NOAA FISHERIES

UPCOMING EVENTS

January 17-19, 2017

MREP 100 Management module, Atlantic City, NJ

February 21-23, 2017

SARC 63, ocean quahog, Woods Hole, MA

Top Story

Jon Hare Named NEFSC Science and Research Director

On October 24, 2016 NOAA announced the appointment of Jonathan A. 'Jon' Hare, Ph.D. as the new Science and Research Director for NOAA's Northeast Fisheries Science Center.

Cooperation, collaboration and partnerships are among the top priorities for Jon Hare as the new Science and Research Director for the Northeast Fisheries Science Center (NEFSC). Hare officially assumed his new role on October 31, 2016, and is already working to address those priorities.

As NEFSC director, Hare will lead NOAA Fisheries' five northeastern labs and field stations and continue the work of planning, developing, and managing a multidisciplinary program of basic and applied research on the living marine resources of the Northeast Continental Shelf Ecosystem from the Gulf of Maine to Cape Hatteras, North Carolina.

During his first 90 days on the job, he has left his office in the Woods Hole Laboratory to visit with as many constituents in the region as possible, attending council meetings and conferences, talking with industry and meeting with researchers and leadership at academic organizations. He attended the Buyers & Sellers Exchange (BASE) seafood auction (formerly known as the Whaling City Seafood Display Auction) and toured the Foley fish plant in New Bedford.

He hopes to spend more time in the coming year and beyond learning more about different aspects of the fishing industry in the region, from harvesters and dealers to wholesalers and retailers. "I have been to sea a lot on research cruises. I would like to go out on some industry vessels to learn about their operations, issues and perspectives."

Jon Hare carries baskets of fish during a 2006 bottom trawl survey on the Northeast U.S. Continental Shelf.

"The Northeast ecosystem is changing rapidly and it is a challenge for us as a region to deal with that, but I am optimistic that we can work together to address the challenges and opportunities we face." *Jon Hare*

Since October he has also visited every NEFSC facility except one to introduce himself to staff, to learn more about that facility's operations, and to emphasize that NEFSC needs to expand cooperation and collaboration internally and externally. Due to a December snowstorm, his visit to the Maine Field Station in Orono was postponed, but the goal of getting out to meet, talk with and listen to people will remain a top priority during his tenure.

Hare has two long-term broad goals for the NEFSC: to encourage the Center to conduct the best science possible, and to make the NEFSC the best place to work within NOAA. "One is a scientific goal, the other an organizational one. We have a lot of work to do on both." He plans to be in his position for ten years, to bring some stability to the position and to have time to make progress on a number of fronts, realizing change takes time and won't happen overnight.

The day-to-day interactions with the NEFSC staff, seeing firsthand their dedication to the mission and understanding the expertise within the Center across the broad range of the NOAA Fisheries mission, have been very rewarding, Hare says of his first few months on the job. So has seeing the importance and the value of the science related to peoples' livelihoods and marine resources in the region. "Everyone has been very open with ideas. I am not naive. Tough interactions will happen, but we need to listen to and learn from each other. It is all part of building trust and respect."

Hare started as a researcher who wanted to inform fisheries management some 30 years ago after receiving a Bachelor of Arts in Biology from Wesleyan University in 1987, and a Ph.D. in Oceanography from the State University of New York at Stony Brook in 1994.

"Early in my career my understanding of management was very limited, but over the past few years especially I have come to understand and appreciate the role of a broad range of disciplines, including social sciences, and the importance of different perspectives in the day to day and year to year operations of a large scientific organization like the NEFSC. I see a real role for science in living marine resource conservation and management, and I want to improve the science in support of management."

Hare grew up in upstate New York and says he has always been interested in fisheries. He followed that interest and took advantage of opportunities along the way to land at the NOAA Fisheries laboratory in Beaufort, North Carolina more than two decades ago, and eventually joined the staff at the NEFSC. Through the years he has won multiple awards for his leadership and administrative capabilities, as well as for his research, which has included a number of major studies on climate change and its impact on various fish species.

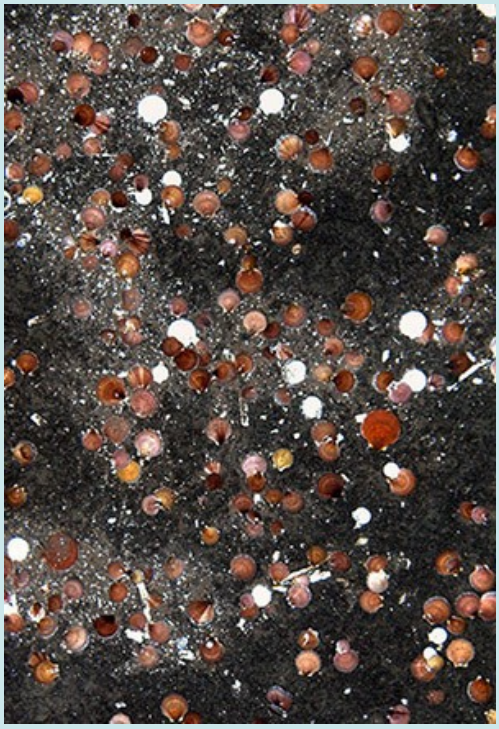
Most recently, he served as Supervisory Research Oceanographer and Acting Ecosystems Processes Division Chief for the NEFSC. In this role, he managed division research while also managing personnel and research resources for five different locations in the Center. Previously, he served as director of the Narragansett Laboratory and was Oceanography Branch Chief for seven years, contributing to the Center's tactical and strategic planning while establishing and maintaining relationships both across the agency and externally. He was also responsible for overseeing plankton and oceanographic survey programs for the Northeast U.S. Shelf, and provided NEFSC leadership guidance on climate change.

"The Northeast region's ecosystem is in a state of rapid change. Our science needs to change. At the same time, the organizational landscape is changing. NOAA Fisheries has a broad mission: fisheries, protected species, aquaculture, habitat, and ecosystems. Adequately addressing the mission with limited resources is one of our biggest challenges.

Increasing our efficiencies, collaborations, cooperative programs and partnerships can improve our science and our organization in a resource-limited environment."

For Hare, the focus on cooperation, collaboration and partnerships is key to the future. "There are a lot of individuals, organizations and institutions that can, and do, contribute to our understanding of living marine resources. Having a variety of ideas, from different perspectives, and evaluating them in an open and objective environment will improve our science and our management. But that openness has to come internally from the staff and externally from our partners and stakeholders. Building trust must be a goal shared by all."

As to what he hopes to accomplish during his tenure, increasing trust is at the top of the list. "I would hope that in the region more of our stakeholders will learn to trust us to a greater degree. They may not agree with us, but they will trust the work and the science that we do as an organization. And vice versa, that we will learn to trust the perspectives and input from our stakeholders and partners. This will take time and effort. The Northeast ecosystem is changing rapidly and it is a challenge for us as a region to deal with that, but I am optimistic that we can work together to address the challenges and opportunities we face." More about Jon Hare here: http://www.fisheries.noaa.gov/stories/2015/01/climate_hare_qa.html



Shelled animals like sea scallops are more vulnerable to higher acid content in ocean water, an outcome of increased carbon dioxide in the atmosphere. Sea scallops are among the most valuable fishery stocks in the nation.

Northeast Regional Climate Action Plan Released

NOAA Fisheries released an action plan December 16 intended to better position people in the Northeast to deal with what happens to valuable marine life as waters warm. The action plan addresses the Northeast U.S. Shelf Ecosystem, which extends from North Carolina to Maine, and from the headwaters of watersheds to the deep ocean. It was developed jointly by the Northeast Fisheries Science Center and the Greater Atlantic Region Fisheries Office with input from a number of partners and the public. Its goal is to provide timely and relevant information on what's changing, what's at risk, and how to respond. That information is key to minimizing the effects of climate change on the health, welfare, and economies of communities in the region. More here: http://www.nefsc.noaa.gov/press_release/pr2016/news/nr1615

Science Shorts

Improving Ocean Observing Systems Goal of Novel Projects

Using low-cost sensor technology in novel ways has become a hallmark of NEFSC oceanographer Jim Manning's many research projects, whether they be ocean drifters used to track surface currents, weather stations and net sensors on commercial fishing vessels, or temperature sensors on lobster traps. Sensors have even been placed on mini-sailboats used for educational programs. One of his latest projects is developing a new version of an ocean drifter with a unique star-shaped drogue hung below the surface to track currents in the deeper layers of the ocean. While the size and shape is consistent with oceanographic standards, it is the more eco-friendly materials that are new: http://www.nefsc.noaa.gov/press_release/pr2016/scispot/ss1616/

The Return of American Shad: Successful Spawning in Maine River a Positive Sign

Where have are all the American shad gone? Like other diadromous fish species in New England whose annual spawning once numbered in the millions prior to their collapse in the last century, today's populations of American shad (*Alosa sapidissima*) are at historically low levels. But there are signs of a rebound and cause for optimism. This food, sport, and prey fish native to the East Coast is being found in much larger

The Return of American Shad: A Maine Field Station researcher holds an American shad on the Sheepscot River at the Head Tide Dam in Alna, Maine, circa 2002. After years in decline, a 2012 survey found that a local stock exists, and the population is successfully spawning in the Penobscot River.

CHAMP: NEFSC researchers and local collaborators deployed ten marine autonomous recording units (MARUs) like this one and sound traps, another type of passive acoustic recording device, in Caribbean waters in December to assess the differences in song and seasonal differences in the arrival of humpback whales.

numbers, although population estimates for juveniles or adults don't yet exist. While much of the historic shad spawning habitat has been inaccessible and no one has been sure where the few remaining shad came from, NOAA Fisheries researchers have found juvenile shad throughout the Penobscot River and estuary during the summer months: http://www.nefsc.noaa.gov/press_release/pr2016/scispot/ss1614/

Change of Command for R/V *Gloria Michelle*

Honoring a long-held maritime tradition, the command of the NEFSC's 72-foot research vessel *Gloria Michelle* was transferred October 28 from Officer in Charge (OIC) Douglas Pawlishen to Junior Officer in Charge (JOIC) Andrew Reynaga. Both hold the rank of Lieutenant (junior grade) in the NOAA Corps, one of the seven uniformed services of the United States. NOAA Corps officers operate and manage the agency's fleet of ships and aircraft and support NOAA's mission in a wide variety of shore-side assignments. LTJG Reynaga assumed the responsibilities as OIC effective immediately, while LTJG Pawlishen assumed a new position December 15 as head of the Gulf Marine Support Facility in Pascagoula, Mississippi. Ensign Chris Gallagher reported for duty December 16 as JOIC. Born and raised in East Sandwich, MA, ENS Gallagher graduated from Massachusetts Maritime Academy in 2014 with a B.S. in marine safety and environmental protection and a minor in marine biology. After joining the NOAA Corps he spent two years aboard the Pascagoula-based NOAA Ship *Pisces.*
http://www.nefsc.noaa.gov/news/features/gloria-michelle-2016-command-change/

Caribbean Humpback Acoustic Monitoring Program (CHAMP)

Two teams of researchers from the NEFSC's Protected Species Branch traveled to the Caribbean in December to deploy ten underwater recording devices for six months in the waters off of Aruba, Bonaire, the Dominican Republic, Guadeloupe, Martinique, and St. Martin. Two different types of passive acoustic recording devices, the marine autonomous recording unit (MARU) and the sound trap, are being used in this inaugural season to assess the differences in song and seasonal differences in the arrival of whales. NEFSC staff will work with the Sea Education Association to make additional recordings during their winter/spring 2017 program in Caribbean waters. Numerous international collaborators and supporters and local contacts have made this project possible.

Metabolic Experiments on Adult and Neonate Spiny Dogfish

NEFSC scientists and colleagues from Rutgers University and the University of South Florida are conducting experiments at the Sandy Hook lab to measure shark metabolism under various water temperatures. Thermal habitat models will be generated for use in reassessing survey-based population estimates. The work will also improve understanding of climate change effects on shark distribution.

Atlantic Mackerel Population Ecology & Fishery Working Group

Many NEFSC staff participated in this collaborative workshop with agency and academic researchers and fishing industry representatives in Point Judith, RI. Similar to the first workshop in December 2015, this interdisciplinary, inter-institutional working group assembles experts in the socio-ecological aspects of the specific fishery and the ecosystem in which it operates. The group's objective is to identify and develop products and methods that could improve the accuracy of the population assessment by bringing ecosystem considerations, including socio-economic aspects, to bear.

NEFMC Herring Management Strategy Evaluation Workshop

NEFSC staff participated in this workshop in Portsmouth, New Hampshire to review MSE results to date that evaluate control rules considering both herring and predator populations and economic concerns. The goal is to refine performance metrics with stakeholders to narrow the range of acceptable herring control rules considered by the NEFMC.

Latest NEFSC Publications

Cox GK, RW Brill, KA Bonaro, AP Farrell. 2016. Determinants of coronary blood flow in sandbar sharks, *Carcharhinus plumbeus*. *J Comp Physiol B.*

Rountree BP. 2016. Limited-access Privilege Programs in the Mid-Atlantic Fisheries. *Marine Fisheries Review*. 77:3: article 4

Larsen J, P Bushnell, J Steffensen, M Pedersen, K Qvortrup, R Brill. 2016. Characterization of the functional and anatomical differences in the atrial and ventricular myocardium from three species of elasmobranch fishes: smooth dogfish (*Mustelus canis*), sandbar shark (*Carcharhinus plumbeus*) and clear nose skate (*Raja eglanteria*). *J Comp Physiol B.*d oi:10.1007/s00360-016-1034-9.

Rosa M, JE Ward, BA Holohan, SE Shumway, GH Wikfors. 2017. Physicochemical surface properties of microalgae and their combined effects on particle selection by suspension-feeding bivalve molluscs. Journal of Experimental Marine Biology an*d Ecology 486:59-68.*

McBride RS, R Ferreri, EK Towle, JM Boucher, G Basilone. 2016. Yolked oocyte dynamics support agreement between determinate-and indeterminate-method estimates of annual fecundity for a Northeastern United States population of American shad. *PLoS ONE* 11(10): e0164203. doi:10.1371/journal.pone.0164203

Wallmo K, Bisack KD, Lew DK and Squires DE (2016) Editorial: The Economics of Protected Marine Species: Concepts in Research and Management. *Front.Mar.Sci.*3:183.doi: 10.3389/fmars.2016.0018

Chang JH, Hart DR, Shank BV, Gallager SM, Honig P, York AD. 2016.Combining imperfect automated annotations of underwater images with human annotations to obtain precise and unbiased population estimates. *Methods in Oceanography* 17, 169–186.

Lipsky C., Saunders R, Stevens J. 2016.Evidence of successful spawning and other life history aspects of *Alosa sapidissima* (American Shad) in the Penobscot River and estuary. *Northeastern Naturalist.* 23(3):367-377

Dellabianca NA, GJ Pierce, A Raya Rey, G Scioscia, DL Miller, MA Torres, NM Passo Viola, RNP Goodall, ACM Schiavini. 2016. Spatial models of abundance and habitat preferences of Commerson's and Peale's dolphin in Southern Patagonian waters. *PLoS ONE* 11(10): e0163441. doi:10.1371/journal.pone.0163441

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Gulf of Maine Bottom Longline Survey

The NEFSC's Cooperative Research Branch completed its third year of a biannual bottom longline survey this fall. This survey is focused on complex rocky habitat in the western and central Gulf of Maine. The major objectives of this survey are to provide supplemental data on species composition, for indices of abundance, and biological samples in these rocky habitats for commercially important groundfish as well as seven 'data-poor' species. The NEFSC is working with two commercial fishing vessels from Scituate and Barnstable, MA, to set 45 longline survey stations each spring and fall concurrent with the NEFSC bottom trawl survey.

Blue Mussel Heart Rate Monitoring Experiment

The joint project between NEFSC researchers at the Milford Laboratory and SUNY Stony Brook professors is looking at how ocean acidification may affect the heart rate of the blue mussel. Mussel heart rate was monitored under three different pCO2 conditions, and then temperature was dropped from 15 to 5°C over a two-week period. Data collected are being analyzed statistically to determine possible pCO2 and temperature effects.

NEFSC Advising on USDA Farmers' Market and Local Food Promotion Project

NEFSC staff are working with a team from Princeton University to provide advice on a USDA grant project supporting a community food network that links small New Jersey seafood producers with an inner city Philadelphia neighborhood through charter schools. Garden State Seafood Association is administering the grant.

Water Quality Assurance Project Plan in Development for Barnegat Bay NJ

NEFSC staff are assisting the Barnegat Bay Partnership refurbish two existing monitoring stations and install a new station to provide water quality data in near real time that can then be accessed from the NJDEP website. Water quality parameters measured will be salinity, temperature, dissolved oxygen, and pH, with the new station also monitoring pCO2. The new monitoring station will be located in Little Egg Harbor near the mouth of Great Bay and will provide important carbonate data for a nearby oyster restoration project.

Fish Stomachs Processed for Oyster Ecosystem Services Study

Milford Lab staff completed gut content analysis on all fish collected as part of an experiment to study ecosystem services provided by off-bottom cage culture of oysters in Long Island Sound. About 100 fish were processed for stomach content analysis (95 black seabass, 4 cunner and 1 tautog). Prey species of importance were blackfingered mud crabs, black sea bass, and hermit crabs.

Growth Documented for Cape Cod Bay Scallop Experiment

Sandy Hook and Milford Laboratory staff collaborated on an experiment using specially spawned and cultured bay scallops. The scallops carry a genetic marker that allows the planted stock to be tracked independent of natural settlement. These scallops with their phenotypes/markers were deployed at cooperating inshore shellfish industry members on Cape Cod and the Islands.

Pacific Coast Shellfish Growers Annual Conference

Milford Laboratory staff were invited to participate in the conference by the NOAA Fisheries Office of Aquaculture to foster cooperation between NEFSC aquaculture researchers and the Pacific coastal shellfish industry. '

European Union Commission Rejects Proposed Ban on Imports of Live American Lobsters

The Commission cited lack of evidence for harm and large economic impacts in the EU. The US exports live lobsters to Europe worth about $150 million each year and the

Sugar kelp sporophytes at Milford Lab's Mass Culture Room

A black sea bass captured on a research survey.

proposed ban would have had substantial impact negative impacts on US fishing interests. The US biological opinion considered by the Commission was written by a small team, including researchers from NEFSC and state and university researchers.

Sugar Kelp Sporophytes at Milford Lab Mass Culture Room Experience Explosive Growth

A cooperative effort between the Milford Lab, GreenWave, and the University of Connecticut, this pilot-scale project is showing positive results and proving a good model for kelp growth, systems design, and cooperative efforts. The string with attached sporophytes was later deployed at the Thimble Island Oyster Farm site for harvest in April 2017.

Slope Sea Atlantic Bluefin Tuna Larvae Provided for a Population Genetics Study

Some of the Atlantic bluefin tuna larvae collected aboard the *Henry B. Bigelow* last summer were sent to a Spanish researcher who is conducting a basin-scale population genetics study using the RAD-Sequencing approach. This work will provide one test of the relationship between the newly documented Slope Sea spawning ground off the Mid-Atlantic, and the known Mediterranean and Gulf of Mexico spawning grounds.

Assessment Updates

SARC 62 Peer Review for Witch Flounder and Black Sea Bass Assessments, Woods Hole, MA

The SARC panel comprised three reviewers from the Center for Independent Experts and one NEFMC Science and Statistical Committee member who served as chair. The assessment presented for witch flounder concluded that stock status could not be determined relative to biological reference points, but that the stock appears to be at a low historical level with truncation of age structure and a reduction in the number of old fish in the population. The assessment for black sea bass concluded the stock is not overfished and overfishing is not occurring.

SARC 63 Ocean Quahog

The working group met in December on the upcoming benchmark assessment for ocean quahog, scheduled for peer review in Woods Hole during February 21-23, 2017. More information here: http://www.nefsc.noaa.gov/saw/

Vessels and Field Updates

New Vessels Join NEFSC Study Fleet

Northeast Cooperative Research Program (NRCP) staff helped 14 new vessels that are joining the Study Fleet with hardware and software set-up to begin tow-by-tow reporting. Vessel homeports range from NH to NJ and fisheries involved include groundfish, monkfish, squid, herring, mackerel and other fisheries.

Second Generation Bottom-Temperature Telemetry System Installations Continue

Two Massachusetts fishing boats, the F/V *Mystic* in Scituate and F/V *Resolve* in Sandwich, have been fitted with these upgraded systems from Lowell Instruments by NEFSC staff from the Cooperative Research Program and the Oceans and Climate Branch. The system includes a 7-in display in the wheelhouse, a microcomputer, and Iridium transmitter that sends hourly updates of current bottom temperature measurements from Study Fleet temp depth probes to the NEFSC and then to regional oceanographic forecasting models.

A high school science teacher tests the new star-shaped drogue off the NEFSC's Woods Hole Laboratory dock, with help from a staff member. The new design uses more eco-friendly materials and tracks currents in the deeper layers of the surface ocean.

Visitors on Leg 3 of the Fall Bottom Trawl Survey aboard the *Henry B. Bigelow* (left to right): Chris Roebuck (Salt Pond Fisheries/ NTAP), Jakub Kircun (NEFSC Ecosystems Surveys Branch), Matt Camisa (Massachusetts DMF), Phil Politis (NEFSC Ecosystems Surveys Branch), Mark Godfroy (New England Fishery Management Council), Mike Pol (Massachusetts DMF/NTAP), Mary Hudson (Gulf of Maine Research Institute), Terry Alexander (New England Fishery Management Council/NTAP), and *Bigelow* Commanding Officer Jeff Taylor (NOAA Corps)

In combination with dockside wifi, this system is being tested as a lower cost and more efficient reporting system coupled with the FLDRS logbook, GPS polling and the complete temp-depth time series. Current procedures result in significant delays in integrating the various sources of data and this activity could significantly improve timeliness and provide opportunities to deliver 24 hour feedback on temp and catch composition to enhance selective fishing practices.

NOAA Ship Ferdinand Hassler Mapping Cruise

A multibeam/side-scan acoustic cruise to map part of the BOEM New Jersey Wind Energy Area targeted benthic habitats of interest off Cape May, NJ. The cruise began late because of mechanical problems and was completed by mid-December. The vessel retrieved two marine autonomous recording units (MARUs) which surfaced unexpectedly in early November off Charleston after being contacted by the NEFSC's marine mammal acoustics group.

NOAA Ship Pisces Benthic Monitoring Cruise

A fall NEFSC cruise, sponsored by the Bureau of Ocean Energy Management (BOEM), found the limits of the sea scallop habitat within the NY Wind Energy Area and encountered patches of juvenile black sea bass habitat. Longfin squid, and their egg mops, little skate and their egg cases, summer and windowpane flounders and a host of associated non-managed members of habitat ecological communities were also recorded. Even across a depth span of only 25 to 45 meters in a relatively flat, mostly sandy bottom area there appeared to be substantial differences in species assemblages. The results should provide a better sense of habitats in the area and better definition of stock habitats in the northeast in general.

FSV *Henry B. Bigelow* Fall Bottom Trawl Survey

The fall bottom trawl survey ended November 13. The *Bigelow* is undergoing routine maintenance in Newport, Rhode Island and is expected to begin seal trials on time in early February.

NTAP Visit Aboard FSV *Henry B. Bigelow*

Three members of the Northeast Trawl Advisory Panel (NTAP) and other research partners made a day trip on the NOAA Ship *Henry B. Bigelow* October 11 at the start of Leg 3 of the autumn bottom trawl survey to observe bottom trawl operations on the vessel. Three tows were completed during the visit. The capabilities of the ship's auto-trawl winch system and the use of the Scanmar net-mensuration package were demonstrated as the tow was underway. Once a tow was hauled aboard, NTAP members watched NOAA scientists process the catch in the ship's wet lab and observe the marriage of the automated conveyor-belt system with the capabilities of the Fisheries Scientific Computer System (FSCS) and the Scientific Computer System (SCS) databases, which link environmental and shipboard operations data with the fisheries sampling data. Panel members had opportunities to speak with the survey scientists, ship's officers and crew members before returning to shore via small boat at the end of the day. The ship continued on Leg 3 of the autumn bottom trawl survey: http://www.nefsc.noaa.gov/press_release/pr2016/news/nr1611/

R/V *Gloria Michelle* Undergoing Maintenance and Upgrade

The vessel has been tied up at Eastern Fisheries, Inc. in New Bedford since November 9. Contracted work includes removing the old winch and installing new split Pullmaster H-18 winches, refurbishing and relocating the crane, and removing the large hatch on the aft deck. The hydraulic pump and all hydraulic plumbing from tank to pump to equipment will also be replaced, and a J-frame side sampling station and winch will be fabricated and installed, along with steel beams to reinforce the deck. Work should be completed by mid-March 2017.

Latest NEFSC Publications

(continued from page 5)

Lee YJ, PA Matrai, MAM Friedrichs, VS. Saba, O Aumont, M Babin, ET Buitenhuis, M Chevallier, Lde Mora, M Dessert, JP Dunne, I Ellingsen, D Feldman, R Frouin, M Gehlen, T Gorgues, T Ilyina, M Jin, JG John, J Lawrence, M Manizza, CE Menkes, C Perruche, V Le Fouest, E Popova, A Romanou, A Samuelsen, J Schwinger, R Séférian, CA Stock, J Tjiputra, LB Tremblay, K Ueyoshi, MV ichi, A Yool, and J Zhang. In press. Net primary productivity estimates and environmental variables in the Arctic Ocean: An assessment of coupled physical-biogeochemical models. *Journal of Geophysical Research-Oceans*.

Heenehan H, Van Parijs SM, Bejder L, Tyne JA, Johnston DW. 2017.Using acoustics to prioritize management decisions to protect coastal dolphins: A case study using Hawaiian spinner dolphins. *Marine Policy* 75:84-90.

Sabal MC, Huff DD, Henderson MJ, Fiechter J, Harding JA, Hayes SA. 2016.Contrasting patterns in growth and survival of Central Valley fall run Chinook salmon related to hatchery and ocean conditions. *Environ Biol Fish*. doi:10.1007/s10641-016-0536-3.

Chute AS, RS McBride, SJ Emery, E Robillard. 2016. Annulus formation and growth of Atlantic surfclam (Spisula solidissima) along a latitudinal gradient in the western North Atlantic Ocean. *Journal of Shellfish Research* 35(4):729-737. http:dx.doi.org/10.2983/035.035.0402

Manderson JP. An essay about differences between seascapes and landscapes.*Habitat Hotline Atlantic*. 2016:2-3. http://www.asmfc.org/uploads/file/585ad20eHabitat_HotlineAtlantic2016_web.pdf

NOAA Ship *Pisces*, Ecosystem Monitoring Cruise

The fall 2016 EcoMon cruise was only able to conduct sampling at nine stations in Southern New England when generator problems forced the vessel to return to its dock in Davisville, Rhode Island, where it remained waiting for parts which did not arrive until the scheduled cruise period had passed. The winter EcoMon cruise is scheduled to depart February 10 on the *Henry B. Bigelow*.

Observer and F/V Crew Safe After Close Call in the Gulf of Maine

Several Fisheries Sampling Branch senior staff received an emergency SOS from an observer's InReach device late Tuesday evening, November 29. The vessel was in rough seas and taking on water. The Coast Guard responded, escorting the vessel back to port. All aboard were then transferred to a small USCG vessel and brought to the USCG station. The USCG, local authorities and service provider all provided critical support during the rescue.

Fishery Monitoring Update

Observer Web Portal Opens

This new system in the Fisheries Sampling Branch will help share critical information to improve safety for observers, assess performance, ensure that certifications and inspections are addressed in a timely fashion, and simplify information access. The data helps the program keep track of observer and observer provider performance, composition of the observing workforce, upcoming required training or gear replacement, and serves as the first central database for observer deployments from all four provider companies.

Electronic Monitoring (EM) Update

Installation of EM equipment on 10 vessels has been completed for the herring EM project and work is underway on the remaining two vessels. The Fisheries Sampling Branch is working with Saltwater to finalize the data template and will begin video review and data annotation in January. Project partners for the groundfish EFP plan to install equipment on five additional vessels before the end of February 2017. FSB will work with GARFO to review vessel monitoring plans (VMPs); once approved, the vessels will be allowed to fish with EM in lieu of at sea monitors (ASMs) for the duration of the fishing year.