SUMMARY RECORD
Hydrographic Services Review Panel
Public Meeting
May 5-6, 2010
Providence, Rhode Island

Wednesday, May 5, 2010

Introduction

On the call of the Designated Federal Officer (DFO), Captain John Lowell, National Oceanic and Atmospheric Administration (NOAA), the Hydrographic Services Review Panel (HSRP) meeting was convened on May 5, 2010 at the Providence Marriott Downtown, 1 Orms Street, Providence, Rhode Island.

The following report summarizes the deliberations of this meeting. Presentations and documents are available for public inspection via the web 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, MD 20910. The Agenda is available via the web at http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Agenda_Final.pdf

Call to Order

Mr. Ed Welch, Acting Chair, HSRP, called the meeting to order on Wednesday, May 5, 2010, at 8:30 a.m. He then turned the meeting over to Captain Lowell for opening comments.

Opening Comments

Captain John Lowell, NOAA, Designated Federal Officer, began the meeting by providing emergency procedure logistics and a brief description of the HSRP Panel, its mission goals and meeting protocols. Captain Lowell also introduced himself as the new HSRP Designated Federal Official (DFO) and stated that the HSRP is a Federal Advisory Committee (FAC) that provides recommendations and information on NOAA's hydrographic services. He also addressed the issue of the meeting agenda being "in flux pretty much every day, every hour for the last several weeks" due to the BP Deepwater Horizon events in the Gulf of Mexico. Captain Lowell turned the meeting over to Ed Welch, HSRP Acting Chair. Mr. Welch asked the HSRP members to introduce themselves for the

NOAA folks attending the meeting. Attendee list can be found at end of the Summary Record.

Welcoming Remarks

Ms. Laura Furgione, Assistant Administrator for NOAA's Office of Program, Planning and Integration, discussed NOAA's response to oil spill in the Gulf, current emergency operations and the threat of weather that may facilitate movement of the oil onshore. NOAA has three aircraft on scene at the oil spill—the King Air and two twin otters taking aerial photography that help produce trajectory maps for oil movement, and aerial observation for marine mammal protection. NOAA is also conducting fish/shellfish safety inspections. The United States Coast Guard (USCG) is using NOAA's dispersion model forecasts, graphics and nautical chart products to help determine oil spill movement and the USCG response efforts. NOAA's oil spill response efforts are coordinated across six line offices, as well as the Office of Marine and Aviation Operations (OMAO). This is an agency-wide, focused effort.

Formal Presentations

Ms. Jennifer Lukens, Senior Policy Advisor to the NOAA Undersecretary, discussed the mandate of the Interagency Ocean Policy Task Force (OPTF), led by the White House Council on Environmental Quality (CEQ), to develop within 90 days recommendations for a national ocean policy to better meet the Nation's stewardship responsibilities for the oceans, coasts, and Great Lakes; and a framework for policy coordination to improve stewardship of the oceans, coasts and Great Lakes. Also, the OPTF was tasked to deliver within 180 days an Interim Framework for Effective Coastal and Marine Spatial Planning (CMSP) (Dec 2009). Ms. Lukens presented the framework for CMSP (one of the nine priority objectives of the September 2009 Interim Report of the Interagency Ocean Policy Task Force). She stated that the CMSP report is a comprehensive, adaptive, integrated, ecosystem-based, and transparent spatial planning process that provides a public policy for society to better determine how the oceans, coasts, and Great Lakes are sustainably used and protected now and in future generations. This framework would be national in scope to address national interests, but also scalable and specific to regional and local needs.

Ms. Lukens discussed the seven National goals of CMSP; the 12 National guiding principles for CMS; the nine proposed Regional Planning Areas; the Essential Elements of the CMSP Process; improved coordination and cooperation among Federal, State, local and tribal agencies; the implementation phases of CMSP; and NOAA's FY2011 proposed budget request. She stated that the National Ocean Council (NOC), led by Council on Environmental Quality (CEQ) and Office of Science Technology and Policy (OSTP), has overall responsibility for implementation of the National Policy and implementation of objectives and priorities; provides a structure to strengthen ocean governance

and policy coordination at the Federal, State, tribal and local levels; and implements CMSP management in the United States. Ms. Lukens wrapped up her discussion by saying that NOAA has a lot to contribute to CMSP and that CMSP could provide a focal point for NOAA to support these efforts. http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/US_Interagency_Ocean_Policy_Task_Force_Jennifer_Lukens.pdf

- Mr. McBride queried if NOAA's CMSP coordination involved the Committee on Marine Transportation System (CMTS) in regards to the U.S. Marine Transportation System (MTS) and the economy.
- Ms. Lukens responded that CMTS representatives have been involved and those interests are reflected in the principles and guidelines and policies in CMSP.
- Admiral West raised the concern that the oil and gas industry sees CMSP as a zoning process, and suggested that NOAA do a better job at explaining what marine spatial planning is to get everybody on board. Also, he raised the concern that the CMSP has grown from original 12 agencies to 24.
- Ms. Lukens responded that CMSP is not zoning, and that the new policy coordination framework structure establishes a governance or advisory committee to ensure national, state, tribal and local involvement.
- Mr. McGovern raised the concern that there is a need for a coordinated approval process among agencies, and that the HSRP has watched for years how the budget request process works. The budget requests don't always back up the policy. This is a concern and big issue for the HSRP.
- Ms. Lukens responded that having the policy in process helps get the budget, but that NOAA needs to look at its resources and prioritize.
- Mr. Welch raised two observations: 1) concern that there are elements of society who are not engaged in the governmental planning process, scared of working with government, and don't understand the planning process. 2) White House directive to agencies to comply with plans that have been done in implementing your various statutory responsibilities. If agency statutes have very specific mandates, and if the Administration tries to bypass those mandates by putting a different policy through the regional planning process—there could be a real risk.

Ms. Laura Furgione, Assistant Administrator for NOAA's Office of Program, Planning and Integration, discussed NOAA's Next Generation Strategic Plan (NGSP) and Arctic Strategy and Vision and NOAA's response to external changes. The first part of Ms. Furgione's presentation emphasized the importance of NOAA's NGSP that outlines the Administration's strategic priorities, organizational alignment and stakeholder engagement for a transparent process, adaptive to external challenges. NOAA's strategic plan frames organizational and programmatic investments to budgeting. She discussed the process of collecting comments for the NGSP; and development of

a new vision, mission, goals and the objectives structure. Ms. Furgione ended the first portion of her presentation that the "objective" for safe and efficient and environmentally sound marine transportation is under the resilient coastal communities goal.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/NOAAs_Next_Generation_Strategic_Plan_and_Arctic_Vision_and_Strategy_Laura_Furgione.pdf

- Admiral West asked Ms. Furgione to talk about NOAA's proposed NOAA Climate Service.
- Ms. Furgione responded that back in February 2010 NOAA rolled out a plan for the development of a NOAA Climate Office (new line office) and the establishment of six regional climate directors to be co-located with the National Weather Service regional offices to coincide with the NWS regional structure already established.
- Mr. Welch raised a concern that there have been periodic swings within NOAA over the past three decades about the importance of marine commercial transportation—sometimes it ebbs and flows—in relation to the NGSP, this could be a danger signal that it's beginning to ebb.

Ms. Furgione presented the second portion of her talk on NOAA's Arctic Strategy and Vision. She emphasized that the NOAA Administrator wanted a 15-page concise, high-level document that outlined a strategy and vision for NOAA in the Arctic. We have guiding principles and six goals and strategies for the Arctic. NOAA's Arctic vision—where conservation, management and use are based on sound science to support healthy, productive and resilient communities and economies was presented. Ms. Furgione stated that NOAA needs to be careful in how it communicates what is happening in the Arctic. Using the wrong terminology of "ice-free" Arctic vs. "ice-diminished" Arctic could impact NOAA's capability for funding resources now and in the future. Also, Ms. Furgione stated that as cargo and commercial shipping expand in the Arctic, NOAA's five year strategy should ensure we have real-time, interoperability, and water level information from tide gauges; an integrated set of environmental observations; data sharing; Arctic governance; geospatial infrastructure for safe navigation; surveying and mapping of Arctic waters and shoreline; and oil spill response and climate change adaptation. Ms. Furgione ended her presentation with the update that NOAA is working on a NOAA Action Plan for the Arctic (that will parallel the efforts of the Ocean Policy Task Force National Policy document).

- Captain McGovern raised a concern that if NOAA does not get more involved in the setting and formulation of international regulations for the Arctic that we may be on the back end of all the regulations coming out—making sure that NOAA gets what it needs out of these standards and regulations.
- Admiral West added that the Coast Guard is the representative to the International Maritime Organization (IMO) and that the HSRP should have a representative from the Coast Guard at the next HSRP meeting and

provide a status of where the United States is regarding this issue. Admiral West also suggested that the United States should accede to the Law of the Sea treaty and that NOAA should have a position on this issue—It is important for our knowledge and experience and access to the Arctic that we accede to the Law of the Sea treaty.

- Ms. Furgione responded that Dr. Lubchenco is a strong supporter of the United States signing the Law of the Sea treaty and that it is stated in NOAA's Arctic Vision and Strategy document.
- Mr. Welch questioned if agencies (NOAA in particular) have been looking at whether there are additional funding sources for Federal government infrastructure projects in the Arctic region north of the Bering Strait?
- Ms. Furgione responded that Don Young, Congressman of Alaska, has been looking into various options and various taxes or options that NOAA could tap into. She also stated that within Alaska, NOAA has a tight partnership with the Coast Guard, the Alaska Ocean Observing System, Integrated Ocean Observing System (IOOS) folks, and making sure that all these plans are tied together.

BREAK

Captain John Lowell, NOAA, Designated Federal Officer, discussed his upcoming testimony on HR 2864 to amend the Hydrographic Services Improvement Act (HSIA) to authorize funds to acquire hydrographic data and provide hydrographic services specific to the Arctic for safe navigation, delineated in the United States extended Continental Shelf and the monitoring and description of coastal changes.

Several members of the HSRP questioned where the appropriated money comes from in the Hydrographic Services Improvement Act (HSIA) 2864 Bill.

- Mr. Armstrong stated that this is an authorization bill, and there's no real money associated with this bill. This only authorizes money to be appropriated. The Appropriation Committee can either choose to add the money in the FY11 and FY12 appropriations or not.

Captain John Lowell, Director, NOAA Office of Coast Survey, discussed NOAA's navigation services response efforts to the *Deepwater Horizon* oil spill. He presented how NOAA is producing nautical chart products that display the spill zone based on current spill projections: http://www.nauticalcharts.noaa.gov/staff/headline-oilspill.html

Charts are being updated daily using Office of Response & Restoration (OR&R) data for use by the shipping industry, Coast Guard, and local command center staff. OCS is updating the NOAA Electronic Navigational Charts (ENCs), the NOAA Raster Navigational Chart (RNCs), and Print on Demand Charts (POD).

The ENCs and RNCs are available on OCS' chart downloader website http://www.nauticalcharts.noaa.gov/staff/chartspubs.html

The POD charts are available from NOAA's "Print on Demand Agents." http://www.oceangrafix.com/o.g/NOAA-Nautical-Chart-Agents.html

Captain Lowell also talked about other NOAA response efforts such as: sending daily oceanographic data on the Northern Gulf of Mexico to OR&R for use in oil spill trajectory; the nowCoast and Environmental Response Management Application ERMA® (web-based GIS mapping tools that support emergency response with real-time oceanographic and meteorological information); aerial photography to provide oil spill scope; and water-level, meteorological and near-shore current measurements, all to support emergency response and environmental managers with vital information for decision-making.

Several members of the HSRP queried about NOAA's response efforts in regards to the *Deepwater Horizon* incident.

- Mr. Dasler questioned about NOAA's capability to track the oil, and if anything is being done to map the debris.
- Ms. Blackwell responded that National Geodetic Survey is conducting aerial imagery of designated priority areas to establish baseline imagery for shoreline, and imaging areas the Office of Response and Restoration (OR&R) determines will be impacted.
- Mr. Welch questioned if NOAA was tracking its response costs? Also, Mr. Welch, on behalf of the Panel, asked if NOAA could designate how much of the Hydrographic Services' resources are going to *Deepwater Horizon* response efforts, and if NOAA could provide this information to the Panel.
- Ms. Furgione responded that the NOAA budget office has set up the appropriate accounting code to track these expenditures and that there was expenditure reports for Katrina.
- Admiral West made the request for NOAA to present this information to the HSRP Panel at the next meeting.
- Captain Lowell stated that Office of Coast Survey will capture that request.

Mr. Ed Welch, Acting Chair HSRP, discussed status and process of the HSRP Membership Solicitation. A *Federal Register Notice* was published last year and 70 applicants applied for six vacant positions on the HSRP. However, these vacant positions were not filled in 2009. Therefore, the six Panel members whose terms expired on January 1, 2010, were extended for another full year to ensure a complete Panel. With new leadership at NOAA and a revised Executive level policy on how Federal Advisory Committees (FAC) select Panel membership, NOAA Leadership guidance directed the HSRP to reissue a second call for application in 2010.

The second call for applications was published on April 21, 2010 with a closing date of June 30, 2010. It's anticipated that evaluation of applications will occur July/August 2010 and recommended candidates submitted to NOAA Leadership September/October 2010 time frame.

Mr. Welch raised concerns that FACA's are set up so that there's a scheduled turnover, and there's a mix of experience and new membership. If you delay too much the selection, you run the risk of too much experience leaving all at one time and too many new appointees coming in at one time that really don't know the institutional history or what the committee is all about.

Captain John Lowell, NOAA, Designated Federal Officer, presented NOAA updates on the five recommendations in the HSRP Most Wanted Hydrographic Services 2007 Report, and the receipt of $40 million American Recovery and Reinvestment Act (ARRA) funds that were allocated across Office of Coast Survey (OCS), Center for Operational Oceanographic Products and Services (CO-OPS) and National Geodetic Survey (NGS) to support navigation efforts. He also discussed the hydrographic survey schedule for 2010; ping-to-chart process improvements; reducing survey backlog; mapping of the Arctic seabed; status on the 2010 Report to Congress on NOAA's Integrated Ocean and Coastal Mapping (IOCM); new web service capability for nowCOAST (on-line mapping tool); next generation nautical charting system; and tri-office projects with NGS and CO-OPS.

- Mr. Welch questioned Captain Lowell if NOAA has documented somewhere the number of jobs (private sector) that were preserved or created as a result of the ARRA funding?
- Captain Lowell responded that yes, OCS has that information.
- Mr. Welch requested if the HSRP could obtain that information.
- Ms. Chappell responded that Mr. Welch could find this information on the ARRA website.
- Mr. Welch suggested that NOAA be prepared with quick ready, out-the-door proposals in case of supplemental appropriation bills or additional stimulus funding sources are available. He stated that NOAA needs to be ready and take advantage of these funding resources and be aggressive within the agency.
- Captain McGovern questioned why there is no Northeast Navigation Manager or when there will be a replacement?
- Captain Lowell responded that he will get back to Mr. McGovern regarding this issue.

Captain John Lowell, NOAA, Designated Federal Officer, delegates his DFO duties to Juliana Blackwell for the remainder of the HSRP FACA meeting. Captain Lowell will testify on the Arctic bill on May 6, 2010 on Capitol Hill.

12:00pm – 1:00pm Lunch recess

1:00pm HSRP Panel regroups and Stakeholder Speakers take their seats.

Mr. Whiting made a motion for the HSRP to support Captain Lowell's testimony before Congress on HR 2864 on May 6, 2010.

"The HSRP recognizes the need for expanded hydrographic services in the Arctic, and therefore supports the May 6, 2010 testimony by Captain John Lowell on behalf of NOAA in support of HR 2864."

Mr. Wellslager seconded the motion.

The HSRP Panel all voted aye in support of the motion and presented it to Captain Lowell for use during his testimony on Capitol Hill.

Regional Stakeholder Panel Presentations

Dr. Charles Colgan, ***Professor of Public Policy and Planning, Muskie School of Public Service, University of Southern Maine,*** spoke of sea level rise and the response of coastal communities to these impacts. He also addressed the link of hydrographic services and the measurement of coastal areas and coastlines. Dr. Colgan discussed that government must effectively translate technical aspects of the ocean and sea level rise and climate change into day-to-day language that people understand. "How do we bring sea level rise and its impacts home to people in a way that they can understand and begin to realize how it's going to affect their lives?" Dr. Colgan presented that using technologies such as the SLOSH model data and spatial measurements can show impacts projections for employment locations along coasts; storm surge and sea level rise in land; economic impacts; industry; health; retail and trade; and residential. Dr. Colgan presented that for local communities to clearly understand the impacts of sea level rise and climate change, they must see the potential impacts. When you can show local communities how their homes and businesses can be washed away, then you get their attention. http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Bringing_Sea_Level_Rise_Home_Estimating_the_Impacts_on_House_Jobs_and_the_Local_Economy_Charles_Colgan.pdf

Dr. Michele Dionne, Wells National Estuarine Research Reserve, spoke about how coastal habitats, especially emergent marshes or tidal marshes will be impacted by climate change. Also, she spoke about her work with NGS and CO-OPS to use water level data and GPS surveying elevation data to determine climate change impacts on marshes. She presented on how they identify marshes that would benefit from living shoreline management practices; and how altered precipitation patterns cause upland flooding by dumping excess water down into the estuaries and washing away the estuary. She also talked about

the critical link between tides and the coastal habitats—how tides in the hydrologic regime determine the extent to which the marshes can move with the sea level over the upland and maintain their place. http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/From_Hydrography_to_Hydrologic_Regime_Understanding_Salt_Marsh_Survival_Michele_Dionne.pdf

Mr. Don Frost, Connecticut Maritime Association, discussed the Connecticut Maritime Association, its membership and mission. Mr. Frost is also a commercial advisor to the Columbia University Center for Energy, Marine Transportation and Public Policy. He talked about the constructive relationship to NOAA and hydrographic charting as it concerns ship owners, as well as, the negative impacts. One specific question he posed to the HSRP Panel, why does IOOS trump PORTS® when PORTS® can actually contribute to the nation's economic well-being and competitiveness? He stated that with PORTS® are real-time, current and relevant to the ship owner. Mr. Frost stressed that it's important to make U.S. ports safe and economically competitive—that can be achieved with the smart buoys—and making our ports accommodate larger ships than our trading partners.

Mr. Frost presented pictures of the *M/V Athos I* oil spill on November 26, 2004, Delaware River near Philadelphia. The *Athos I* was approaching the unloading terminal and hit part of an unindicated metal pipe. She lost approximately 1,000 tonnes of highly viscous crude oil polluting waterways of Pennsylvania, New Jersey and Delaware. Mr. Frost emphasized that the metal pipe that tore a hole in the *Athos I* center cargo tank was located within the 40-foot anchorage that was on the NOAA navigation chart. However, the Master recorded 38 foot in the channel at that specific location. Issue—the NOAA navigation chart did not show the obstruction. Mr. Frost addressed the Panel with a question—what part of NOAA are the ship owners most concerned about? Aside from the fact that they don't want to run into any of these things, they're scared stiff.

Captain Joseph Maco, Northeast Marine Pilots, discussed the tremendous advantage of the PORTS® system for the maritime industry. The reliability of quality tide and water level information is critical to ship movement—a timing issue for when a ship can safely enter and exit port; and docking—time can either mean a profit or loss to a ship owner. Ports that have a PORTS® system have a much higher level of situational awareness, and lower risk of accidents. A Pilot needs real-time data for tides and water levels to accurately determine under-keel clearance between the bottom of the vessel and the channel bottom. You can only move ships at certain time when they have the necessary underkeel clearance. If you can only move one or two vessels on a tide, compared to three or four—that's a big economic impact. Familiarity with nowCOAST products—would advise NOAA to develop a more user friendly technology. A pilot does not have minutes to figure out a new technology while

docking a ship or entering and exiting a shipping channel. For NOAA, keep the technology products simple and user friendly.

Captain Robert Peacock, Quoddy Pilots USA, explained that since 2004, a total of 15 maritime related deaths and recovery efforts over a 14-mile radius in and around the Bay of Fundy, New Brunswick and Cobscook Bay, Maine. Captain Peacock emphasized that certain areas of Cobscook Bay was last surveyed between 1834–1899 and only partial bottom survey coverage was done then. A joint survey with NOAA Navigation Response Team (NRT) Five and the Pilot boat MEDRIC was conducted in late 2009. Captain Peacock praised the NRT5 team for their professionalism and surveying efforts. Captain Peacock also discussed the issue of poor NOAA navigation charts in the Cobscook Bay and the United States Coast Guard (USCG) decision to stop the LORAN to GPS signal. On January 23, 2009, the scallop boat *MISS PRISS* hit a ledge within 20 yards of where one of these other boats went down—they cleared this area every time for the previous ten days going out urchin fishing—but, the first time they used GPS, they hit the obstruction and their boat sank. Fortunately, this crew was rescued safely. Captain Peacock stated that there is a difference in the NOAA navigation charts and between what the LORAN was showing on the GPS. On this navigation chart and within a 14-mile radius, 20 vessels and 15 people have been lost since 1989. He discussed that people are dying because the navigation charts are not updated and accurate. He doesn't know anywhere else in the country where we've lost 15 people in a 14-mile radius and had such little publicity or little input on it. Captain Peacock recommends NOAA, resurvey the Cobbscook Bay area from North Lubec westward to Whiting, Edmunds, and Dennysville and produce larger scale marine charts for navigation obstructions. http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Maines_and_New_Brunswicks_Deadliest_Catch_Whos_Next_Capt_Peacock.pdf

Questions, Answers and Comments Between and Amongst the Panel Members and the Speakers.

- Mr. Whiting stated to Captain Peacock that there are methods and established ways to request a survey of the Cobscook Bay area.
- Captain Lowell responded that Office of Coast Survey had received a letter signed by both Senators of the State of Maine requesting surveying of the Cobscook Bay area.
- Mr. Welch raised the point that the HSRP has traditionally recommended that NOAA survey the navigationally significant areas—but, he questioned whether Cobscook Bay is determined navigationally or non-navigationally significant?
- Captain Lowell responded that for an area to be considered navigationally significant, it's driven by tonnage and large capacity, deep-draft vessels with low under-keel clearance.

- Captain Hickman questioned Dr. Colgan regarding when he referred to storm surge did he mean water rise from storm surge or just actual rise of water levels?
- Dr. Colgan replied that his models represent the effects of sea level rise in intense storm surges and flooding potentials.
- Mr. Wellslager questioned Dr. Colgan to what information was used to develop the elevation or terrain model to calculate storm surge potential, and the use of LiDAR to get a better idea of elevations?
- Dr. Colgan responded that they used various data sources with a six inch baseline error rate—but, if the elevation models are off by a foot or two, damage assessment to structures could be significantly higher. Also, Dr. Colgan responded that they have not used LiDAR based elevations in their datasets.
- Mr. Skinner questioned Dr. Colgan regarding the economic study of sea level rise impacts—if this has actually changed behavior either at the government level or property owners?
- Dr. Colgan responded that there is increased attention to the issues of sea level rise, land use planning, regulation and adaptation response and mitigation responses at the local levels.
- Captain Myrtidis questioned Captain Peacock regarding the state of Maine establishing boat construction protocol not to tow high, but rather build these boats to tow low for stability in the rocky, fast current waters of Cobscook Bay.
- Captain Peacock responded that Quoddy Pilots is working with Maine Marine Patrol and the USCG to hold workshops to educate local fishermen on the dangers and to design their boats to tow low.
- Captain McGovern raised the point about ports and surveying and that Pilots depend on the accuracy of NOAA products to ensure high situational awareness—low risk. Also, Mr. McGovern reiterated that its NOAA's job to keep the U.S. Marine Transportation System (MTS) safe with their products, information and services, and that maybe NOAA needs to prioritize its navigation responses.
- Captain Hickman questioned about the AIS (Automated Identification System)—a USCG product, but that CO-OPS is working to place PORTS® data on the AIS screen?
- Captain Lowell commented that the AIS are not necessarily a NOAA product, but NOAA is interested in using AIS to communicate information from the various sensors to the decision-makers on the bridge of a ship. NOAA is working with the Committee on Marine Transportation (CMTS) Integration Action Team and the University of New Hampshire to mechanically put this information in place that will feed into NOAA's next generation navigation type products. Another issue that Captain Lowell commented on is the training aspect of these new technologies. These new products must be all to the right standard and user friendly—reiterating earlier comments on ease of use of data and technology.

- Captain Maco commented that the nowCOAST product is complex, has a lot of buttons and levels—and recommends NOAA keep this in mind when developing new technologies and products. Pilots want to press one button and get all the data they need rather than having to scroll through several layers of data.
- Mr. Frost commented as an example on the training issue—with the *Cosco Busan* wreck the Master had only been on the ship for six hours before he left port, and he didn't know how to use Electronic Chart Display and Information System (ECDIS). It's very possible the Master misidentified the radar signature for the center of the bridge for one of the abutments. Mr. Frost further commented that training isn't just an issue for U.S. mariners, but the Standards of Training Certification and Watchkeeping (STCW) standards are not as stringent as USCG requirements and leave a training gap for mariners.
- Captain McGovern further commented on the training—the U.S. has volunteered to write the model course for ECDIS training, and it would make sense that the chart-makers (NOAA) would be part of that model course development—maybe reach out to the USCG to see who's doing what in training.
- Mr. Welch acknowledged that Dr. Dionne's presentation was in synch with previous presentations of how NOAA products were used to marsh restoration and protection. Also, that Mr. Frost's talk on the *Athos I* oil spill incident showed the need for updated charts.
- Mr. Welch questioned Captain Maco regarding his comments about Rhode Island assessing a tax on oil to pay for the Narragansett Bay PORTS® system. Mr. Welch asked Captain Maco to provide the HSRP with more information regarding this issue. Mr. Welch further stated that they (Pilots) want to know the PORTS® system is up and running and producing good information.

Other Meeting Presentations

RADM Admiral Jonathan W. Bailey, Director, NOAA Corps and Office of Marine and Aviation Operations, discussed NOAA fleet recapitalization, the budget and utilization of $100 million in ARRA funds. The fleet recapitalization plan was approved in 2008. Admiral Bailey presented that $20 million ARRA funds went for vessel maintenance and repair; $73.6 million went for vessel construction. He also discussed NOAA's Fishery Survey Vessels and funding and six additional NOAA Survey Vessels (NSVs) planned for delivery between 2018 and 2024. Admiral Bailey discussed these NSVs will be *in situ* data collection ships (multi-purpose). He discussed crew retention and establishment of standards for time at sea. He also went into detail regarding the noise and vibration dampening mounts on vessels and the cost; ship acquisition process; design process; and fleet maintenance issues associated with NOAA's aging ships (approximately $17 million for maintenance spread across 18-20 ships). Admiral Bailey also discussed surveying complexities—true value of data being

collected on the NOAA ships; were certain hazards averted? Some survey areas are difficult, high risk, and require higher level of effort. He also talked about construction design, weighting and additional costing issues for the *HASSLER* NSV. Admiral Bailey stated that NOAA needs to conduct mission operational performance requirements; feasibility studies, analysis of alternatives, lifecycle to result in a good design and construction process for the *HASSLER* and future NOAA NSVs. Admiral Bailey ended his talk stating there are always issues associated with the planning, funding and design processes for new ship allocation.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/NOAA_Fleet_Issues_and_Fleet_Recapitalization_Plan_Update_RADM_Bailley.pdf

- Mr. Welch raised to the Panel the concern of appropriate funding for NOAA to meet its fleet allocation needs. He encouraged NOAA to look at the gap issues indicated in NOAA's Fleet Recapitalization Plan and not wait until major capital expenses occur—such as recommissioning decommissioned 40 year old ships.
- Mr. Magnuson discussed that the Fleet Recapitalization Program needs a recommendation from the HSRP for NOAA to consider funding investments for multi-purpose hydro survey vessels.

Mr. Jack Harlan, NOAA's High Frequency Radar National Network, discussed some applications of High Frequency (HF) radar for oceanographic use. He presented how HF is used to obtain near real-time surface currents (with high resolution); data is either hourly or 20-minute updates. Measurements include: surface currents; surface wind direction and speed; surface current speed; wave heights; and other wave spectrum products. Some applications for HF radar includes: water quality monitoring; rip current prediction; marine navigation and safety; search and rescue; harmful algal blooms; fisheries and ecosystems; and hydrodynamic modeling. He discussed development under IOOS of a data management distribution system. He spoke about other types of radar available, problems with interference and working to obtain permanent licenses to alleviate the problem. He spoke about the use of HF for oil spill trajectory for the *Deepwater Horizon*.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/National_High_Frequency_Radar_Network_Jack_Harlan.pdf

Public Comment

Mr. Bob Hamilton, Woods Hole Group, spoke that on contract with CO-OPS they collect current data and service some PORTS®. Mr. Hamilton raised the concern that there is no PORTS® system or Boston. He hosted workshops throughout New England with prospective users to determine types of data needed, discuss funding issues for installation and operations, and expand the PORTS® network for in the Northeast.

Mr. Hamilton stated the goal of the workshops was to build enough stakeholder interest to formally request that NOAA come in and conduct a user-needs assessment and options for funding.

- Mr. Skinner discussed how he talked with Deb Hadden, Assistant Port Director for Massport (Massachusetts Port Authority) about how to get NOAA in Boston to present a briefing to the port operators, pilots and stakeholders on PORTS® installation and operation in Boston.
- Mr. Welch stated that the Boston PORTS® issue is something that the HSRP may want to consider in their recommendations to the NOAA Administrator.

Mr. Don Jagoe, SAIC Newport Rhode Island, addressed filling in gaps, tide stations, lack of tide stations, specifically in the Arctic. Mr. Jagoe suggested that the HSRP push to increase additional funding for NOAA hydro survey backlog—because you get a lot of bang for the buck. Mr. Jagoe suggested that the HSRP push to increase additional funding for NOAA hydro survey backlog—because you get a lot of bang for the buck. He also spoke about how NOAA is using ERS (Ellipsoidally Referenced Surveys) for tide analysis and suggested that this be a topic at a future HSRP public meeting. Mr. Jagoe highly complimented NOAA 's Hydrographic Surveys Division on the planning of multi-year projects that was possible due to the use of ARRA funds one year and survey backlog funds the next. This reduces the need for multiple mobilizations, provides continuity of work for firms and is an efficient means of reducing the survey backlog.

Meeting Wrap-up

Mr. Welch, Acting Chair, HSRP, discussed points of interest or issues that the Panel should consider in the Recommendations to the NOAA Administrator: 1) the HSRP Panel assisting NOAA to arrange a meeting with the Massachusetts Port Authority and other stakeholders for a PORTS® briefing in Boston; 2) the marine transportation system in NOAA's Next Generation Strategic Plan should be elevated—reemphasize to NOAA that commerce doesn't mean coastal commerce but national commerce); 3) NOAA's Fleet Recapitalization issues; 4) surveying concerns in Cobscook Bay; and 5) the new membership selection process, there are two issues—expertise and qualifications, and rotational periods for new members.

Meeting Adjourned

The HSRP suspended at 5:55 p.m.

Hydrographic Services Review Panel
Public Meeting
May 6, 2010
Providence, Rhode Island

Thursday, May 6, 2010

Call to Order

Mr. Ed Welch, Acting Chair HSRP, called the meeting to order on Thursday, May 6, 2010, at 8:33 a.m. Mr. Welch recognized Ms. Juliana Blackwell as the Designated Federal Official (DFO) for the day, and discussed a recap of the previous day's proceedings.

Panel Discussions

Ms. Elaine Dickinson, BoatUS, discussed the Alliance for Safe Navigation's public outreach and education effort to get recreational boaters to focus more on not only carrying charts but also carrying up-to-date charts. The website is http://www.allianceforsafenavigation.org/. She also discussed the NOAA press release showing NOAA's co-sponsorship of the Alliance for Safe Navigation nationwide educational effort. Through this website recreational boaters can now get current, updated nautical chart information. She further stated that BoatUS is conducting a survey of recreational boaters that inquires about navigation products used aboard their boats (i.e., charts, chart kits, chart booklets, etc.). Also, Ms. Dickinson discussed that Ken Cirrillo, Jeppesen Marine prepared a Navigation White Paper which addresses the importance and need for boaters keep their navigation charts up to date—this white paper expresses why outdated charts are a safety hazard.

- Mr. Welch questioned when the survey will be completed and suggested that at a future HSRP meeting, that Ms. Dickinson could provide an update on the survey results.
- Admiral West discussed that the HSRP Panel should take a look at how technology is outpacing our ability to use it and creating accidents as a theme for future meetings. Admiral West discussed that he attended a navigation conference at Kings Point where the Deputy Director of National Transportation Safety Board (NTSB) gave a presentation on accidents caused by too much technology, and people not understanding how to properly use the technology. Admiral West proposed to the HSRP that the Panel may want to consider technology and training as a theme for future meetings. What is the responsibility of the Federal government when they provide this technology and what is the equivalent training needed for safe navigation. Admiral West stated that he would like to have someone from NTSB talk about this at the next HSRP meeting.

- Mr. Welch stated that this is a good suggestion, and the HSRP will see if they can follow up on the suggestion.

Formal Presentations

Ms. Adrianne Harrison, NOAA's Coastal Service Center, presented a talk on sea level rise; planning challenges faced by NOAA customers; and decision support products to improve the adaptive capacity for coastal states and local communities. She discussed the need for monitoring systems to detect changes in coastal and ocean circulation, as well as vertical land motion, temperature and thermal expansion as it relates to sea level rise. She discussed the vulnerabilities related to sea level rise, planning and preparation for flooding and how NOAA conducts needs assessments to solicit stakeholder input to drive the development of sea level rise products. She presented that sea levels in the Northeast region are trending upwards, based on a variety of observations, models and other factors. Another concern she raised is financial constraints—with budgetary constraints in government it's difficult to make a case to decision-makers to provide funding for climate change mitigation or adaptation activities when agencies are facing budget cuts. NOAA must provide data that support the idea that costs of "inaction" are more expensive than those of adaptation or mitigation. She also talked about the sea level rise policy adopted by the Rhode Island Coastal Resource Management Council. Ms. Harrison presented the CanVis visualization tool to show (visually) potential impacts from coastal development or sea level rise. These NOAA provided services help coastal planners visualize how sea level rise could impact their communities, thus helping to develop mitigation strategies to address these impacts. http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Sea_Level_Rise_Adrianne_Harrison.pdf

- Mr. Jeffress raised a concern that these models are using datums (U.S. Geological Survey data that was established in 1929), and that the model datums are lower than the actual sea level.
- Ms. Harrison acknowledged that this is a significant issue with the types of mapping that's being done now—the vertical datums don't match up, and that they are working with United States Geological Survey (USGS) to rectify the data. She also discussed that states are clamoring for Light Detection and Ranging (LiDAR) imagery data to determine elevation changes and erosion along the shoreline.
- Ms. Blackwell, Director of NOAA's National Geodetic Survey (NGS) responded that, NGS is working with NOAA Coastal Services Center (CSC), Federal Emergency Management Agency (FEMA) and USGS to alert users of the accuracy of the data. But, more importantly, NGS recognizes that it needs to make sure that the heights are current and relating them to the National Spatial Reference System (NSRS), and communicate to users (i.e., FEMA and USGS) about Continuously

Operating Reference Station (CORS) and Gravity for the Redefinition of the American Vertical Datum (GRAV-D) height measuring tools for accuracy. Ms. Blackwell discussed that having the metadata is important, but that NOAA could do a better job of making sure disclaimers are put on the metadata to alert users of the measurement discrepancies. She also stated that the use of LiDAR data should be coupled with the metada and on-the-ground leveling surveying for accurate positioning, and that the data collected is collected to an updated datum. There needs to be LiDAR standards and specifications for geodetic control.

- Mr. Dasler questioned whether the tables that CSC is using are actually setting heights above the base—is the metadata provided with this, and is there any kind of uncertainties with the data? Mr. Dasler further stated that it seems that visualization maps should have some link to metadata.
- Mr. Jeffress reiterated Ms. Blackwell's comments that there is no Federal standard for LiDAR mapping, and that some of the geodetic infrastructure is old and that Global Positioning System (GPS) technology is used more often. He also raised the concern that there is a dilemma moving from the old technology of using accurate benchmarks on the ground to using GPS—and the accuracies are not valid.
- Dr. Dionne commented on some issues that need to be looked at—Maine is looking at how land is cleared resulting in heavy flooding in the entire coastal watershed area. Clearing the land, makes the coastline less receptive to heavy rainfall. She also raised the point that regarding vertical control issues and averages of sea level, that sea level actually varies annually—we should not be just looking at the linear trend, but also the variation.

Ms. Harrison closed her talk emphasizing that NOAA must provide the most accurate data, information—technology that improves the information.

Dr. Mark Borrelli, Provincetown Center for Coastal Studies, gave a technical presentation, discussing the Massachusetts Seafloor Mapping Cooperative (a partnership between the Massachusetts Coastal Zone Management Office, USGS, and NOAA) which later became the Provincetown Center for Coastal Studies. He discussed the Provincetown Center for Coastal Studies collects bathymetric and geology data for sea floor mapping using geophysical techniques—swath bathymetry and side scan sonar and they also perform seismic reflection work and sediment sampling. From 2003 to 2008, they have mapped over 1,300 square kilometers of the seafloor in Massachusetts state waters, which is about 75 to 80 percent. He discussed how the project produces nearshore resource characterization maps; marine terrestrial interface; and that they will map the beach dune system with LiDAR. Dr. Borrelli raised the concern that vertical datum is an issue in doing seamless onshore/offshore mapping, but was pleased to hear that NOAA is addressing the issue. He also discussed that using LiDAR, they will introduce the concept of Tide Coincident—using interferometric sonar technology, they will conduct LiDAR flights at low tide and

at high tide, then come in with a boat and conduct mapping—6 hours apart. This technology allows for shallow water mapping on a ten-to-one swath width-to-depth ratio. Dr. Borrelli also spoke about Provincetown's role in the study of right whales and their disentanglement.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Mapping_the_Shallow_Waters_in_Cape_Cod_Bay_Mark_Borrelli.pdf

- Mr. Wellslager questioned if Provincetown Center was using depths to the ellipsoid or applying a geoid model? Mr. Wellslager said it would be interesting to know what datum Keystone is providing corrections on? Also, when using LiDAR data, is that data adjusted to a datum? Mr. Wellslager also commented that Dr. Borrelli could obtain ortho-imagery at the same time the LiDAR is being flown, and they could have rectified very large-scale imagery overlaid with LiDAR for seamless modeling.
- Dr. Borrelli replied that he was not sure if they were using depths to the ellipsoid, but could put Mr. Wellslager in contact with someone who would know. Also, Dr. Borrelli replied that yes that the LiDAR data is adjusted to the datum. He further replied that he was aware of the georeference, not the ortho rectifier. However, if it's possible to get ortho verification, Dr. Borrelli would be interested.
- Mr. Dasler commented that some state networks are not all cooperative sites for NGS—if the data is going to get cross-referenced to NOAA and other surveys—then Provincetown may want to get some confirmations and look at what NOAA is doing in horizontal and vertical control.
- Ms. Blackwell commented to Dr. Borrelli that NGS has CORS data available to provide a position online through email with the latitude and longitude and elevations and give accuracies for that position. She also presented to Dr. Borrelli, VDatum that will allow water datums and the geodetic datums to be connected through NGS' modeling efforts. She suggested that Dr. Borrelli research what NGS and other agencies are doing and look for ways to pull all this information together. She also commented that the real-time networks that private companies are putting up, that the NGS is fully engaged in working to ensure those networks are positioned relative to the National Spatial Reference System (NSRS).
- Mr. Skinner commented that for the Cape Cod Bay area, homeowners insurance is difficult if not almost impractical to get. He proposed to the HSRP Panel that insurance companies could be interested in this type of information in terms of improving their models for homeowner's insurance. The HSRP has not heard from anyone in the insurance industry in terms of how this data is used for coastal areas, and it could be interesting to have a speaker at a future HSRP meeting.
- Mr. Welch requested that Ms. Blackwell or other NOAA representatives make a statement on where NOAA's responsibilities begin and end, and where USGS' responsibilities begin or how they overlap or what different types of data they're collecting.

- Ms. Blackwell addressed the Panel that NGS is working with USGS collaboratively on shoreline mapping—to determine who's flying what and where. She also discussed the Integrated Ocean and Coastal Mapping (IOCM)—coordination and operational effort across numerous Federal agencies to leverage coastal and ocean mapping resources for increased efficiency, consistency, and cost-effectiveness and to eliminate duplication. Ms. Blackwell reiterated that NGS is working to ensure USGS' control measurements are tied to the NSRS, and that their data links to national datums, as well as, ensure they are providing accurate metadata information.
- Mr. Edwing commented that CO-OPS recently formed a working group with U.S Army Corps of Engineers (USACE) and USGS to look at common standards to compute tidal datums from the USGS tide gauges. Mr. Edwing further commented that there's been a lot of progress between NOAA, USACE, and USGS to getting these three agencies' observing system networks integrated.
- Mr. Armstrong commented that the Joint Hydrographic Center and NOAA's Hydrographic Survey Division and Coast Survey Development Laboratory are working with manufacturers to sort out uncertainty issues with new sonars in shallow water.
- Mr. Dasler further stressed the point that all agencies and sectors getting on the same page in terms of control and datums—to help with the analysis of mapping data.
- Mr. Welch proposed that he was not sure if anyone from USGS has addressed the HSRP Panel in the last several years, and that the Panel may want to consider putting this topic on the agenda for a future meeting.
- Dr. Dionne commented that this type of mapping is critical for understanding how marshes and other coastal habitats respond to seal level rise or precipitation events—they need these models. Over the past couple of decades, they have been frustrated in the lack of overlap between what's available from NOAA and USGS. She further stated that if they could get the LiDAR at low tide, and overlap it with shallow water data that would be excellent.

Mr. Howard Danley, Chief of Navigation Services Division, Office of Coast Survey, presented an overview of the NOAA nautical charting product distribution system. He emphasized that distribution of its products had always been an afterthought and received little attention from the Office of Coast Survey. Mr. Danley, discussed that at the present time, some NOAA nautical charts are printed and distributed for NOAA by the federal Aviation Administration (FAA). Other products, such as the Electronic Navigational Charts, Raster Navigational Charts, Pocket Charts, and Print on Demand paper charts are manufactured and distributed through their own processes. He also presented that two events are causing the Office of Coast Survey to re-examine its distribution system and responsibilities. The first was the exit from the Raster Navigational Chart business by NOAA's partner Maptech, Inc., which left NOAA without a means to

manufacture or distribute that product. The second event is the recent changes to the FAA's distributorship terms and conditions—these changes will increase the minimum required sales, change the discount percentages received by retailers, and make other changes. A consequence of FAA's changes is that their distribution network will decrease from 1,000 agents to less than 100. Mr. Danley asked the HSRP Panel to consider and offer an opinion on several questions regarding distribution, the distribution network, and Coast Survey's responsibility with respect to distribution. These questions are available at: http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Nautical_Product_Distribution_Howard_Danley.pdf

- Mr. Welch and Admiral West addressed the question of OCS trying to become more competitive with its products. They asked about the amounts of money involved, which NOAA was not able to answer, and opined that the United Kingdom Hydrographic Office (UKHO) Taunton Somerset United Kindgom, which competes with NOAA is some instances, was well established and funded to compete in a commercial environment compared to NOAA. They further stated that UKHO and privately produced charts were based on NOAA chart data which to some degree helped distribute NOAA information.
- Ms. Dickinson questioned the concern that the FAA has discontinued domestic distribution of National Geospatial Intelligence Agency (NGA) nautical charts of foreign waters? She also commented that NOAA charts agents are being basically cut off from a source of charts and that there are people who need these charts. Since the distribution system went to FAA, from the agent's point of view—it's going to be harder and harder for the public to buy these products—which is not really in the public interest as far as safe navigation goes.
- Ms. Banks, National Aeronautical Navigation Services of the FAA, responded that this action was part of an efficiency program agreed to with the Office of Management and Budget. She also responded that NGA is in negotiations with USGS to take over their chart distribution.
- Mr. Welch wanted to draw the attention of the HSRP that some letters from chart agents regarding this issue has been provided to the Panel, and will be discussed in the public comment period.
- Admiral West commented the concern of why so many agencies (NOAA, USGS, FAA, USACE & NGA) were involved in chart distribution, and queried if the Committee on Marine Transportation (CMTS) should be addressing this issue. Admiral West proposed to the HSRP that the Panel should take a look at this issue and respond back to NOAA with advice.
- Captain Jacobsen commented that the HSRP might look at the UKHO's marketing model of how they sell and distribute their charts for ideas on how NOAA can respond.

Captain Neil Parrott, Commanding Officer of the Navy's Surface Warfare Officers School (SWOS) Command, discussed the critical importance of accurate chart information for naval maritime training. He discussed how SWOS is a user of NOAA's nautical charts and electronic navigation products—that are used for advanced ship handling and tactical skill development training. Captain Parrott also presented how NOAA's navigation chart data is uploaded into their virtual reality training system to provide situational awareness training for the officers. Captain Parrott clearly stated that providing accurate charts and accurate survey information on those charts is critical for ensuring the trainees get the most advanced situational awareness training available before going aboard any Navy ship. He further stated that there are a lot of users out there, not just the Navy, and Coast Guard, and that these users assume they are getting the most accurate, complete navigation data. Also, in light of advanced technology on ships, Naval officers and mariners come to rely far too much on electronic equipment as the most accurate form of navigation information. Captain Parrott stated that at SWOS, they also train their officers' that they must also use "visual" look out the window in combination with electronic navigation to ensure safe navigation. One faulty premise many mariners and officers do is take it for face value that the electronic chart information is always accurate. http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Navigation_Training_in_the_NAVY_Surface_Warfare_Officers_School_Captain_Parrott.pdf

- Mr. Armstrong commented to Captain Parrott that there is uncertainty in some of the data on the NOAA navigation charts, but questioned Captain Parrott as to how should NOAA portray that uncertainty to end users such as the Navy?
- Captain Parrott responded to focus on time lateness of the data.

Captain Greg Gifford, Woods Hole, Martha's Vineyard and Nantucket Steamship Authority, spoke about marine spatial planning from the viewpoint of navigation user. Captain Gifford talked about the proposed Cape Wind offshore wind farm project on Horseshoe Shoal, Nantucket Sound. He discussed some concerns with the location site—the proposed wind farm will take up about 26 square miles of Horseshoe Shoal. And eight-five percent of this area is navigable waterways—taking 26 square miles of this area could pose some safety issues for navigation. He also presented that proposals being considered in the Massachusetts Ocean Plan, are for coastal, sand mining, small large clusters of wind turbines, hydrokinetic generators in Federal and state water—all that will have a major impact on the safety of these waterways, and that NOAA should be very concerned with these proposals. He commented that there should be oversight that considers all aspects of safe navigation for vessels that operate in these waterways. Captain Gifford stated that the developers of these proposed energy projects must listen to the experts—commercial, recreational, law enforcement, Coast Guard (risk-based decision making) and other stakeholders. Setbacks must be considered to allow for target swap, false targets on navigation radars; collisions or groundings could result from changing

or altering the traditional ferry and established shipping lanes; and jurisdictional issues between Federal and state. He further commented that stakeholder opinions and oversights for the many aspects of safe navigation for vessels that operate in the proposed areas should be considered by the President's Interagency Policy Task Force, and by coastal states. Captain Gifford ended his presentation stating that NOAA will be called upon to address the changes in the charting aspect—accurate rendering of the relocation of ATONs, channel markers, numerous surveys will need to be done due the possibility of changes in bottom contours. He further stated, it will be NOAA's responsibility to ensure the information that mariner's get from the ECDIS or paper charts be accurate to prevent collisions or accidents.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Marine_Spatial_Planning_Traditional_Navigation_Users_Captain_Gifford.pdf

- Mr. Welch presented that the HSRP Panel must question NOAA—how does NOAA systematically monitor the introduction of new facilities or structures or different changes to the seafloor in regards to their charting and surveying priorities?
- Captain McGovern commented that in New York they have partnered with USCG and NOAA to develop safety fairways before the alternative energy sites are developed to ensure safe shipping and recreational routes—the energy sites are developed outside of these fairways.

Mr. Grover Fugate, CRMC Executive Director/Ocean SAMP Project Manager, presented on Rhode Island Ocean Special Area Management Plans (SAMP). Mr. Fugate explained what the SAMP process does—zoning Rhode Island's offshore waters using an ecosystem-based approach that involves scientific research and public input to develop policy. He emphasized that this is a Federal coastal management and regulatory tool to look at offshore wind and other energy development; coastal development economic activity; and coordinated decision-making. Further he stated that this plan was actually adopted in 1983, giving Rhode Island 27 years of marine spatial planning. He also stated that NOAA might want to expand their mapping products relating to these marine spatial planning projects, and provide more useful information.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Rhode_Island_Ocean_SAMP_Coastal_and_Marine_Spatial_Planning_Grover_Fugate.pdf

- Mr. Dasler commented that states are conducting their own mapping efforts for coastal and marine spatial planning, but all the data may not be accurate and reliable—stating the case for integrated ocean and coastal mapping. Mr. Dasler further stated that there's a lot of money being spent to collect this data, but it's not being collected to standards that can be used for charting, and that something the HSRP Panel needs to address.

12:15pm – 1:15pm Lunch recess

Mr. Gary Magnuson, Committee on Marine Transportation System (CMTS), gave an overview of CMTS, its history and thoughts on its future. Mr. Magnuson presented the outcome-based goals for the MTS; integration of existing services; and recommended strategies and plans to improve the MTS. He talked about the National Marine Transportation Strategy document that was adopted by the CMTS; NOAA is viewed as a leader within CMTS, and will be Chair of the coordinating board in 2011. He also talked about the CMTS Integrated Action Teams—research and development and coordinated federal response to marine shipping in the Arctic. Other CMTS coordinated efforts include: making the PORTS® program a more sustainable program (USCG, USACE & NOAA looking at a new business model for improving PORTS®); bilateral arrangements among maritime agencies; and the updated assessment of the U.S. Marine Transportation System.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Committee_on_Marine_Transportation_System_Gary_Magnuson.pdf

- Captain McGovern commented that although there appears to be interagency cooperation—the state and local cooperation is not there.
- Mr. Magnuson responded that the CMTS has been somewhat limited in their ability engage stakeholders and that this is an area the CMTS needs to improve on.
- Mr. Welch commented that the HSRP has been supportive of the CMTS and submitted recommendations to the NOAA Administrator for NOAA's continued participation and the CMTS' role in the federal structure.

Mr. Richard Edwing, Acting Director of CO-OPS, discussed his career development history with NOAA into his current position. Mr. Edwing presented that CO-OPS provides the tidal datums needed by NGS and Coast Survey; Coast Survey does the mapping (hydrographic surveys) and putting sounding on charts to mean low level water; and NGS does the shoreline photogrammetrics (shoreline mapping) to mean high water and mean lower low water—(i.e, the National Water Level Observation Network); basically vertical control. He presented that NOAA is now up to 210 NWLON stations, and discussed "hardening" the current NWLON stations to elevate and strengthen the instruments against damage from weather systems. Specifically, he mentioned the Sentinel stations—new storm tide stations built to withstand category 4 hurricanes; and CO-OPS' joint efforts with the USACE to design and install more Sentinels for high water level observation networks. Mr. Edwing also talked about the joint efforts with USACE for a common vertical datum—the Corps will use NOAA's tidal datums and NSRS for coastal projects. He also discussed that CO-OPS will conduct tide gauge surveys to collect information for improving output of VDatum models—some locations include Maine and Massachusetts; new gauges in Alaska; and surveys in Georgia. He presented that CO-OPS will be doing tidal current survey every year to update the tidal current predictions

and the NOAA tidal prediction tables. Mr. Edwing talked about expanding the operational coastal models, and the establishment of a PORTS® system in New London and the potential plans for Humboldt Bay and Jacksonville. Mr. Edwing also talked about the release of the upcoming Columbia River PORTS® economic study—to be published in June 2010. He talked about the testing of adding visibility point measurement sensors and integrating wave buoy data into the PORTS® system. Mr. Edwing also talked about CO-OPS' Storm QuickLook product that provides a synopsis of oceanographic and meteorological observations such as real-time water level storm surge activity associated with tropical weather systems.
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/Center_for_Operational_Oceanographic_Products_and_Services_Rich_Edwing.pdf

- Mr. Welch proposed to Mr. Edwing for CO-OPS to present the PORTS® Columbia River Economic Study at the next HSRP FACA Panel meeting in Portland, Oregon, September 14-15, 2010.

Ms. Juliana Blackwell, Director, NOAA National Geodetic Survey, presented NGS updates on the most-wanted recommendations. Specifically, Ms. Blackwell presented that NGS is not just about the coast—but about providing the National Spatial Reference System (NSRS) from coast to coast. She spoke about NGS' Continuously Operating Reference Station (CORS)—network system that provides global navigation satellite data of carrier phase and code range measurements for positioning. Ms. Blackwell talked about NGS' Online Positioning User Services (OPUS)—processes your GPS data files and provides users with NSRS coordinates to position survey marks. She also talked about NGS receiving ARRA funds to update the U.S. shoreline—resulting in 8,600 miles of new shoreline to update 142 nautical charts; and also provides baseline data needed to manage coastal resources and help define the U.S. territorial limit. She spoke about how to update VDatum nationally—taking the vertical datum helps integrate bathymetric, topographic, and coastal data from different sources and reference frames. NGS' goal is to make this seamless from water to land and accurate that uses NGS, CO-OPS and Coast Survey data. She spoke about the height modernization program—trying to get partners such as National Weather Service, USGS, and USACE to produce the most accurate height information possible for their products. She also spoke about progress updating the stream gauge datum and trying to get some pilot projects done so as to demonstrate the value of having stream gauge data all relative to an updated national vertical datum. Ms. Blackwell talked about NGS receiving $3 million this year for the Gravity for the Redefinition of the American Vertical Datum (GRAV-D) program—to kick off the collection phase of collecting airborne gravity data. Further, she talked about how NGS conducted nearly 3,300 aerial images of Haiti after the earthquake back in January 2010 to support emergency response and recovery efforts. NGS' aerial images of Haiti showed where the pre-earthquake and post-earthquake changes to the shoreline and infrastructure occurred. Ms. Blackwell ended her presentation noting that Dr. Dionne commented on the

importance of having geodetic control—the land information so that they can accurately and precisely measure the changes at NERRS sites. http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2010/May/National_Geodetic_Survey_Update_Juliana_Blackwell.pdf

- Mr. Jeffress questioned Ms. Blackwell if NGS has made any attempt to educate FEMA in geodesy—it seems FEMA in not putting datum on their flood plain maps and that information could be important for projecting control and elevation of flood areas.
- Ms. Blackwell responded that NGS has been working with the FEMA mitigation division to inform them that the data they're using for their map modernization and risk map products is questionable in areas that have not been surveyed or areas that are very dynamic.
- Mr. Dasler commented that FEMA also contracts out with the surveying community for data, but, some guidance from NGS to FEMA in terms of specific indications and metadata could be helpful. He also stated that NGS is responsible for the NSRS, CORS and OPUS, and that this data is being important for inland mapping efforts; but, he feels is not being captured in the NOAA Strategic Plan.
- Ms. Blackwell responded that NGS is supporting NOAA and other federal, state and local users and geospatial positioning—with GRAV-D users will be able to use GPS with accuracy to a few centimeters. However, Ms. Blackwell reiterated that the GRAV-D plan calls for $4million per year to implement the 10-year plan, and that NGS only got $3million for FY11. Each year the GRAV-D is not funded at the $4million means the project time is extended. She ended her talk commenting that NGS has briefed and sent out letters seeking collaborative partnerships, joint initiatives, sharing of resources with other federal agencies.

Public Comment

Captain Henry Marx, Landfall Navigation (Chart Agent submitted his public letter at the beginning of the HSRP FACA meeting). Captain Marx, as a chart agent, talked about his concern regarding NOAA's role in the chart distribution system. Recently, the FAA, who distributes NOAA's nautical charts to chart agents, downsized and cancelled chart agents who achieved less than $5,000 annual sales volume. This action immediately reduced the availability of NOAA's nautical charts to mariners, thereby, posing a higher risk of navigation accidents—for both the commercial as well as recreational mariner. Captain Marx recommended that NOAA take command of where their nautical chart products are going.

Mr. Jon Dasler, brought to the attention of the HSRP Panel, the article from the U.S. News and World Report magazine dated May 5, 2010, called Gulf Oil Spill, A Slow-Motion Hurricane. He stressed that this article calls for bathymetry surveying in the Gulf of Mexico in response to the Deepwater Horizon oil spill

event. Ioannis Georgiou, who is an oceanographer at the University of New Orleans, is quoted: "It's very hard to say when, where and how much oil will reach any particular part of the coast. The seabed topography and depth help determine the nature of local currents, their speeds and the degree to which water either stratifies or mixes. All are features that can play a big role in what happens to any oil that water transports. Unfortunately for spill-trajectory modelers, the last fairly complete bathymetry of the northern Gulf's seafloor took place in 1927. Some patches of the Gulf's seafloor have been periodically resurveyed since then. But the depths to the seafloor for most of the area over which the slick is predicted to travel has not been comprehensively mapped in more than 30 years, he notes -- in many places for more than 70 years."

HSRP Administrative

- Mr. Welch recognized Mr. Skinner as the former HSRP Chair and thanked him for his service and duty to the Panel. Mr. Welch brought before the Panel the issue that he (Mr. Welch) was serving in the "acting" Chair position (and is the Vice-chair), and that the Panel needed to discuss and vote on a permanent Chair for the Panel for the remainder of the term (which would be about 2 years).
- Mr. Skinner commented that informal discussions with Panel members raised the concern for continuity with the Chair and Vice-chair positions on the Panel. Mr. Skinner also suggested that the Panel get on a two-year cycle of revising the HSRP Most Wanted Report with updates to the recommendations. To the HSRP, Mr. Skinner nominated Mr. Welch to serve in the capacity as "Chair" of the Panel.
- Mr. Welch recognized Mr. Skinner's nomination and thanked him for serving under Mr. Skinner's direction as former Chair for nearly two years. He proposed and opened up for discussion to the Panel that the nomination and selection of Vice-chair should be considered from current members who will remain with the Panel for at least another two years.
- Admiral West requested that Juliana (as the "Acting" DFO) take a message back to NOAA Leadership that losing at least 10 Panel members at once is not the right way to go. He recommends that NOAA Leadership phase in new members to the Panel over a period of time. Also, he suggested that the Vice-chair be someone new, but volunteered himself to serve as "acting" Vice-chair; and he seconded the nomination for Mr. Welch to serve as the permanent Chair.
- Mr. Whiting stated he would make that nomination.
- Mr. Dasler pointed out that the HSRP Charter states that a voting member of the Panel may serve after the date of the expiration the term or office for which appointed or until his/her successor has take office. He also stated that the Charter clearly outlines the duties of the Panel.
- Ms. Watson commented that the HSRP Charter was just updated June 2009, and that the Charter is updated every two years.

- Captain McGovern commented that logistically it is far easier and economical for the Chair and Vice-chair to both be located on the East coast—considering long distance communications and time differences.
- Mr. Wellslager commented that he has reapplied for HSRP Panel membership, and if appointed, or if appropriate, would like to eventually take over as Vice-chair.
- Admiral West nominated Mr. Wellslager for Vice-Chair.
- Mr. Whiting seconded that nomination.
- Captain Jacobsen requested "all in favor."
- Mr. Welch commented to the Panel that there is a nomination for Mr. Welch to serve as Chair and Mr. Wellslager to serve as Vice-chair, and called to the Panel for a vote.
- All in favor say "aye"; all apposed; none opposed. Motions carried. Mr. Welch becomes official Chair and Mr. Wellslager becomes official Vice-chair of the HSRP Panel.

Updates to HSRP Most Wanted Report 2007

Mr. Welch proposed to the Panel to have updates to the Most Wanted Report by July 4, 2010; and the Panel would have three weeks to submit final updates. After receiving final updates, NOAA staff would compile and schedule public teleconference call for the HSRP Panel to vote on the final update report. Mr. Welch proposed June 30, 2010 as the date for the conference call.

Admiral West proposed that after the HSRP approves the final Update Report that Ms. Blackwell present the Update Report to the NOAA Science Advisory Board (SAB). Admiral West commented that he has a previous document of how to present FACA materials to the SAB.

Captain McGovern proposed that he add in text regarding the Coast Guard's introduction of the electronic charting system carriage requirements. Mr. Welch delegated this task to Captain McGovern to provide to the NOAA staff for editing.

Group photo taken

Recap of Meeting Events

The Panel discussed recommendations to be submitted in the NOAA Administrator letter. Mr. Welch stated that he would check with NOAA legislative people to find out what the prospects are first in the House with any subsequent activity after the hearing, the House bill, and whether there might be some activity in the Senate bill regarding Congressman Young's bill.

Suggestions for the NOAA Administrator recommendations letter included: a meeting in Boston with the Pilots and other maritime stakeholder for PORTS®;

erosion of the chart distribution service under FAA management; no public access anymore to NGA charts; NOAA and the federal government proceed with marine spatial planning—that they place a lot of reliance on hydrographic activities to support their policy choices; NOAA should kickstart the IOCM—before states go out and collect all the data; need for hydrographic surveys outside of the typical navigationally significant areas;

Discussed Schedule/Agenda for Next HSRP Meeting

Panel members discussed the next HSRP FACA Panel meeting would be held in Portland, Oregon on the dates of September 14-15, 2010.

Topical items for discussion at the Portland meeting may include: an official presentation of the Update Report 2007; Columbia River PORTS®; new or advanced technologies—training, capabilities and qualifications (Admiral West recommended a speaker from NTSB) man-machine interface; Pacific Marine Center—moving from Seattle to Oregon (status); USGS and Oregon State seafloor mapping effort; and SCRIPS Institute wave buoy modeling. The HSRP Panel agreed to have more time on the Portland agenda for discussion of recommendations.

Adjournment

Proceedings adjourned at 4:46 p.m.

Voting HSRP Members Attending

Jonathan Dasler	Director of Hydrographic Services, David Evans and Associates, Inc.
Elaine L. Dickinson	Boat Owners Association of the United States (BoatUS)
Dr. Gary Jeffress	Professor of Geographic Information Science, Texas A&M University – Corpus Christi
Captain Sherri Hickman	Houston Pilots Association
Captain Tom Jacobsen	President, Jacobson Pilot Service, Inc. & Bay Survey Enterprises, Inc.
R. Adam McBride	Port Director, Lake Charles and Terminal District (Retired)
Captain Andrew McGovern	Sandy Hook Pilots Association
Captain Minas Myrtidis	VP, Fleet Regulatory Compliance, Norwegian Cruise Line
Thomas Skinner	Senior Project Manager, Durand & Anastas Environmental Strategies, Inc.
Edmund Welch, HSRP Acting Chair & Vice Chair	Independent Consultant for Maritime and Ocean Policy; Passenger Vessel Association

Matthew Wellslager	Program Manager, South Carolina Geodetic Survey
Rear Admiral Richard West, U.S. Navy (Retired);	Past President, Consortium for Oceanographic Research and Education (CORE); former Oceanographer and Navigator of the U.S. Navy
Larry Whiting	TerraSound, LLC (Retired)

Voting HSRP Members Not Attending

Captain Ramón Torres Morales	Port of Las Americas Authority

Non-voting Members

Andy Armstrong	Co-director, Joint Hydrographic Center, NOAA
Juliana Blackwell	Director, National Geodetic Survey, NOAA
Richard Edwing	Director, Center for Operational Oceanographic Products and Services, NOAA

Designated Federal Officer

Captain John E. Lowell, Jr.	Director, Office of Coast Survey, NOAA

Stakeholder Panel

Dr. Charles Colgan	University of Southern Maine
Dr. Michele Dionne	Wells National Estuarine Research Reserve
Donald B. Frost	Connecticut Maritime Association
Captain Joseph Maco	Northeast Marine Pilots Association
Captain Robert Peacock	Quoddy Pilots USA

Other Speakers

Laura Furgione	Director, NOAA's Program, Planning & Integration Office (PPI)
Jennifer Lukens	Senior Policy Advisor to the NOAA Under Secretary
RADM Jonthan W. Bailey	Director, NOAA Corps and Office of Marine and Aviation Operations
Jack Harlan	NOAA IOOS Office
Adrianne Harrison	NOAA Coastal Services Center New Hampshire
Dr. Mark Borrelli	Provincetown Center for Coastal Studies
Howard Danley	NOAA Office of Coast Survey
Captain Neil Parrott	Commanding Officer of the Navy's Surface Warfare Officers School (SWOS) Command
Captain Charles G. Gifford	Port Captain, Woods Hole Martha's Vineyard and Nantucket Steamship Authority
Grover Fugate	Executive Director, Rhode Island Coastal Resources Management Council and Executive Office of Energy and Environmental Affairs
Gary Magnuson	NOAA Office of Coast Survey

Staff

Paul Bradley	National Ocean Service, Policy, Planning & Analysis Division
Ashley Chappell	Office of Coast Survey, National Ocean Service, NOAA
Captain Gerd Glang	Office of Coast Survey, NOAA
Tiffany House	National Geodetic Survey, NOS
Kristen Tronvig	Center for Operational Oceanographic Products and Services, Office of Planning, NOAA
Kathy Watson	Office of Coast Survey, NOAA

Others Attendees /Public

Straud Armstrong	Teledyne Benthos
Ken Cirillo	Jeppsen Marine
Ray Corson	Fugro Earthdata
Rod Evans	SAIC
Bob Hamilton	Woods Hole Group
Don Jagoe	SAIC
Doug Lockhart	Teledyne RDI
Kate McMullen	U.S. Geological Survey
Captain Henry Marx	Landfall Navigation
Ivan Victoria	Aauderaa Data Institute
Tom Waddington	Substructure