**Public Meeting Summary
Hydrographic Services Review Panel
June 9, 2017
Webinar**

*Friday, June 9, 2017*

On the call of the Designated Federal Official (DFO), Rear Admiral Shepard M. Smith, NOAA, the Hydrographic Services Review Panel (HSRP) meeting was convened on June 9, 2017, via webinar. The following report summarizes the deliberations of this meeting. The agenda, presentations, and documents are available for public inspection online at

<http://www.nauticalcharts.noaa.gov/ocs/hsrp/meetings.htm>

Copies can be requested by writing to the Director, Office of Coast Survey (OCS), 1315 East West Highway, SSMC3, N/CS, Silver Spring, Maryland 20910.

 **Welcome and Meeting Overview**

**Bill Hanson, HSRP Chair**

The meeting was called to order at 1:09 p.m. Chair Hanson welcomed the attendees and encouraged participation from the members of the public. RADM Smith discussed the purpose, goals, and outcomes expected from the meeting, specifically to provide consensus comments to NOAA on the National Charting Plan (NCP). Time permitting, other items may be added to the agenda.

**NOS Charting Plan – Discussion and Comments**

Member Shingledecker thanked Vice Chair Miller and other HSRP members for their contributions. She applauded the effort that went into drafting the plan and noted that it has raised a lot of attention from many different perspectives. Member Shingledecker summarized the issue areas of the draft comments and provided an opportunity for further discussion. Member Shingledecker will incorporate the Panel’s discussion into a revised version of the HSRP’s consensus comments, distribute the final version to the Panel members for approval, and send it to NOAA as soon as possible.

General comments on the NCP include:

* State clearly that this is a charting plan only and is not meant to reflect everything the three offices within NOS are focused on
* The Panel strongly supports switching to the metric system
* USACE soundings should be shown whenever they are available
* Steps to improve and clarify ENC and ECDIS displays are critical
* The NCP should cross-reference other documents and mention the plan to investigate chart discrepancies using available resources

Comments regarding proofreading/editing were submitted without discussion. The remaining comments were grouped by sections as follows.

*Sources of data used to maintain charts*

* New chart source data. The NCP does not address the inclusion of other data sources except from the Army Corps of Engineers (USACE). The document should list and discuss other sources, and should include contractors as a source of hydrographic surveys.
	+ RADM Smith commented that NOAA makes no distinction between surveys done by its employees and its contractors. In the charting plan, “NOAA survey” includes both.
* New editions of paper charts. Members suggested that the algorithm for determining when to issue a new edition of a raster chart be explained and a short list of examples of routine chart updates be included. Additionally, the NCP does not mention the timely transmission of the Local Notices to Mariners to the UK Hydrographic Office for compiling the Admiralty Information Overlay cells.

*ENC and RNC Chart Updates and New Editions*

* Normalizing ENC depth contours. The Panel was in general agreement that standardizing scales and contour values is important and concurred with adding additional integer unit contours. New integer contours should not be added without removing decimal meter contours. Examples, such as the Port of Los Angeles, should be included.
* Metrification of ENC and raster charts. The HSRP concurs that the U.S. charts should be changed to a metric format as soon as possible. The Panel would like to hear a reasonable fixed date for this transition. They suggested a prioritized list of charts to be converted to metric. Significant educational outreach will be needed on the move to metric for nonprofessional mariners. The issue of metrification is not just about translation but to achieve good density of bathymetries in meters so users can make the most of the depth in narrow channels or enclosed waters.
* Reducing unwarranted alarms/isolated dangers. A problem not mentioned in the document is dual compilation scales within one ENC due to an inset. The HSRP suggests creating a dedicated ENC for each inset to the chart. Metric values should be added to non-dangerous point features of unknown depth. If the imperial unit depths of these features are being updated, metric values should be added at the same time. When compiling metric values for subsea features, NOAA should also collect metric values for overhead clearance.
* Channel tabulations. At least two USACE Districts have published disclaimers claiming that their channel surveys should not be used for navigation and that mariners should refer to the NOS nautical chart. This conflicts with the NCP’s recommendation to refer mariners and pilots to current USACE surveys. Several Panels members strongly disagree with NOAA removing depths from channels.
	+ The Panel requested further clarity on which channels would be considered for removal and whether they would be removed from all charts or just raster and paper charts. Member Shingledecker will further refine the comment to reflect the Panel’s suggestion that they not be removed from ENCs but perhaps from paper charts. Member Rassello said that contours are needed in channels, not soundings. Mr. Armstrong said he thought the sense of the recommendation was the concern over the possibility that mariners were being asked to go to USACE for depth information as opposed to having it on the chart in some form or another. The Panel agreed that this was the intent and Mr. Armstrong will send this clarification to Member Shingledecker for inclusion in the Panel’s comment.
* Reported, existence doubtful, and position approximate dangers. The Panel suggests increasing the proposed depth value to 100 feet or 30 meters. ECDIS does not provide any detail beyond 30 meters depth, so there is no reason to include detailed bathymetries beyond that.
	+ RADM Smith asked what part of the NCP is being referred to in this comment. Member Rassello said the comment is in regards to the last sentence of the section on non-dangerous wrecks of unknown depth and was raised at the previous meeting about 11 fathoms being insufficient. Ms. Shingledecker will revise the recommendation to clarify the citation and it will be moved to the vision for the future of nautical charting section.

Trusted sources, such as USACE or USCG, should be used to prove objects near their working areas. Also, satellite and aerial photogrammetry should be used to prove the existence and position of objects as a low-cost, low-overhead method for detecting wrecks and obstructions in clear water. These will not suffice for disproval but will help to declutter the chart.

*Small Craft Charts*

* The plan needs better captions describing the orientation of each chart panel. Panel members wanted to know why small craft charts are not being made available in KMZ format, as this would be an easy way to get charts into a georeferenced format that users are already accustomed to. The HSRP suggests making small-scale small craft ENCs and RNCs as insets or overlays to a distinct set of larger-scale charts, much in the same manner that BOEM lease blocks in the Gulf of Mexico are overlaid on A-series charts.

*US Army Corps of Engineers’ Data for Ship Channels*

* The Panel is pleased that NOAA-USACE issues are discussed openly in the NCP. HSRP members had some reservations about making recommendations to USACE, but they would like to see the Corps commit to a timeframe for adoption of eHydro delivery methods. The Panel acknowledged that budget reductions will necessitate more cooperation and resource sharing between agencies. They suggested establishing dedicated points of contacts and specific communication protocols between the agencies, as well as setting up site visits and/or virtual tours. Serious focus will be required to ensure that USACE and NOAA data are compatible and of adequate quality for nautical charting. The Panel suggests that NOAA work with USACE to ensure better-than-CATZOC B coverage is obtained during all routine channel condition surveys, which may be as simple as collecting sidescan sonar data and sending it to a designated NOAA unit. If a contractor hired by USACE for channel condition surveys is also a trusted NOAA contractor, then USACE may specify that object detection surveying be part of the scope of the channel condition surveys and that the contractor shall process object detection data in accordance with NOS specifications and submit the object detection data for review.
* Distributing USACE/NOAA Aids to Navigation and USACE-controlled channel updates simultaneously. The HSRP suggests linking the distribution website to Notice to Mariners. It is important to note that eHydro is an Esri-based distribution format and not a set of survey specifications and deliverables. Incorporating eHydro deliverables must be considered as a separate item. eHydro will not replace serious discussions on survey quality and survey specifications.
	+ Chair Hanson said the comments should be rephrased to be NOAA-specific. Member Kelly said that the recommendations should state that NOAA effect the coordination with USACE. RADM Smith said that these may be good recommendations to NOAA in general, but they are specifically looking for comments on what should be included in the NCP. Member Shingledecker said the comments seek to advise NOAA on how the NCP can better include relevant agencies to achieve what is necessary for interagency coordination. RADM Smith said that the conversations with USACE have made significant progress that he will be updating the Panel on in September. Mr. Armstrong said that it is worth taking a careful look to ensure the HSRP’s recommendations respond to specific areas in the plan. Chair Hanson will help reword the comments on this section.

*Vision for the Future of the Nautical Charting*.

The timeline for this vision is unclear. It is also unclear which items are aspirational compared to what is definitely happening. RADM Smith said they could clarify that NOAA does not have firm plans or timelines on anything included in the vision. Rather, it is more generally the direction they are expecting to move over the course of the next decade or more. Member Hall said there should be some distinction between what is expected in the next 5-10 years and the next 20-30 years. Colby Harmon, Marine Chart Division and Lead Editor of the NCP, said this section was left intentionally vague because it was meant to be less of a prediction than a recognition of trends. They could clarify in the next edition that ending paper charts is not an imminent decision but there is a time in the future where that is likely to happen.

* The end of raster nautical charts. The recreational boating community had a strong reaction to the concept of sunsetting paper charts. While more and more boaters are accessing chart products online and via digital means, there is still a large user base for traditional paper chart products. Data for recreational boaters must continue to be available in a variety of formats, including paper printouts in some form.
	+ RADM Smith said that “traditional paper charts” in the NCP only means the official NOAA chart products that are printed to a performance standard by NOAA’s print-on-demand providers. Paper products that are derived by private sector companies from NOAA’s digital products are not affected by this. NOAA recognizes this issue needs to be clarified in the NCP.
* Port ECDIS/Port ENC. The future of nautical charts should reflect the discussions on the Port ECDIS/Port ENC which comply with the latest international standards for metrification and bathymetry density of at least every meter starting from 30 meters inland. Additionally, this product should have a real-time weather data overlay. This comment covers the earlier comments on density and the 30 meters. Member Rassello suggested removing “starting at 30 meters inland” because it causes confusion.
	+ CAPT Brennan said that he believed the intent was to address contour intervals in the next version of the NCP. From internal discussions, they decided to follow IHO specifications on the interval.

*Open Data and Marine Spatial Data Infrastructure*

The Panel wanted to know if the MSDI is a bathymetric database for all data submitted to NOAA, all data from NOAA sources only, or only OCS. They suggest a wider field than just OCS data.

Member Shingledecker conveyed Member Thompson’s recommendation that the NCP include information on how the transition to new horizontal and vertical datums will impact the charts and provide an overview of a transition plan utilizing the new datums. This comment likely belongs in the vision for the future section.

The public comment period on the NCP has officially been extended to July 1.

**Public Comments**

Jim Haussener, California Marine Affairs and Navigation Conference, commented that there is no reference to crowdsourced data in the NCP. The private sector has been doing a lot to collect data from their customers in order to provide the crowdsourced database and he would like to know if NOAA intends to use any of it. RADM Smith agreed that crowdsourced data should be addressed in the NCP in some fashion. Member Shingledecker noted that crowdsourced data is part of other NOAA documents being developed. Mr. Haussener also commented that NOAA makes reference to doing weekly updates to ENC and RNC products. He asked what the mechanism is for getting third party vendors to push those updates out to end users. RADM Smith said that is something NOAA is very concerned about and the NCP does not include much information on dissemination issues. Member Shingledecker said BoatUS is considering some activities to investigate how old the data is that is being used. NOAA is not able to see (or at least share) who pulls the latest data and how frequently. Customers would like to know which vendors are using the latest data available. RADM Smith noted that NOAA does not have that ability and the people in the driver seat on that issue are the consumers of the unregulated products. NOAA will take this comment into consideration as potential areas to touch on, even if only to refer to another document.

**Updates on HSRP Work**

Chair Hanson led the discussion on some of the items the Panel has worked on since its April meeting. The HSRP Recommendation Letter was submitted to the NOAA Acting Administrator along with three issue papers. A total of 11 recommendations were sent in – five from the recreational boating paper, three from the surveying and charting U.S. channels paper, and three from the paper on improving access for U.S. nautical charts.

Member Hall said that the outline for the precision navigation issue paper that she presented to the Planning and Engagement Working Group was acceptable to the Panel and comments were received from members. As soon as the HSRP approves the comments, she will put the paper out for Panel comment. The group will discuss the paper at the next P&E meeting in July and it should be ready for final approval at the HSRP meeting in September.

Potential topics for future issue papers include public-private partnerships, autonomous systems, and externally-sourced data. Surveying in harbors and channels and NOAA’s partnership with USACE are also of interest to the Panel. RADM Smith’s updates on these areas have been very helpful.

RADM Smith presented the draft agenda for the September 12-14, 2017, HSRP meeting in Portsmouth, New Hampshire, and asked for feedback from the Panel. Member Hall suggested making the unmanned systems panel first on the agenda to give the members an introduction to the technology prior to the demonstration planned for the first day. Member Lockhart suggested presentations by someone using a larger system (such as Thomas Chance), a smaller system (such as a Z-Boat), and a TerraSond representative discussing how they have used autonomous systems for surveys in Alaska (Andy Orthmann was suggested as a possible presenter). She also recommended a presentation on the software or vaporware used. Member Shingledecker agreed that practical applications (breadth and diversity of application) are useful to hear about as long as they are specific to the Tri-Offices. RADM Smith said a presentation by Thomas Chance would be similar to TerraSond’s and if members had a preference for either they should contact Ms. Mersfelder-Lewis. Mr. Armstrong said UNH JHC has smaller boats that could be added to the demo. Ms. Blackwell briefly discussed NGS Remote Sensing Division’s work with small unmanned aircraft for photogrammetry projects that have potential for hydrographic applications, particularly for response efforts. She added that “autonomous systems” taken broadly could include a presentation on geodesy’s role in ensuring baseline information is accurate to enable autonomous systems beyond maritime. Member Saade agreed that the Technology Working Group will develop this section of the agenda. He also said a Panel member could summarize the discussions of an upcoming Arctic conference. Chair Hanson said he wanted to make sure Member Brigham had an opportunity to give a final presentation on Arctic issues. Member Hall suggested members send Member Brigham their recommendations on what they would like to hear about and ask him to assemble a panel or give the presentation on his own. An hour of the agenda was agreed to be sufficient for the topic. Member Hall said she would like to see a presentation on VDatum that gives members a foundational understanding and lexicon without including too much information. Members agreed Mr. Edwing and Ms. Blackwell are best placed to give the presentations; a presentation by Member Thompson on the state perspective may be helpful. Member Maune volunteered to give a presentation on the lessons learned from the State of Florida study which evaluated the requirements and benefits of topographic Lidar and bathymetric Lidar; this will be in concert with Ashley Chappell’s NEEA update.

Given time constraints, Director’s updates will be provided as handouts ahead of the meeting, along with read-ahead materials highlighting their office’s activities in the New England region. Member Hall said that it is helpful to hear from the Directors what the HSRP can do for them and what the Panel needs to be aware of looking forward. Chair Hanson requested an opportunity for the Panel to engage with a representative from USACE Headquarters leadership, ideally General Jackson. A willing and engaged USACE district, such as Philadelphia, may also be an interesting presenter. Member Hall said someone from HSRP should assist a USACE representative in preparing their presentation to give them a better idea of what the Panel is looking for. Member Shingledecker said they should aim to get high-level USACE leadership because inconsistency between districts is one of the biggest challenges the Panel hears about.

Ms. Mersfelder-Lewis will send out a revised draft agenda in the next few weeks that the Panel can provide further comments on.

**Other Business**

Rachel Medley announced an all-interested Congressional staff briefing on NOAA Navigation Services on June 27, 2017, from 1:30 to 2:30 p.m. at 2253 Rayburn House Office Building. Any HSRP members with connections to Congressional staff were asked to pass along the information to the appropriate people. Speakers will include Rep. Alan Lowenthal, Dr. Russell Callender, Rich Edwing, RADM Smith, and Captain Jorge Viso, the president of the American Pilots Association.

**Wrap-Up**

Chair Hanson and RADM Smith provided final comments and gave Panel members an opportunity to add any additional thoughts. Mr. Edwing will be sending HSRP members a notice about an emerging technologies workshop in August. Member Shingledecker requested a link to the most recent issue papers and asked if they were able to be distributed publicly yet. Ms. Mersfelder-Lewis said that the issue papers will be posted to the website by June 16; the Panel will be notified when they are posted.

The meeting was adjourned at 3:12 p.m.

**HSRP VOTING MEMBERS IN ATTENDANCE:**

Larry P. Atkinson, PhD Samuel and Fay Slover Professor of Oceanography, Department of Ocean, Earth and Atmosphere Sciences, Old Dominion University

Kim Hall Principal & Founder, Brizo Maritime Consulting, LLC

William Hanson, Chair Vice President of US Business Development, Great Lakes Dredge & Dock Company

Edward J. Kelly Executive Director, Maritime Association of the
 Port of NY/NJ

Carol Lockhart President, Geomatics Data Solutions, LLC

David Maune, PhD Associate Vice President and Senior Remote Sensing Project Manager, Dewberry Consultants

Captain Salvatore Rassello Director, Nautical Operations, Carnival Cruise Lines

Edward J. Saade President, Fugro (USA) Inc. & Regional Director Americas - Marine

Susan Shingledecker Vice President and Director, Environmental Programs, BoatUS Foundation for Boating Safety and Clean Water

Gary Thompson Chief, North Carolina Geodetic Survey

**HSRP NON-VOTING MEMBERS IN ATTENDANCE:**

Andy Armstrong Co-Director, Center for Coastal and Ocean Mapping,
 Joint Hydrographic Center, University of New
 Hampshire

Juliana Blackwell Director, National Geodetic Survey, NOAA

Richard Edwing Director, Center for Operational Oceanography Products
 & Services, NOAA

**DESIGNATED FEDERAL OFFICIAL:**

RADM Shephard M. Smith Director, Office of Coast Survey, NOAA

 **NOAA STAFF PRESENT:**

Tatiana Bowie NOS/NGS

Captain Rick Brennan Chief, Hydrographic Surveys Division

Colby Harmon OCS/MCD

Laura Rear McLaughlin NOS/CO-OPS

Rachel Medley Acting Deputy Hydrographer, OCS

Lynne Mersfelder-Lewis HSRP Program Coordinator

**ATTENDEES:**

John Haussener

David Hericks

Shana Kinsey-Carlsen

Jose Morales

Soong Noonian

Nathan Wardwell