MAPPS

Management Association for Private Photogrammetric Surveyors

An Association of Photogrammetry, Mapping, and Geospatial Firms ®

Testimony of
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on behalf of
MAPPS
before the
House Committee on Transportation and Infrastructure
Subcommittee on Coast Guard and Maritime Transportation
hearing on
"Finding Your Way: The Future of Federal Aids to Navigation"
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Mr. Chairman, members of the Subcommittee, I'm Scott Perkins, a geospatial professional from Mission, Kansas. I currently serve as Vice Chairman of the Hydrographic Services Review Panel (HSRP), a federal advisory committee that assists the National Oceanic and Atmospheric Administration (NOAA) on hydrography, nautical charting, and related navigation activities. I am testifying today on behalf of MAPPS, the national association of private sector geospatial firms. MAPPS is the only national association exclusively comprised of private firms in the remote sensing, spatial data and geographic information systems field in the United States. The MAPPS membership spans the entire spectrum of the geospatial community, including Member Firms engaged in satellite and airborne remote sensing, surveying, photogrammetry, aerial photography, LIDAR, hydrography, bathymetry, charting, aerial and satellite image processing, GPS, and GIS data collection and conversion services. MAPPS also includes Associate Member Firms, which are companies that provide hardware, software, products and services to the geospatial profession in the United States and other firms from around the world. Independent Consultant Members are sole proprietors who are engaged in consulting in or to the geospatial profession, or provide a consulting service of interest to the geospatial profession.

The importance of federal Aids to Navigation (ATON) is well established. The federal government has historically played an important role providing this service, beginning with the lighthouse service and its evolution into the Coast Guard. The Coast Guard performs a necessary and beneficial service for the nation in servicing and maintaining ATON's, which are an integral component of facilitating the safe movement of passengers & commercial ships in and out of ports, along 45,000 miles of the maritime transportation system and throughout the Great Lakes.

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Having been born and raised in Michigan, I know personally the comfort one feels when first spotting the Ludington Light as one approaches the western shore of Michigan, having safely made the passage from Wisconsin to Michigan many times on the SS Badger car ferry.
In 2006, the Ludington Breakwater Lighthouse was opened to the public for the first time in its history. The Coast Guard transferred ownership to the City of Ludington under the terms of the National Historic Lighthouse Preservation Act. The lighthouse is now being operated and maintained in partnership with the Sable Points Lighthouse Keepers Association, which is a volunteer group that maintains, restores and operates this light in a public private partnership (PPP or P3).

This is just one example of the transfer of ownership and responsibility for service and maintenance of a fixed ATON by the Coast Guard to a P3. There are many other such examples and opportunities.

The reliance on Federal ATON's by mariners and recreational boaters has steadily changed with expanded capabilities and the ease of use of modern Positioning, Navigation, and Timing (PNT) systems built upon GPS, LORAN and other government provided data & services.

This has directly contributed to the drawdown on the number of physical aids the USCG maintains, some will say this has reached a critically low number of ATON's.

In the near term, small changes such as the Coast Guard publishing weekly changes to the NAVCEN Light List as a web service, so anyone can consume the updates into their web applications or desktop, are needed to increase ease of use of this important data.

Just as GPS forever changed the use of the compass and the electronic chart forever changed the use of the paper chart, the autonomous underwater vehicle (AUV's and their many derivatives) may forever change the ATON.

The last Light Ship was replaced by a Large Navigational Buoy (LNB) in the mid 1980's. The coming wave of new AUV's will soon forever change LNB as we know it. The LNB of the future will not require a 3 ton mushroom anchor and 'black hull' vessel to service and reposition it.

The AUV's evolution is taking place at an amazing rate of change. At the recent Coast Guard NAVSAC meeting in Norfolk, VA, the NAVSAC panel received briefings from the National Oceanic and Atmospheric Administration (NOAA) and the Association for Unmanned Vehicle Systems International (AUVSI) about the surface and sub-surface autonomous vessels already in use by NOAA and the private sector. The ocean already has thousands of autonomous WaveGlider & SHARC's upon it or below the water's surface.

These autonomous systems will become the Light Ships (ATONs) of our future, replacing or certainly reducing the number of LNB's the Coast Guard maintains. These new ATONs are equipped with hydrographic surveying tools (depth measuring devices) and have the capability to stay positioned over a fixed position, avoid a hazard like a coastal rock or to re-position itself over a moving object like the ever changing river bottom on major inland waterways. The future ATON built upon AUV technology will recognize changing water levels, currents and atmospheric conditions and provide near real time positioning and measurement data and be a more dynamic and responsive system of ATONs.

This calls attention to the importance of the services provided by NOAA's National Ocean Service (NOS), tri-service office, comprised of the Office of Coast Survey (OCS), National Geodetic Survey (NGS) and Center for Operational Oceanographic Products and Services (CO-

OPS). The demand for authoritative hydrographic survey data cannot be fully met by the current level of funding for NOAA's navigation, observations and positioning programs.

The NOS services related navigation, observations and positioning are crucial to the future development and deployment of the AUVs and future ATON systems. Such NOS programs as GRAV-D and Coastal LIDAR that provide baseline foundation data are critically important. These activities must be funded at least at the President's requested level, if not at a higher level.

As a result, it is important that Congress promptly reauthorize the Hydrographic Services Improvement Act, H.R. 1399, introduced by Representative Don Young of Alaska and currently pending before Congress. Moreover, MAPPS strongly supports H.R. 1382, the Digital Coast Act, introduced by Representative R.A. "Dutch" Ruppersberger of Maryland and Rep. Young of Alaska.

Enactment of H.R. 1382 and H.R. 1399 separately or as a merged bill will go a long way toward a coordinated and comprehensive national mapping effort for coastal, state and territorial waters of the United States and better integrate navigational and non-navigational geospatial activities in NOAA.

The Maritime Administration (MARAD) grant program for improvements to the Marine Highway Program should include hydrographic surveying & mapping activities that directly contribute to decisions regarding placement of ATONs on the inland waterways. These ATON's are essential for the safe passage of goods on the marine transportation system. This grant program should provide incentives for private sector participation, again through a P3. Increased utilization of and partnership with the private sector geospatial community will help accelerate federally-funded research, enhance navigation and transportation, and create economic growth and job creation in the private sector.

We would emphasize the need to better coordinate the geospatial activities among these various agencies and numerous programs and applications. As the Government Accountability Office found (Geospatial Information: OMB and Agencies Can Reduce Duplication by Making Coordination a Priority GAO-14-226T, Dec 5, 2013) federal agencies involved in geospatial activities have failed "to identify planned geospatial investments to promote coordination and reduce duplication". GAO also reported agencies "had not yet fully planned for or implemented an approach to manage geospatial data as related groups of investments to allow agencies to more effectively plan geospatial data collection efforts and minimize duplicative investments, and its strategic plan was missing key elements."

MAPPS strongly supported a provision enacted in the Biggert-Waters Flood Insurance Reform Act of 2012 (PL 112-141) to develop a funding strategy to leverage and coordinate budgets and expenditures, and to maintain or establish joint funding and other agreement mechanisms between federal agencies and with units of state and local government to share in the collection and utilization of geospatial data among all governmental users. Specifically, section 100220 (42 USC 4101c) requires the office of Management and Budget, in consultation with several agencies to "submit to the appropriate authorizing and appropriating committees of the Senate and the House of Representatives an interagency budget crosscut and coordination report, certified by the Secretary or head of each such agency, that—

(A) contains an interagency budget crosscut report that displays relevant sections of the budget proposed for each of the Federal agencies working on flood risk determination data and digital elevation models, including any planned interagency or intra-agency transfers; and

(B) describes how the efforts aligned with such sections complement one another."

This provision provides that agencies "work together to ensure that flood risk determination data and geospatial data are shared among Federal agencies in order to coordinate the efforts of the Nation to reduce its vulnerability to flooding hazards."

We recommend a similar legislative provision with regard to geospatial data related to charting, navigation, and ATON, involving the Coast Guard, NOAA, MARAD, the Corps of Engineers, USGS, and other relevant federal agencies, as well as state and local government and the private sector.

Hydrographic survey data supports a variety of maritime functions, such as port and harbor maintenance and dredging that facilitates the 98 percent of our international trade that moves through U.S. ports, coastal engineering, coastal zone management, and offshore resource development.

There is an enormous capacity and capability in the private sector to provide NOAA, the Coast Guard, Corps of Engineers and other government agencies the hydrographic surveying, charting, aerial photography, photogrammetry, LIDAR, and other geospatial disciplines that support ATON. The private sector stands ready to continue to assist these agencies achieve their important missions. MAPPS urges Congress to enact legislation to accelerate and complete the transition from government or university performance of commercially available geospatial services to contractor performance, while refocusing agencies on inherently governmental activities, such as establishing standards, coordinating user requirements, determining needs, and managing contracts.

Federal agencies should maintain an "intellectual" core capability in surveying and mapping, versus a large dollar of capital capability. Congressional appropriations and authorizations should be directed toward commercial contracting for data collection requirements, rather than capital equipment.

Creating a pathway to greater utilization of the private sector and forming public-private partnerships will result in cost savings to the tax payer, improve the economy, enhance navigation, reduce duplication, and make programs more efficient.

We commend Congress for its leadership on ATON, hydrography and nautical charting programs. Important steps have been taken, and progress has been made, but we must continue to strive to bring the full expertise, innovation and efficiency of the private sector to all of the federal government's mapping and charting activities.

In summary, the ATON of the future can and should be smaller, lighter, more agile and more self-sustaining than the current LNB's we know today. A new public-private partnership is the key to such success.