Hydrographic Services Review Panel (HSRP)

Webinar Meeting
May 7-8, 2013
1:00 – 5:00 PM (EDT)
Presentations for this meeting have been posted on the HSRP website at:
http://www.nauticalcharts.noaa.gov/ocs/hsrp/hsrp.htm

Tuesday, May 7, 2013

Welcome & Meeting Overview
Matthew Wellslager, HSRP Chair
Rear Admiral Gerd F. Glang, HSRP Designated Federal Official

Matthew Wellslager welcomed everyone to the webinar and thanked NOAA leadership for participating. Mr. Wellslager reviewed the webinar ground rules, along with the objectives and purpose of the HSRP meeting. Rear Admiral Glang provided a brief overview of the HSRP and reviewed the meeting protocol.

NOAA Vision & the Role of Navigation Services
Dr. Kathryn D. Sullivan, Acting Under Secretary, National Oceanic and Atmospheric Administration (NOAA)

Summary
Dr. Kathryn Sullivan thanked the HSRP for their service in advising NOAA and in their flexibility with this new meeting format. Virtual meetings are not normal for Federal Advisory Committees (FACs), but are necessary in the current budget climate of sequestration and furloughs.

Many events, such as Superstorm Sandy, served as a reminder of how valuable the core services are that the National Ocean Service (NOS) Navigation Services Offices provides. The HSRP recognizes the importance of NOAA's navigation services response efforts to Superstorm Sandy, and will produce targeted, specific recommendations for improvements to NOAA's suite of navigation data, products, and services.

Feedback from the HSRP on end user needs is important. The HSRP's focused advice, letters of support, and concerted efforts is precisely what is needed to help Congress appreciate the importance of NOAA's navigation services during difficult times. President Obama is aiming to stimulate the economy and create jobs through robust investments in research and development as well as earth observations. The HSRP has expressed the critical need for NOAA's navigation data, products, and services to ensure a safe and economically viable U.S. marine transportation system. As a result, NOAA's FY14 Budget includes significant increases for its navigation services programs, including the restoration of funding for the navigation response teams (NRTs). NOAA values the HSRP's efforts to keep NOAA connected to its partners in the maritime community.

Discussion and Questions
Susan Shingledecker commended NOAA for working with the recreational boating community that was devastated during Sandy. The community had great access to many people at NOAA trying to arrange a number of different things whether it was educational products for recreational boaters helping them get back on the water to educating mariners on resiliency and rebuilding.

NOS Priorities: Positioning America for the Future
Dr. Holly A. Bamford, Assistant Administrator, NOS

Summary
Dr. Holly Bamford echoed Dr. Sullivan's thanks to the HSRP. Dr. Bamford looked over the panel's previous recommendations regarding Integrated Ocean and Coastal Mapping (IOCM), the Committee Marine Transportation System (CMTS), Physical Oceanographic Real-Time System (PORTS®) program, and the Gravity for the Redefinition of the American Vertical Datum (GRAV-D). NOAA is listening to the panel and doing their best to put their recommendations into action.

NOS is extremely pleased with the FY14 budget, increases will get NOAA to where it needs to be. Dr. Bamford discussed one of NOAA's budget initiatives, the joint NOAA/U.S. Geologic Survey (USGS) light detection and ranging (LiDAR) which supports nautical charting and will help make our coasts more resilient and better prepared for storms. NOAA continues to see the positive results of this joint effort along our coasts. These results have tremendous impact on many missions across the agencies. Another budget initiative is the coordination of the IOCM effort which will be discussed later.

NOS recently conducted an internal review of its programs in an effort to become more efficient and responsive to the needs of our stakeholders and users. As a result, NOS has adopted a new vision, "Positioning America for the Future" which focuses our agency priorities for improved emergency preparedness, response capabilities, recovery, and resiliency. NOS priorities take into account: 1) the future of more intense storms which is likely be the norm; 2) increased maritime transportation; and 3) the future of increased offshore development and coastal development.

Discussion and Questions
Frank Kudrna asked about NOAA's strategy to get Congress and the public to begin recognizing NOAA's value in preparing for the next natural disaster, rather than response and recovery. Dr. Bamford stated that NOAA is communicating that to the Congress using the Positioning America for the Future vision and framework. She also stated that NOS is working with other federal partners such as Federal Emergency Management Agency (FEMA) and United States Army Corps of Engineers (USACE) in this effort.

Vice-chair, Scott Perkins asked Dr. Bamford if NOAA is supportive of the current 'map it once use it many times' bill as it is introduced right now. Dr. Bamford stated that NOAA is already leading the IOCM effort, which addresses the concerns of the bill without consolidating mapping agencies under one roof, The coordination aspect of 'map it once, use it many times' is the

direction NOAA is going to have to go because it helps us coordinate and do our jobs better. NOAA has not been asked for a response to the bill yet.

FY13 Appropriations, FY14 Budget, Sandy Supplemental Spend Plan & Legislative Update

Glenn Boledovich & Paul Bradley, NOS Policy, Planning & Analysis Division (PPAD)

Summary

Glenn Boledovich presented to the HSRP that he is pleased with the FY14 budget. In the Sandy Supplemental, NOAA will receive $62 million for NOS; $50 million for mapping, charting, and marine debris services which are programs under HSRP purview, and $7 million to repair instruments for these programs that were damaged (i.e. water level gauges). The spend plan for Hurricane Sandy Supplemental is pending on the Hill.

Discussion and Questions

Vice-Chair Perkins remarked that the Sandy Supplemental legislation required NOAA to submit the spend plan within 30-45 days. He asked Glenn for insight on when this will be approved. Glenn informed him that NOAA should receive the funding any day. Also, Scott inquired about the FY14 budget categories consolidation and why shoreline mapping was rolled in instead of split up and visible by itself as it was previously. In terms of budget presentation, smaller funding lines shown in the NOS budget were rolled up into broader "buckets" within the *Navigation, Observations, and Positioning* subactivity. Juliana Blackwell stated that the shoreline mapping budget line is different from the *Hydrographic Survey Priorities/Contracts* (formerly Address Survey Backlog) line because the latter has historically been much larger in size and is primarily used for contracting.

Frank Kudrna asked if the Sandy Supplemental and additional mapping did anything significant to reduce the hydrographic survey backlog. Glenn responded by stating that the money is targeted specifically for this region—for emergency response and recovery in the near shore area and based on major shipping routes. Admiral Glang clarified that the work NOAA accomplishes under the Sandy Supplemental effort will contribute to reducing our hydro survey backlog in key ways and areas. The backlog will move to the source application—getting the data onto the charts. As far as surveying, getting that hydrography is a good thing; we will get more done than we would otherwise.

Jon Dasler commented that Glenn mentioned the Sandy Supplemental and how it is still waiting for final approval. It is his understanding that this is fully authorized and contractors will be starting in May. Is that accurate or is NOAA still waiting for approval? If so, at what level is approval required. Glenn commented that NOS is moving forward and ready for action, although the Sandy Supplemental funding is still pending approval from Congress.

Steve Eick asked who is directly managing bathy/topo LiDAR survey. Juliana Blackwell responded that the National Geodetic Survey (NGS) is managing the bathy/topo LiDAR survey.

Summary

Paul Bradley presented the legislative update to the panel. There were three bills flagged for the HSRP: HR 1399, HR 1382, and HR 1604. HR 1399 is a bill to reauthorize the Hydrographic Services Improvement Act (HSIA). He noted there were a few key changes that included: 1) extending the authorization of appropriations; 2) imposing a five percent limit on Coast Survey's use of the survey backlog funding for administrative expenses; and 3) lastly, it would require the Government Accountability Office to do a cost comparison study comparing cost of acquiring hydrographic survey data in house using the NOAA assets versus private sector contracting. HR 1382 is the Digital Coast Act, which establishes the NOAA Coastal Services Center (CSC) and their Digital Coast tool. HR 1604 is the 'map it once use it many times' act and would implement significant reform in geospatial activities in the federal government. It would consolidate all the geospatial functions of NOAA, Department of Interior (DOI), and the Department of Agriculture.

Committee on Marine Transportation (CMTS) Update

Helen Brohl, Executive Director, CMTS

Summary

Helen Brohl presented to the HSRP that NOAA is an active partner in the CMTS structure. The CMTS is a federal interagency coordinating committee for the purpose of: 1) assessing the adequacy of the Marine Transportation System (MTS); 2) promoting integration of the MTS with other modes of transportation and other uses of the marine environment; and 3) coordinating, improving the coordination of, and making recommendations with regard to federal policies that impact the MTS.

Dave MacFarland, CMTS Integrated Action Team, reviewed the top five CMTS priorities from an online dialogue (in lieu of public listening sessions) to receive stakeholder input regarding the federal role in providing e-Navigation standards, services, and architecture.

NOAA Fleet Composition Review

Rear Admiral Mike Devany, Director, Office of Marine and Aviation Operations

Summary

Admiral Devany presented and discussed NOAA fleet planning, the status of the Federal Oceanographic Fleet, NOAA fleet composition: 2012-2027, status of the NOAA Fleet, and the status of the aircraft fleet.

Discussion and Questions

Frank Kudrna stated that in terms of funding fleet improvement, NOAA has an enormous burden with satellites comprising a billion dollars a year of the budget. He asked if this hinders the ability of getting replacement funds and activities for the fleet and other infrastructure. Admiral Devany responded stating that it has not been a burden because NOAA has not requested fleet recapitalization funds, and do not expect to request it until the following year.

Vice-chair Perkins asked if the private sector's increasing (or shrinking) capacity is taken into account in the capitalization plan. Admiral Devany commented that the private sector will have

to step up to fill the gap left by less federal resources. Vice-chair Perkins also asked if the *Hassler* is expected to have a greater efficiency than planned vessels. Admiral Devany said they will regionalize the assets to have the right tool at the right place. In addition, Scott asked if NOAA planned to commission more vessels like the *Hassler* or smaller vessels that have a smaller footprint. Admiral Devany said he expects that smaller vessels will be seen. Admiral Glang added that the *Hassler* is more efficient than its predecessor (the *Rude).*

Bob McConnaughey inquired about the FY13 utilization percentage, noting that the FY14 utilization is expected to be 94 percent. Admiral Devany commented that an answer required calculation.

Admiral Glang pointed out that the *Fairweather* will not be going to the Artic this year, but contractors are working in the Artic.

Jon Dasler inquired about NOAA's consideration of short term charter of suitable smaller (80 ft. range) private vessels. Admiral Glang said that NOAA would have to look at the source of the charter funding; the money would not come from National Marine Fisheries Services. The best answer is that funding would come from addressing the hydro survey backlog line item. Mr. Dasler asked a follow up question regarding NOAA's consideration of short term charter of private vessels, stating that this could also support fisheries or other research. Admiral Devany discussed the process where the NOAA line offices prioritize their requirements. The line offices have their own independent charter and capability. High priorities that we cannot meet are realized via a charter or partner, but the goal is to meet requirements in house.

Integrated Ocean & Coastal Mapping (IOCM) & Sandy Supplemental Update
Ashley Chappell, NOAA IOCM Coordinator

Summary
Ashley Chappell began her presentation by defining IOCM. Ashley reviewed IOCM's three primary tasks: 1) data acquisition, 2) end-to-end data management, and 3) maximum use and re-use of data.

Chair Wellslager asked if the Arctic surveys with the Coast Guard's buoy tenders were arranged through a memorandum of understanding (MOU). Ashley responded that there is no agreement; but there are regular communications and a good relationship with District 17 and the Coast Guard.

Ken Barbor asked about the strategy to use university platforms for surveys. Ashley responded that a milestone within the IOCM roadmap is to reach out to universities and other groups to develop partnerships and share standards.

Jon Dasler asked if the IOCM mapping standard is publically available, and if it is distributed to the academic community as a requirement when collecting data under Federal grants or is the intent just for interagency coordination. Ashley responded that it is publicly available, but is not yet distributed to the academic community as a requirement when collecting data under Federal grants.

Jon Dasler asked if there is a plan to document the debris removal and/or resurvey sites as part of the Sandy Supplemental work. Ashley responded that marine debris removal in the wake of Sandy is challenging because NOAA has funding to find marine debris, not to remove it. The removal part comes through state negotiations with FEMA, for example. It's a challenge not fully understood yet, but hopefully there will be plans to resurvey the sites.

Jason Creech asked if there are any plans to use crowd sourced bathymetry data to support either IOCM or charting missions. Ashley responded that IOCM is looking at crowd sourcing and developing a crowd sourcing policy. Admiral Glang noted that NOAA would need more time to deliberate their thoughts on crowd sourcing.

Public Comment Period

Dr. Rod Evans asked if NOAA NOS will ultimately be the lead agency in any potential widespread bathy crowdsourcing program. Admiral Glang responded that the answer is yes, it would be the intent if NOAA goes in that direction.

Chris Freeman commented that during Irene there were only a few NRT's to clear the entire southeast and Mid-Atlantic regions. There may be an opportunity to have regional firms online to help support the fleets that could make their job more efficient and clear channels quicker.

Jon Dasler commented that for Katrina, Federal Emergency Management Agency (FEMA) funded the marine debris removal process. The problem was that they did not document the effort so it left a lot of clutter on the NOAA charts.

Don Ventura commented that a social media page/portal might be a good way of capturing this info—this would encourage the more recreational and less IT savvy user to contribute. It would need to be as easy as possible for the public to use.

HSRP Discussions & Deliberations

Chair Wellslager presented to the HSRP members that a goal for the deliberation period on day two is to develop a "Critical Needs" list that would come from the Panel to NOAA. He said five of 16 panel members responded to a pre-meeting survey of critical needs prior to the meetings. He asked the panel to think on and deliberate ideas for the list.

Chair Wellslager closed the meeting noting the panel would raise the following topics on day two: implementation of HSRP recommendations; outreach and training seminars on models and VDatum; outreach to other federal advisory committees; developing a critical needs list for NOAA administration; reinvigorating the HSRP white paper; and potential location of a HSRP meeting in the late fall/early winter.

HSRP Public Meeting Adjourned

Wednesday, May 8, 2013

The meeting was called to order at 1:00 pm

Recap Day 1 & Meeting Overview

Chair Wellslager opened the meeting recapping Drs. Sullivan and Bamford's opening remarks to the HSRP. He restated how Dr. Sullivan highlighted President Obama's commitment to stimulate the economy and create jobs through robust investments in research and development, as well as earth observations. Also, how Dr. Sullivan stated that NOAA, specifically the NOS, collects observations and creates products for users of the Navigation Services to have at their disposal. Dr. Bamford indicated how many recommendations made by the HSRP panel have been addressed and implemented; specifically, the IOCM program, the CMTS, and continued funding for the GRAV-D project. All of these are part of NOS' vision to look at coastal communities and programs, and position America for the future.

Teleconference Dialogue with Federal Partners on Key Initiatives

Coastal Mapping Strategy
Jennifer Wozencraft, U.S. Army Corps of Engineers (USACE)

Jennifer addressed the panel remotely from Mississippi on the national Coastal Mapping Strategy. She provided an overview of the activities of the Coastal Mapping Strategy interagency working group.

Discussion and Questions

Chair Wellslager asked about forms of independent quality assessment and calibration for collecting LiDAR data. Jennifer noted that the standard practice is to collect data in known areas to ground-truth the quality of the data. On the water side, data quality relies on a well-calibrated sensor. To calibrate shallow-water LiDAR sensors, flights are conducted in test areas to create an internal, repeatable standard before each data collection.

Ken Barbor inquired about the quality and extent of the Coastal Mapping inventory. Jennifer responded that within federal agencies and larger state programs, the inventory is fairly robust. Bigger gaps and uncertainty exist in state, local, and academic data collections. Ashley added that they are awaiting enhancements on Data.gov and NOAA GeoPlatform in order to finalize a full and complete inventory. Metadata guidance for the inventory is available upon request.

Andy Armstrong asked about the limitations of the sensors for LiDAR projects. Jennifer informed the group that it depends on the sensor and water clarity, but the sensor limit is somewhere between two and three times the secchi depth of the water. The primary limitation of the bathymetric LiDAR sensor is suspended sediment in the water column. Clarity varies from 20m to 50m around the country. Sensors can collect data about 1,000m offshore to capture the active portion of the beach profile with the USACE program.

Overview of the 3D Elevation Program (3DEP) Initiative
Larry Sugarbaker, U.S. Geological Survey (USGS)

Mr. Sugarbaker presented an overview of the 3D Elevation Program (3DEP) initiative. He stated that USGS is intended to phase out and replace the longstanding national elevation dataset activities. Mr. Sugarbaker presented information about the study that led up to the creation of the 3DEP initiative, called National Enhanced Elevation Assessment (NEEA). The primary goal of 3DEP is to systematically collect enhanced elevation data in the form of high-quality LiDAR data over the conterminous United States, Hawaii, and the U.S. territories, with data acquired over an eight-year period.

Discussion and Questions
Chair Wellslager noted that 46 counties in South Carolina have been successful mapping with 3DEP over the past five years. It has been beneficial for resource planning and a good success story for statewide programs.

Ken Barbour noted that NASA and NGA flew a mission that created a large elevation dataset and asked what was the quality level of that data and how does it fit in with 3DEP. Mr. Sugarbaker responded that the data quality is right at or just below Quality Level 5, but the benefit is that it is a world-wide dataset.

David Jay noted that USGS LiDAR data in wetlands had trouble detecting water and asked if this issue could be addressed with higher-quality datasets. Mr. Sugarbaker responded that water is a challenge for LiDAR, but new bathymetric LiDAR instruments are better at dealing with surface-water anomalies.

Vice-chair Perkins asked if a cost-benefit analysis were conducted would this improve the data quality to Level 1. Mr. Sugarbaker responded that a very detailed assessment was completed that included 25 implementation scenarios. A Quality Level 1program would be break even at best, but these benefits are conservative. Vice-chair Perkins followed up by asking about the impact of the potential 'map it once, use it many times' legislation in the house on the 3DEP program. Mr. Sugarbaker did not have a comment, but did note that the legislation is being proposed for a second time. USGS assessed the regulation the first time and found it difficult to support a variety of the provisions.

Gary Jeffress inquired about the levels of quality; if there are technical standards that LiDAR mapping companies could provide and how they could meet those standards. Mr. Sugarbaker responded that USGS published LiDAR Acquisition Specifications, Version 1.0 and is a Quality Level 3 manual. USGS is currently in the process of updating the specifications to support other quality levels and other requirements. Gary asked if mapping is tied to vertical datums in the National Spatial Reference System. The answer was yes.

Gary noted that the NGS Height Modernization Program would be beneficial to mapping, and Mr. Sugarbaker is aware and supportive of that program. Larry noted the efforts to coincide IfSAR (Interferometric Synthetic Apeture Radar) data collection in Alaska with height modernization. Juliana Blackwell added that there is a technical committee that NOAA is

involved with to collect IfSAR data in Alaska. She also stated that NGS briefed this technical committee on GRAV-D and the importance of having an updated vertical datum, and their efforts to collect data in Alaska. The key is to be able to take LiDAR and IfSAR data, and be able to reprocess based on latest geoid model data to get the better orthometric heights. NOAA is working with other federal agencies to make sure the data can be updated to reflect new information about the vertical starting points.

Gary asked how the vertical mapping dataset dealt with land subsidence, and cited an example of substantial land movement in coastal Louisiana. Mr. Sugarbaker responded that 3DEP is designed to collect one cycle of data and establish the baseline. As the vertical data improves and advanced sensors become available to drive down costs, the frequency of subsequent recollects will increase. Juliana added that certain regions will need to be resurveyed on a more frequently due to land movements, and will be studied and updated based on the magnitude of sea level changes and land subsidence.

Atlantic Coast Port Access Route Studies and Bering Strait PARS & Wind Energy
George Detweiler, U.S. Coast Guard (USCG)

Mr. Detweiler provided an informative presentation on Port Access Route Study (PARS) for the Atlantic Coast and Bering Strait. The PARS process is used to determine and justify if safety zones, security zones, recommended routes, regulated navigation areas, and other routing measures should be created.

The Coast Guard initiated the Atlantic Coast Ports Access Study (ACPARS) to provide the data support necessary for DOI and Bureau of Ocean Energy Management (BOEM) to make decisions about competing uses in offshore waters. ACPARS fits in with marine spatial planning because there was a need to characterize what the marine transportation system and shipping routes looked like. In addition, ACPARS is a way for agencies involved in wind energy initiatives to assess navigational conflicts and cumulative impacts. In regards to the Bering Strait, the Coast Guard is in the early stages of a very lengthy process to evaluate the need for Ship Routing Measures. This process involves an extensive study of the many factors and ultimately requires coordination between the U.S. and Russia.

Discussion and Questions
In response to a question from Chair Wellslager, Mr. Detweiler clarified that the Bering Strait is a two-way route with traffic moving in both directions, but that the system is only mandatory in U.S. waters.

Vice-chair Perkins asked about the footprint of a typical offshore wind farm and if PARS could use Europe's wind farm model as an example. Mr. Detweiler commented that they could look at European wind farms, but each farm is different. PARS would like to see individual farms' footprints and review the risk assessments that developers are required to complete.

David Jay commented that ships select the shortest route based sea conditions and asked if TNEL's East Coast models take this behavior into account. Mr. Detweiler believed the models were taking weather conditions and currents into account.

Admiral Glang raised a concern about getting feedback from the local port authorities and pilots in the PARS process. There is a public comment in the ACPARS process, which informs BOEM. Mr. Detweiler confirmed that ACPARS does work with local port authorities and some sit on the BOEM state task force.

Public Comment Period

Jon Dasler asked: "A few years ago the HSRP heard about the use of shipping traffic data and whale sightings to define a best route and set speed limits through dense whale areas in the Stellwagen Bank National Marine Sanctuary to reduce whale ship strikes. Does ACPARS report/address vessel speeds or routing through marine sanctuaries or other areas of known high density whale activity?"

- Mr. Detweiler responded that ACPARS is cognizant that they will have to look at the results of the study and recommendations for routing measures. ACPARS would work with NOAA and others on those measures and their ESA 7 consultation responsibilities. Mr. Detweiler pointed out that the USCG doesn't create speed restrictions; NOAA's National Marine Fisheries Services (NMFS) does.

Captain Tom (Thomas) Rutter asked: "Are they (USCG ACPARS) taking into consideration the next generation ships to the East Coast being deeper and larger?"

- Mr. Detweiler answered yes and noted that USCG is looking at the Panama Canal Study and will estimate the size increases into their equations.

Don Ventura asked: "I know NOAA is a member of the International Hydrographic Organization (IHO) and the Artic Regional Hydrographic Commission (ARHC), but is the USGS part of this delegation? It seems that the Bering Strait is an ideal engine for generating collaborative survey requirements."

- Admiral Glang commented that while the USGS is not part of the delegation to the ARHC, NOAA does collaborate with USGS on coastal mapping.

HSRP Discussions & Deliberations

The panel spent a few minutes addressing questions from day one presentations and questions raised from Evelyn Fields. Evelyn inquired about the definition of progressive maintenance and how NOAA intends to keep the fleet going through 2027. She also asked about the impacts from furloughs on the NOAA fleet. Admiral Glang commented that progressive maintenance means that NOAA would examine a specific portion of the ships (i.e. ventilation, piping systems) each year. Admiral Glang noted that this question did not come up on day one and that he would follow up with Admiral Devany to get an answer.

Next the panel discussed topics for a report out to the NOS Assistant Administrator. Chair Wellslager commented that crowd sourcing and Arctic frontier mapping are topics that have been raised recently. The panel discussed the topic of funding through IOCM for a hydro

training center. NOAA did not get the funding increase for that purpose, but NOAA does have a great informal and graduate hydro training program. Vice-chair Perkins suggested raising a new hydro training center as a critical need of the panel because it seems like the necessity is growing. Ken Barbor added that the U.S. Hydro '13 conference made a big pitch for Category B-level hydro course in the U.S. The panel also discussed the possibility of developing a new suite of bathymetric tools for a program modeled after the voluntary observing ship program, which collects meteorological data. This would be an opportunity to create trusted partnerships for crowd sourcing.

HSRP Report Out to NOS Assistant Administrator

Dr. Bamford, NOA Assistant Administrator re-joined the meeting to hear initial ideas and recommendations from the panel, including interactions with other FACs, a training center for hydrography, crowd sourcing, and GRAV-D. The panel also mentioned the potential of crowd sourcing marine debris data with NOAA SeaSketch. The HSRP discussed with Dr. Bamford on the success of two informational NOAA webinars, one on ocean and coastal modeling and another on VDatum. The panel suggested that these informational webinar tools be made available to the general public. Dr. Bamdord briefed the panel on her involvement with the Marine Debris panel at the recent meeting of the World Ocean Council (WOC). Dr. Bamford informed the panel that she would forward the link to information on the Port Reception Facilities (PRF) Working Group (WG) of the WOC for the panel to review. She emphasized that the PRF WG's mission is to establish global standards and tools harmonized to benefit multiple stakeholders in preventing marine pollution, and that the global maritime shipping industry is a key stakeholder in this global effort.

HSRP Web/Teleconference Meeting Wrap Up

Chair Wellslager asked how many public attendees registered to participate in the HSRP webinar event. According to the GoToWebinar, 47 attendees joined the meeting remotely on May 7th and and 33 attendees for May 8th.

Chair Wellslager noted that while the panel prefers the collaborative interactions of an in-person meeting, the webinar meeting format was beneficial for engaging the public. Moving forward, the panel may decide to hold quarterly webinar meetings. The panel can also explore using webcams to improve the web connection logistics.

Quarterly webinar meetings would also be a good venue to report activities of the working groupsand will facilitate communications and progress towards actions in between the biannual meetings. Each quarterly meeting would focus on one themed topic, such as the PORTS® business model, Arctic, co-locating CORS on NWLON/PORTS® stations, and/or crowd sourcing/training for hydro surveys.

The panel discussed a strategy for the next HSRP FAC meeting. The group indicated that they should explore holding a joint meeting with another navigation-related FAC in the fall.

HSRP Public Meeting Adjourned

HSRP VOTING MEMBERS IN ATTENDANCE:

Matthew Wellslager, HSRP Chair	South Carolina Geodetic Survey
Scott R. Perkins, HSRP Vice Chair	Aerometric Inc.
Rear Admiral Kenneth E. Barbor	U.S. Navy (retired), University of Southern Mississippi
Lawson W. Brigham, Ph.D.	Distinguished Professor of Geography and Arctic Policy, University of Alaska Fairbanks & Senior Fellow, Institute of the North
Stephen Carmel	Maersk Line Limited
Jeffrey J. Carothers	Fugro Consultants, Inc.
Captain Deborah Dempsey	Columbia River Bar Pilots
Rear Admiral Evelyn Fields	NOAA Corps (retired)
William Hanson	Great Lakes Dredge & Dock Company
David A. Jay, Ph.D.	Professor, Portland State University
Gary Jeffress, Ph.D.	Professor of Geographic Information Science, Texas A&M University, Corpus Christi and Director of Conrad Blucher Institute for Surveying and Science
Frank Kudrna, Ph.D.	Kudrna & Associates, Ltd.
Susan Shingledecker	BoatU.S. Foundation for Boating Safety and Clean Water

HSRP VOTING MEMBERS NOT IN ATTENDANCE:

Carol Lockhart	Hydrographic Surveying/LiDAR Hydrography
Joyce E. Miller	Joint Institute for Marine and Atmospheric Research, Research Corporation, University of Hawaii

HSRP NON-VOTING MEMBERS IN ATTENDANCE:

Andy Armstrong	Co-Director, Center for Coastal and Ocean Mapping, Joint Hydrographic Center, University of New Hampshire
Larry Mayer	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 Oceanographic Products and Services, NOAA

DESIGNATED FEDERAL OFFICIAL:

Rear Admiral Gerd F. Glang	Director, Office of Coast Survey, NOAA

NOAA STAFF PRESENT:

Dr. Kathryn D. Sullivan	Acting Under Secretary, NOAA
Dr. Holly A. Bamford	Assistant Administrator, National Ocean Service, NOAA
Capt. John Swallow	Chief, Navigation Services Division, Office of Coast Survey
Kathy Watson	HSRP Program Coordinator
CDR Jeremy Adams	NOAA Corps
Glenn Boledovich	NOS/PPAD
Paul Bradley	NOS/PPAD
Andrew Larkin	NOS/PPAD
Morgan McHugh	NOS/CO-OPS
Tiffany House	NOS/NGS

SPEAKERS AND ATTENDEES:

Helen Brohl	Executive Director, Committee on Marine Transportation System (CMTS)
Rear Admiral Mike Devany	Director, Office of Marine & Aviation Operations, NOAA
Ashley Chappell	Office of Coast Survey, NOAA
Jennifer Wozencraft	USACE
Larry Sugarbaker	USGS
George Detweiler	USCG

PUBLIC ATTENDEES:

Rebecca Arenson	NOAA
Steve Barnum	Hydro MTS
Jim Casey	NAVY
Hector Cintron	USCG
William Colangelo	CACI
Marcus Cole	NOAA
Noel Comeaux	DOT
Jason Creech	David Evans & Associates
CDR James Crocker	NOAA
Jon Dasler	David Evans & Associates (former HSRP)
Dr. Rod Evans	Marine Surveying & Engineering, SAIC
Steve Eick	Fugro
Janice Eisenberg	NOAA
Ed Fairbairn	CACI
Jeff Ferguson	NOAA
Cindy Fowler	NOAA
Chris Freeman	Senior Marine Geologist, GeoDynamics Group
Denise Gruccio	NOAA
Julie Herman	VIMS
Marta Krynytzky	Terrasond

Eric Legaspi	USACE
Terence Lynch	NOAA
Gary Magnuson	NOAA/CMTS
Bob McConnaughey	NOAA NMFS Seattle, WA
Crescent Moegling	NOAA
Rachel Medley	NOAA
Pat Marie Nedelka	NOAA
Jeremy Ortega	CACI
Andrew Orthmann	Terrasond
Chris Parrish	NOAA
Judith Powers	Dredge Magazine
Chic Morris Ransone	International Industries
Jeannette Rodriguez	NOAA
Don Rose	USCG
Captain Tom (Thomas) Rutter	Virginia Pilots Association
Veronica Sullivan	CACI
Don Ventura	Fugro
Ellen Vos	Hydrographic Officer, Royal Netherlands Navy
Rhonda Wakefield	CACI
Tom Waddington	Chief Hydrographer, Marine Industrial Services Firm Substructure, Inc.
Dick West	Navy Ret. (former HSRP)
Neil Weston	NOAA
David White	Fugro
Julia Winkler	Charleston Harbor Pilots