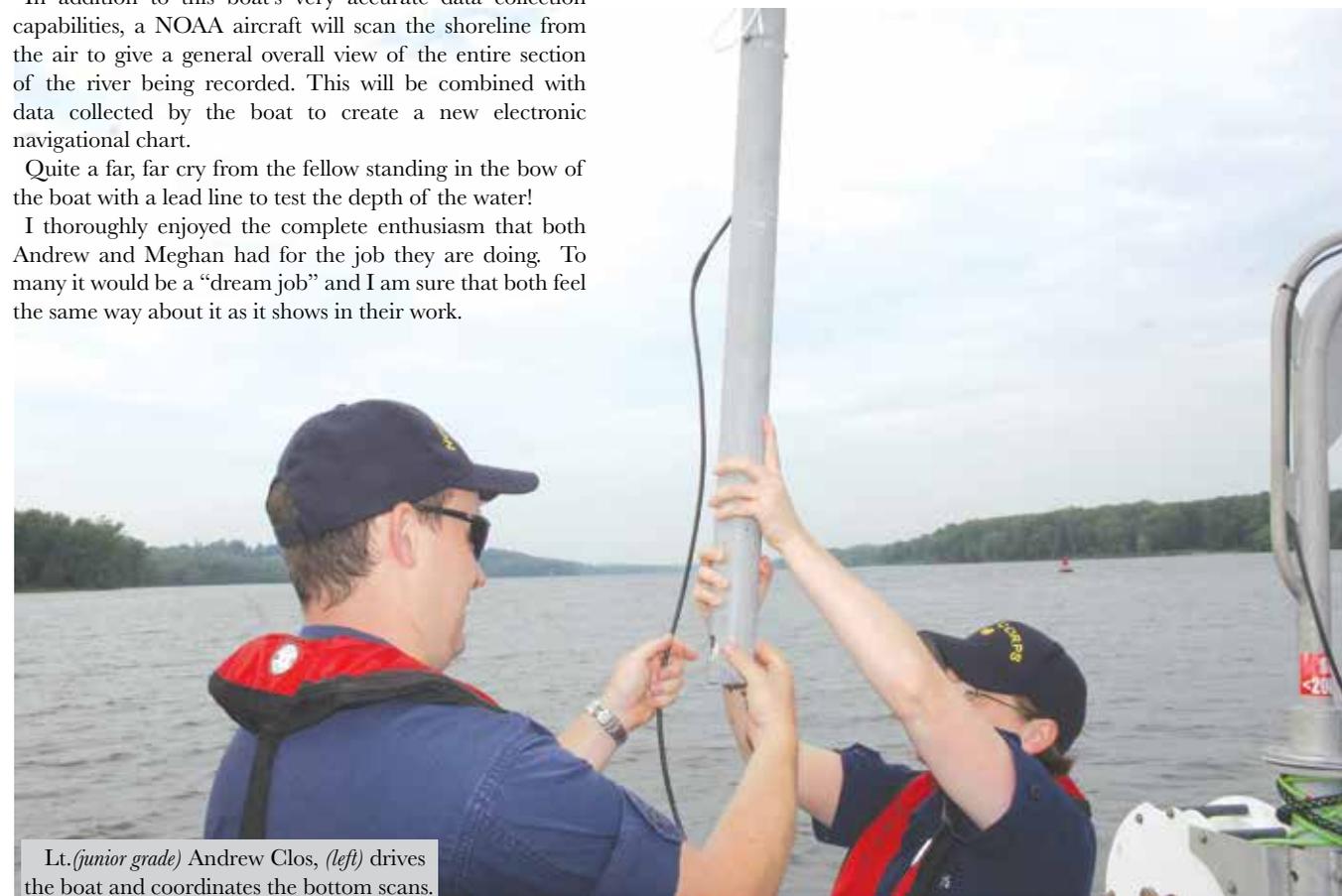
In addition to this boat’s very accurate data collection capabilities, a NOAA aircraft will scan the shoreline from the air to give a general overall view of the entire section of the river being recorded. This will be combined with data collected by the boat to create a new electronic navigational chart.

Quite a far, far cry from the fellow standing in the bow of the boat with a lead line to test the depth of the water!

I thoroughly enjoyed the complete enthusiasm that both Andrew and Meghan had for the job they are doing. To many it would be a “dream job” and I am sure that both feel the same way about it as it shows in their work.



The target scan for the day was the inside creek that makes up the lower and upper Schodack Island area and the Hook Boat Club.



Lt.(junior grade) Andrew Clos, (left) drives the boat and coordinates the bottom scans.



Today's NOAA organizational chart is far different from it's beginnings.



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