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# DMF News

Published by the Massachusetts Division of Marine Fisheries (DMF) to inform and educate its constituents on matters relating to the conservation and sustainable use of the Commonwealth's marine resources.

## Inside



**A ball of gear being retrieved in Boston Harbor as part of the Division's Abandoned Gear Retrieval Program.**

## DMF Pilots New Abandoned Gear Retrieval Program

DMF has initiated a new joint program with the Massachusetts Environmental Police (MEP) to identify and remove all lost and abandoned fixed fishing gear within the portion of Massachusetts state waters that are seasonally closed to protect right whales. Beginning this February, we utilized a combination of aerial surveillance provided by the Center for Coastal Studies and MEP vessel patrols to identify and mark the location of lost/abandoned fixed fishing gear in the closure. DMF then utilized six contracted commercial lobster vessels working with our staff and MEP officers to haul and remove all gear. Between February 9 and March 17, we conducted a total of 49 sea-days in which we hauled more than 2,000 traps and roughly 500 buoy lines from the closure.

This effort not only ensures that our seasonal state waters closure is as effective as intended at reducing entanglement risk, but it also provided us with an opportunity to monitor compliance with the closure and requirements for weak rope/contrivances, maximum rope diameter, and gear marking. The vast majority (~80%) of buoy lines that we removed were from gear that was deemed "lost". In these cases, the buoys, ropes, and traps were heavily fouled and typically consisted of a few traps or a lone trawl that belonged to a single individual. Within


## Mark Amorello Awarded the Belding Award

DMF celebrated the 60th Anniversary of the Marine Fisheries Advisory Commission on June 16th at DMF's New Bedford facility. Several former Commission members were in attendance including Mark Amorello who was awarded the Belding award for his contributions during his time as a Commission member. The Belding Award was created in 1989 to honor individuals who, in the opinion of the Marine Fisheries Advisory Commission, have done the most to promote the conservation and sustainable use of the Commonwealth's marine resources. The award's namesake, Dr. David L. Belding, was well known both to medical students and shellfish wardens in the first half of the 20th century, as he conducted two distinguished careers simultaneously in medicine and marine biology. Read more on page 10.

that population of lost gear, compliance with 1,700-lb 'weak rope,' maximum rope diameter, and gear marking rules was >90%. This represents a good random sample of what we would expect compliance with these regulations to be and is consistent with observations of MEP during routine inspections at other times of year. Non-compliant permit holders in these cases were issued a non-criminal citation given the modest scale of the violation.

The remaining 20% of gear hauled in this program consisted of gear that appeared to be intentionally left behind in the closure. This typically consisted of multiple traps or trawls belonging to a single individual in a fairly discrete area. The gear in question did not have any fouling and was consistent with gear that had been recently hauled (in one instance the gear was freshly baited). Compliance with 1,700-lb weak rope, maximum rope diameter, and gear marking rules among this subset of gear was very poor. In total, there was gear from six different permit holders that fall into this category. Given the serious nature of the violations and the clear intent to ignore the closure, DMF will pursue enforcement of these cases administratively through our adjudicatory process, whereby we will seek permit suspension or revocation depending on the seriousness of the violation.

There was a definitive regional trend in compliance with the closure. In Cape Cod Bay and down the backside of Cape Cod, where the seasonal closure has been in effect since 2015, compliance rates were exceptionally high (~99%). Compliance rates in Massachusetts Bay north to the Cape Ann region however were lower, and this is where we observed all the major violations. The seasonal closure in this portion of state waters started in 2021. We expect that compliance in this area will improve in subsequent years as it has in Cape Cod Bay where fishers have dealt with the closure for longer time.

We offer this program as a new compliance monitoring and mitigation program that we will conduct annually as part of our Right Whale Habitat Conservation Plan. It is our expectation that aggressive enforcement through this program will enhance overall compliance with our protected species regulations and ensure that there is no entanglement risk to right whales when they are seasonally abundant in Massachusetts state waters.

*By Robert Glenn, Chief Marine Fisheries Biologist and Julia Kaplan, Communications Specialist*

# Lobster Vessel Trackers to be Required in 2023

## *Precise fishing locations data considered crucial to future management*

Beginning in 2023, one of the biggest blind spots in the assessment and management of commercial fisheries will be resolved. Precise location of lobster fishing effort, especially in federal waters, has been absent from the collection of statistics for this important fishery. Over the past two decades nearly all other important offshore commercial fisheries (such as scallops, groundfish, and surf clams) have been required under federal regulations to deploy vessel monitoring systems that reveal and archive fishing locations. A new coastwide requirement for tracking devices to be placed on lobster vessels operating in federal waters will soon address this deficiency.

Why is it critical for lobster fishery vessels to reveal more specific fishing locations? The lobster fishery must establish its footprint in the face of competing uses of the ocean: offshore wind development, aquaculture, and divergent conservation objectives including protection of North Atlantic right whales. These challenges require detailed data that can show which fishing grounds are vitally important to the commercial lobster fishery. Zoning of the ocean is a new management challenge for fishery managers as these new users and interconnected management objectives might impinge on lobstermen's ability to fish their traditional fishing grounds.

This rule change will not affect commercially permitted vessels that only have a state permit and are therefore eligible to fish only in state waters. Lobster fishing activity in state waters close to shore has been sufficiently documented through DMF's historic and current catch reporting requirements. Trip-level reporting with state level statistical sub-areas (i.e., state waters divided into 14 smaller geographical zones) has been required since 2010, and for many decades prior to that, lobstermen submitted an annual catch report summarizing catch and landings by state statistical area as well.

The Atlantic States Marine Fisheries Commission approved the management plan (Addendum XXIX) in March that mandates all states—by the end of 2023—require vessels in their state with federal lobster permits to deploy an electronic tracker to collect and transmit spatial data. ASMFC staff working with DMF and other states' staff biologists have successfully tested trackers over the past few years. Vessel location will be collected every minute when not docked or moored; this will allow for the distinction between fishing activity and transit. Additionally in the future, data analysts hope to use the data collected by trackers to estimate the number of traps fished per trawl.

The addendum allows for the use of cellular-based tracking systems which are likely to incur lower costs than the satellite-based units used in many federal fisheries. Cellular-based trackers remain in operation and collecting spatial data regardless of cellular service availability; while these devices will only transmit those data when in cellular service range, they otherwise store them for upload when the vessel returns to within range. This makes cellular-based trackers distinct from satellite-based vessel monitoring systems, which are truly real-time monitors. Data for an individual vessel will be kept strictly confidential–just as all catch and effort data have been kept confidential. Aggregated data will be used by state and federal government officials to understand the times and places lobster fishing occurs.


**An example of the type of vessel tracker to be required in the lobster fishery.**

The collection of enhanced spatial and temporal data through these electronic tracking devices in the offshore lobster fishery will help managers address a number of challenges facing the fishery. Electronic tracking data will greatly aid the scientists who work on periodic stock assessments to estimate exploitation and abundance of American lobster, because the trackers will allow size composition data to be linked to harvest at a much finer spatial resolution than what is currently possible. Additionally, the data will improve the models used to assess the location of vertical lines in the fishery and their associated risk to endangered North Atlantic right whales which could impact federal risk reduction requirements for the fishery. Ocean planning efforts require detailed spatial usage data to minimize conflicts among all activities such as fishing, aquaculture, marine protected areas, and offshore energy development; these data will provide fishery managers information needed to help maintain industry fishing grounds. Last, the efficiency of law enforcement efforts to examine lobster gear in the water for compliance will be improved by helping enforcement officials locate widely dispersed gear in the offshore fishery.

Before being approved by the ASMFC, there was some hesitancy among Lobster Management Board members to approve the new Addendum due to the cost burden to be placed on fishermen. To alleviate that problem, Congress approved an appropriation that will allow states to financially support vessel owners for the purchase, installation, and annual data costs of the devices (for several years). DMF expects to receive grant funds from ASMFC and be able to re-grant those funds to eligible vessel owners in the months ahead. DMF hopes to have the federally-permitted lobster fleet fully functional with trackers by this time next year.

*By Dan McKiernan, Director, and Story Reed, Permitting and Statistics Program Manager*

## Public Access Update

This past fiscal year, the Small Grant Program funded by the sale of recreational fishing permits, awarded three public access improvement grants to worthy projects. The Town of Marshfield is updating the boat ramp on the South River and upgrading Damon's Point on the North River. DMF is supporting these projects with a $15,000 grant. A series of floats will be provided at both locations making access to the water much easier. The Buzzards Bay Coalition, also a $15,000 recipient, is rebuilding a pier that will be used by the fishing public on Wickets Island in the town of Onset which is part of Wareham. The Town of Tisbury is improving parking at Lake Tashmoo near the jetty, a popular fishing location. Addressing the parking in this areas will greatly enhance access and cause far fewer vehicles from getting stuck in the sand.

The remaining funds available for public access improvements went towards the planning of the next large project, a rebuilt Salem Willows Park Pier. The original pier was over 100 years old and had outlived its useful life. It had been condemned over a year ago and was calving cross members and other lumber during storms and moon tides. The parts that broke off served as a hazard to navigation so in late 2021 the City of Salem and Division of Marine Fisheries combined to have the old pier razed. Over the next months, a final plan and permits will be completed, and a new pier will be installed. The new pier will be the same length as the old pier but will have a 16' x 60' 'T' at the end enabling more anglers to fish the end of the pier, always a favorable location. Additionally, the approach will be made ADA compliant as will 25% of the fishable frontage of the pier. The Division has committed $2,000,000 to the cost of this project and the City will be covering the rest in this partnership.

*By Ross Kessler, Public Access Coordinator*

# Dish on Fish: Brown Butter Herb Swordfish with Eggplant Caponata

**Ingredients**

*For the Swordfish:*
1 lb. locally sourced swordfish, trimmed into steaks
1 tbsp. vegetable oil
2 tbsp. butter
sprigs of fresh rosemary and thyme
Salt & Pepper to taste

*For the Caponata:*
2 cups eggplant, skinned & small diced
2 stalks celery, chopped small
2 fresh tomatoes diced or 1 cup diced canned tomatoes
1 small onion, small diced
3 garlic cloves, shaved thin
2 tbsp. pitted & sliced kalamata olives
2 tbsp. red wine vinegar
2 tbsp. capers
2 tbsp. olive oil
1 tsp. fresh thyme, chopped
1 tsp. sugar
1 tsp. red pepper flakes
Salt & Pepper to taste


**Directions**

*For the Swordfish:* Preheat a nonstick pan to medium-high heat. Season your swordfish steaks with salt and pepper on both sides. Then drizzle in the tbsp. of vegetable oil and let it get hot. Slowly place your swordfish steaks in the pan. Let the swordfish start to sear for 3-4 minutes before flipping. Once flipped, add in the butter & fresh herbs. Once the butter starts to slowly brown (will take 2 minutes) reduce the heat and start basting the swordfish with a spoon for an additional 2 minutes. Turn the heat off and set aside.

*For the Caponata:* Preheat a medium sized saute pan to medium heat. Drizzle the pan with the 2 tbsp. of olive oil. Add in your celery, onion & eggplant and cook until slightly softened. Add in the garlic & chili flakes. Season with salt and pepper & saute until fragrant, and the vegetables are cooked through. Turn down heat to medium-low and add in the remaining ingredients. Let simmer for 10 minutes. Taste and season as necessary.

*Balsamic reduction & pea greens used to garnish

*Recipe courtesy of Chef Nick Peters Bond, Kitchen to Aisle Catering & Events*

# Right Whales Visited Massachusetts Waters Again in Large Numbers

**A pod of right whales seen in Cape Cod Bay.**

In spring 2022, the Massachusetts coast once again played host to large aggregations of North Atlantic right whales. Seasonal feeding aggregations were observed in both traditional right whale habitats like Cape Cod Bay and in newly utilized areas like Massachusetts Bay and the North Shore. The Massachusetts Restricted Area (MRA), a seasonal trap gear closure, was geographically expanded in 2021 to state waters portions of Mass Bay and the North Shore to protect right whales that have recently extended their distribution to those areas. The importance of that expanded closure was demonstrated in 2022, as the Center for Coastal Studies (CCS) aerial surveillance team observed aggregations of right whales in Massachusetts Bay, Salem Sound, and off Gloucester. Since 2021, DMF and CCS has broadened aerial survey coverage to include the northern portions of the MRA.

Right whales were also present in large numbers in Cape Cod Bay in 2022, as is typical of their distribution. A season high of 99 individual whales was documented in CCB at the end of February. The seasonal trap gear closure in MA state waters runs through May 15 to protect right whale aggregations that now linger into mid-May.

Over the course of the 2022 season, at least 73% (n=247) of the known right whale population was documented in Massachusetts state waters and adjacent federal waters, including 10 of the 15 calves born in 2022. The CCS team is continuing to analyze photos from the season and the number of whales observed is likely to increase.

To ensure the expanded MRA is free of any derelict gear that might pose an entanglement risk, DMF partners with the Massachusetts Environmental Police (MEP) and commercial fishermen to remove any gear that is lost or abandoned in the closed area. In 2022, these efforts removed approximately 2,000 traps and 500 buoy lines, mainly from Mass Bay and the North Shore where the closure is still relatively new. Enforcement actions related to these violations are likely to assist in improved compliance in the future and DMF will continue to monitor for and remove derelict gear during the closed season. The accompanying article on page 1 provides more details on this gear removal program.

**A right whale mother-calf pair seen in Cape Cod Bay.**

With a large portion of the right whale population aggregating in Massachusetts, it is critical to protect them from entanglement and vessel collision while in our waters. In addition to the expanded MRA, DMF recently implemented other protected species regulations affecting trap/pot fisheries in Massachusetts, including the requirement to modify buoy lines to break under 1,700 pounds of tension, expanded gear marking, and buoy line diameter restrictions. The purpose of the closure is to protect seasonal aggregations of feeding right whales from entanglement in fishing gear, while weaker buoy lines will reduce the potential for injury or mortality caused by entanglements, should they occur, and expanded buoy line marking and diameter restrictions will allow researchers to more clearly detect or eliminate the possibility that Massachusetts gear was involved in an entanglement.

The new regulations were necessary because of amendments to the Atlantic Large Whale Take Reduction Plan, ongoing litigation against the Commonwealth of Massachusetts regarding endangered species, and the vulnerable state of the right whale population. DMF has been ordered by a federal judge to apply for an Incidental Take Permit (ITP) under the Endangered Species Act and these new regulations will be incorporated into the Habitat Conservation Plan (HCP), a key component of the ITP which must detail steps DMF is taking to minimize and mitigate impacts the fishery would have on endangered species. These measures represent significant action by DMF and the industry to reduce the risk of right whale entanglements in fixed gear. DMF has worked with NOAA Fisheries to evaluate the risk reduction associated with the regulations and found these measures reduce risk in Massachusetts state waters by over 90%. Based on these important conservation measures, which are unique to Massachusetts, NOAA Fisheries reclassified the MA trap/pot fishery as separate from the larger Northeast lobster fishery under the List of Fisheries, giving it a Category II designation. DMF is in the process of finalizing its Habitat Conservation Plan and Incidental Take Permit and will submit a draft to NOAA Fisheries in July 2022.

*By Erin Burke, Protected Species Specialist*

# Diadromous Fish Run Update

## *Spring 2022*

Diadromous, or sea-run fish, are the migratory fish that switch between marine and freshwater habitats to complete their life history. Most diadromous fish populations have declined sharply from historical periods when valuable fisheries were supported. Presently, minor fisheries occur for a few diadromous species and collectively these fish remain important forage for a wide range of fish and wildlife. The DMF Diadromous Fish Project actively monitors river herring, American shad, American eel, and rainbow smelt spawning runs in coastal rivers to contribute to population assessment and management of these species and to inform restoration planning.

**River Herring.** River herring are the most abundant diadromous fish (both the closely related alewife and blueback herring) in Massachusetts and most captures the public's interest while on their iconic spring migrations. DMF staff manage eight river herring spawning run counting stations with local partners and provides technical assistance at approximately 30 more counting stations that are mostly volunteer-based visual counts. Final counts are not yet prepared for the 2022 season; however, it is likely that this year will have lower than average run counts for most rivers. The 2019 counts were above average coastwide and the highest in a 10-year period for some stations. Since 2019, the trend has been downward at most locations. This trend is certainly disappointing and will prompt DMF investigations on possible causes. We sample river herring at eight rivers that will allow us to relate population metrics to environmental conditions in the interest of determining influences on annual cohort strength. When the 2022 data are processed, we hope to find a few runs that are bucking this trend. The Pilgrim Lake run in Orleans has been increasing in recent years and the 2022 counts should be the highest in the 13-year time series. Recent cooperative restoration efforts between DMF and the Town of Orleans and the steady annual stewardship from the Town may be a positive influence on the increasing trend.

**American Eel.** Diadromous Fish Project monitoring in 2022 is not showing many encouraging signs among sea-run fish with the exception of American eel. The young-of-year (also called glass eel) run of juvenile eels that have made the remarkable journey from the Sargasso Sea to our coastal rivers appears to be the highest we have seen in 20 years of monitoring. This wave of glass eels coming from the ocean has been strong throughout New England in 2022. Two of our longest running eel ramp stations will exceed time series highs in 2022, with one station wearing out our eel counters by posting numbers that exceed the prior high catch by well over 100,000 eels. It is both intriguing and concerning to ponder on the environmental influences that may cause such highs and lows in recruitment of these sea run fish to our rivers.

**Stream Maintenance.** The DMF Fishway Crew ramped up efforts with stream maintenance to support diadromous fish runs during the pandemic. Large efforts were made in 2020 and 2021 at over 12 rivers to remove trash and debris jams, clear tree falls, and battle the channel altering effects of both native and invasive wetland plants. This practice has become more critical in the present day due to declining surface flows in some rivers, traditional stewardship that has wavered in some locations since the river herring harvest ban, and the onslaught of invasive wetland plants. Furthermore, the development of the Wetlands Protection Act did not include consideration for this essential and time-honored practice. DMF and MassDEP have been working on a policy to better connect the statutory interests under the Wetlands Protection Act (MGL Chapter 131 §40) and sea-run fish passage (MGL Chapter 130 §19). This April, MassDEP released a new Wetlands Program Policy titled, Diadromous Fisheries Stream Management. This policy allows the development of stream maintenance plans to guide responsible activities. Under the policy, DMF will train and work with Towns and watershed organizations to conduct this work without unnecessary regulatory oversight and permitting. DMF greatly appreciates the efforts of DEP staff to develop this policy and all the many town staff and volunteers who put time in the rivers on this wet and dirty job.

It was a spring season that was again challenging due to COVID restrictions and limitations and the poor showing of river herring in many coastal rivers. The unexpected large turnout of glass eels reminded us of the optimism of spring. Also promising was the launching of a new effort to stock American shad in the Taunton River. DMF has teamed up with the USFWS and DFW to prepare a Taunton River shad habitat plan and monitoring plan related to a 5-year shad stocking program. Stocking from the USFWS Attleboro Hatchery began in mid-May with over 2 million larvae now swimming and feeding in their new home in the Taunton River.

*By Brad Chase, Diadromous Fish Project Leader*

# Seafood Marketing Update

DMF's Seafood Marketing Program seeks to increase consumer awareness and preference for local seafood products. Our activities under this program are guided by a 19-member steering committee and funded by commercial harvester and dealer permit revenues. Here are some recent highlights of our seafood marketing efforts in support of the state's commercial fishing and seafood industries and communities.

## Grant Program's New Look: a Partnership and Virtual Pitch Event!

The Seafood Marketing Program partnered with Woods Hole Sea Grant (WHSG) to give away the most funds in the six-year history of the program. $175,169 was awarded in grants for eight projects that will benefit the Commonwealth's seafood sector. Woods Hole Sea Grant contributed $100,000 to the Seafood Marketing Grant Program budget and the remainder of the grant program is funded through a portion of commercial fishing permit fees at no extra cost to the permit holder. Also, unique this year, a pitch event was held in December 2021 where selected projects were invited to do a five-minute virtual presentation in front of a panel of industry judges. The goal of the grant program is to enhance the viability and stabilize the economic environment for the state's local commercial fishing and seafood industries and communities.

The eight funded projects will support the commercial seafood and fishing industries and their communities by increasing awareness and the preference for seafood from Massachusetts through education, promotion, research, marketing, and other initiatives. Priority was given to proposals that will serve the greatest benefit to the Commonwealth's seafood industry as a whole and that will address the continued impacts associated with the COVID-19 pandemic on the seafood industry in Massachusetts.

The following projects received Seafood Marketing Program grants:

- Eating with the Ecosystem - Influencing the Influencers: Utilizing Food Influencers to Promote Massachusetts Seafood - $47,841
- New Bedford Fishing Heritage Center - A School of Fish: Infusing Sustainable Seafood into Culinary Arts Programs & the Public Palate - $25,000
- University of Massachusetts/Gloucester Marine Station - Enabling Tools to Build a Sustainable, Equitable, and Inclusive Seafood Marketing Program - $25,000
- Ryan Curley - Community Seafood HACCP Facility Serving the Outer Cape Feasibility Study - $17,500
- Lobster Foundation of MA - Crustacean Nation Education Dissemination - $10,000
- Red's Best - Highlighting Local Species Through Video - $17,000
- Williams Agency - Marketing Campaign to Promote Underutilized Seafood within Ethnic Markets - $18,550

Projects have begun and will be completed by June 30, 2023.

## Fisheries and Seafood Industries Receive over $4.5 Million from Food Security Infrastructure Grant

$22.5 million was awarded in Spring 2022 through the Food Security Infrastructure Grant Program that seeks to ensure that individuals and families throughout the Commonwealth have access to food. The program puts special focus on food that is produced locally, equitable access to food, and on supporting systems in which farmers, fisherman, and other local food producers are better connected to a strong, resilient food system to help mitigate future food supply and distribution disruption.

DMF coordinated ten individuals to consult with the office of Energy and Environmental Affairs on their read of the grant applicants. Last round DMF provided two grant readers, and the increase was due to the high number of fisheries/seafood applications that were submitted to address food insecurity issues exacerbated by the COVID-19 pandemic. In total, 147 total projects were funded through the Food Security Infrastructure Grant Program, with 26 of them being fisheries/seafood projects. Of the $22 million awarded, fisheries received $4,752,922.

The awardees are:

- A.P. Fish Company, Inc. (Worcester, MA): $279,841
- Aquacultural Research Corporation (Dennis, MA): $391,670
- Bay-Breeze Inc d.b.a Westport Sea Farms (Westport, MA): $39,200
- Beaus Seafood Company Inc. (Boston, MA): $86,709
- Boat Santa Rita II Inc (Peabody, MA): $80,575
- Boston Smoked Fish Co. (Boston, MA): $63,595
- Boston Sword and Tuna (Boston, MA): $420,491
- Calamari Fisheries Inc (Boston, MA): $114,733
- Cape Ann Fresh Catch Inc (Gloucester, MA): $149,321
- Cape Cod Commercial Fishermen's Alliance, Inc. (Chatham, MA): $21,191
- Cape Seafoods Inc. (Gloucester, MA): $482,257
- Chatham Harvesters Cooperative (Chatham, MA): $31,675
- F/V Underwing (Kingston, MA): $120,995
- Fisherman's Wharf Gloucester (Gloucester, MA): $153,120
- Fishing Vessel Mystic (Hanover, MA): $152,240
- Grandeur Enterprises, LLC D.B.A.: Ferullo's Seafood (Boston, MA): $489,874
- *Legit Fish Inc. (Boston, MA): $245,000*
- *Letts Trucking Inc. - FV Addy Rose is in the fishing industry (Fairhaven, MA): $196,698*
- *Lisa T. Corp (Gloucester, MA): $69,908*
- *Miss Emma Lobster & Crab LLC (New Bedford, MA): $60,426*
- *Shellfish Broker LLC (South Chatham, MA): $26,588*
- *Sunny's Seafood Inc (Boston, MA): $76,500*
- *Tony's Seafood Inc. (Seekonk, MA): $495,636*
- *Tremont Fisheries LLC (Lakeville, MA): $376,100*
- *Wulf Fish Wholesale, LLC (Boston, MA): $104,324*
- *ZNK FISHERIES, INC. (Plymouth, MA): $24,250*

## The Return of the Seafood Expo

It was exciting to be reunited with the seafood businesses and attendees at the Seafood Expo North America, March 13-15! Boston hosted North America's largest seafood exposition at the Boston Convention and Exhibition Center for three days of business, education, and networking after taking two years off due to COVID-19. Over 30 businesses from the Commonwealth exhibited. While this year's show was smaller than in previous years, the energy was bigger!

For the third year, DMF coordinated a Mass. Ave. at the Seafood Expo. This is a cluster of businesses from the Commonwealth that received 50% cost-share for the show via the state and federal departments of agriculture, and is promoted by the Seafood Marketing Program. A banner was purchased to drive traffic to the Mass. Ave. area and DMF posted on social media leading up to the event.

## New Massachusetts Seafood Pavilion at the New England Food Show


**DMF staff, Julia Kaplan and Wendy Mainardi, tabling at the New England Food Show**

The Seafood Marketing Program spearheaded a Massachusetts Seafood Pavilion at the New England Food Show for the first time in early April 2022. A call went out to all permitted wholesale seafood businesses to table at the region's largest restaurant, retail, and foodservice event taking place at the Boston Convention & Exhibition Center. Nine businesses attended our Massachusetts Seafood Pavilion and sampled their products to show-goers. DMF had a booth that successfully directed people to the businesses and answered general questions about Massachusetts seafood. The location of the Massachusetts Seafood Pavilion was excellent and that was appreciated by all. DMF recieved feedback from dealers including Scott Hutchens, Vice President Raw Seafoods, Inc., Fall River, MA who stated "Thank you for doing such a great job organizing the Seafood Pavilion. It was great being a part of the Massachusetts Seafood Team! Our sales staff thought the show was extremely productive and everyone looks forward to it being an annual event."

*By Wendy Mainardi, Seafood Marketing Coordinator*

# Creature Feature: Atlantic Mackerel, *Scomber scombrus*

**Description:** The Atlantic mackerel, Scomber scombrus, is a handsome pelagic forage fish that is fished both commercially and recreationally in Massachusetts. The mackerel's elongate body is an iridescent steel blue to green with distinct wavy black bars on the dorsal surface and a silvery-white underside. The deeply forked tail indicates that they are fast swimmers, and without a swim bladder, mackerel must keep swimming to survive.

Atlantic mackerel grow quickly, reaching sexual maturity by age 3 or at about 12 inches fork length. They can live up to 18 years but only grow to a little over 16 inches. In recent years, it has been uncommon to find fish over 7 years of age (~14 inches). Mackerel are opportunistic feeders and tend to form large tightly packed schools when feeding on plankton. Copepods are a primary prey, specifically lipid rich Calanus finmarchicus, which is also a favorite of the North Atlantic right whale. Mackerel will also eat small fish, shrimp, and squid.

This valuable migratory species is harvested commercially using mid-water trawls, purse seines, and jigs. Commercial landings in 2020 totaled more than 17 million lbs valued at approximately $5 million (NOAA Fisheries). The commercial fishery operates between January and May in southern New England and the Mid-Atlantic, and between May and December in the Gulf of Maine.

Mackerel are also highly important to recreational fisheries in the Mid-Atlantic and New England. They have become a favored bait for striped bass and highly migratory species fishing such as tuna. Many recreational fishers catch mackerel by jigging for them or using a "sabiki rig" with multiple small hooks coming off a main line decorated to resemble schooling minnows once the rig submerges. Along the coast, recreational catches are highest in state waters, particularly in Massachusetts, Maine, and New Hampshire where the catch totaled 4 million lbs in 2020 (NOAA Fisheries). In Massachusetts, recreational catch typically peaks in May and June but continues through the end of the year; few mackerel are caught recreationally prior to April.

**Distribution:** Atlantic mackerel are found on both sides of the Atlantic. Their distribution in the western Atlantic ranges from Newfoundland, Canada to Cape Hatteras, North Carolina. Two spawning contingents are recognized for this population: the southern contingent spawns in April and May in U.S. waters and the northern contingent spawns in June and July in the Gulf of St. Lawrence. Pelagic eggs are released through batches spawning several times throughout the season. Atlantic mackerel are sensitive to changes in water temperature. Seasonal and interannual fluctuations in their migration patterns make their availability to fisheries highly variable and can complicate population tracking. Generally, mackerel move north and closer inshore in the spring and summer which is when they become accessible to the recreational fishery. In fall and winter, they move out to warmer waters on the continental shelf. In winter, the two spawning contingents mix.

**Status:** Northwest Atlantic mackerel have supported valuable fisheries since the 17th century. However, landings at present are near all-time lows and stock biomass has been in decline since the 1970s.

A combined U.S./Canada Atlantic mackerel egg index informs the stock assessment, along with biomass and abundance information from the NOAA Northeast Fishery Science Center bottom trawl survey. The egg index, developed from ichthyoplankton and mackerel egg surveys that span the distribution of the resource, show that egg production in the western North Atlantic has dropped by over 90% from the 1980s to 2010s. A northeastward shift in mackerel eggs and contraction of where larvae are found are also evident, with larvae occurring in Massachusetts waters but no longer in the mid-Atlantic region as was prevalent in the 1970s.

Large recruitment events have driven periodic increases in the mackerel stock. The last large year class was 1999. Aside from a somewhat moderate 2015 year class, all recent year classes have been weak. This pattern of low recruitment hinders the population's ability to recover as does age truncation within the stock. Fish aged 7 years and older comprised about half of the stock in the 1980s but are now rarely observed. Recent assessments in 2018 and 2021 have indicated that Atlantic mackerel stock status is overfished with overfishing occurring. A rebuilding plan was implemented in 2019, however the 2021 stock assessment found that the stock was still less than a quarter rebuilt despite an 180% increase in stock size.

**Fisheries Management:** Atlantic mackerel are managed in federal waters along the east coast under the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan, with the Mid-Atlantic Fishery Management Council acting as the lead management body. The directed commercial fishery operates under an annual commercial allocation subject to weekly quota monitoring. Commercial activity is permitted under a limited access program (three tiers) based on past participation in the fishery and an open access permit for incidental catches. Presently, there are no federal or state recreational management measures for Atlantic mackerel. In 2021, an emergency closure capped the commercial catch. The 2022 commercial fishery is operating under an interim rule with a commercial catch limit of 4,963 mt (10.9 mill lbs).

In June, the Mid-Atlantic Council approved a revised rebuilding plan for Atlantic mackerel and fishery specifications for 2023. Compared to the original rebuilding plan, the revised plan uses lower predicted recruitment in projections to reduce the chance of underperforming stock growth predictions again. The Council's selected fishery specifications for 2023 under the rebuilding plan include a much-reduced commercial quota and the implementation of the first-ever federal waters recreational possession limit of 20 fish. DMF is working collaboratively with the states of Maine and New Hampshire to have compatible management measures in state waters next year. The next mackerel assessment is expected in 2023 and will be used to evaluate progress toward rebuilding and to support development of fishery specifications for 2024.

*By Kelly Whitmore, Fishery Policy Analyst*

# Offshore Wind Update

The offshore wind industry has seen an explosion in activity since MA DMF's first industry update published in 2018. Global offshore wind energy capacity surpassed 27 gigawatts (GW) in early 2020. In March 2021, the Biden-Harris administration announced a national goal of generating 30 GW of offshore wind energy by 2030, marking the nation's first federal-scale offshore wind energy goal. To achieve this goal, the Bureau of Ocean Energy Management (BOEM)—the agency tasked with regulating energy development in federal waters—intends to evaluate at least 16 Construction and Operation Plans (COPs) by 2025. In October 2021, Secretary of the Interior Deb Haaland announced plans to hold up to seven new offshore wind lease sales by 2025 in the Gulf of Maine, New York Bight, Central Atlantic, Gulf of Mexico, and offshore of the Carolinas, California, and Oregon.

Closer to home, Massachusetts intends to solicit proposals to contract for 5,600 megawatts (MW) of offshore wind power by 2027, a goal that has substantially increased from the 1,600-MW target announced in the 2016 Act to Promote Energy Diversity. To build the Commonwealth's capacity for offshore wind development, the Massachusetts Clean Energy Center (MassCEC) has invested tens of millions of dollars into workforce training, research, and supply chain evolution (e.g., development of an industry directory to support business-to-business networking). Port infrastructure is also rapidly developing to meet industry needs. The New Bedford Marine Commerce terminal was the first multi-purpose facility in North America designed to support the construction, assembly, and deployment of offshore wind projects, and Salem Harbor is soon to follow. In December, Vineyard Wind, a joint venture between Avangrid Renewables and Copenhagen Infrastructure Partners (CIP), announced an agreement with the City of Salem and Crowley Maritime Corporate to develop Salem Harbor as the nation's second major offshore wind marshalling port, which will allow for concurrent project construction in the Massachusetts Wind Energy Area (WEA).

BOEM's process of authorizing offshore wind development occurs in four distinct phases: planning and analysis, leasing, site assessment, and construction and operations. In the Massachusetts WEA and the Massachusetts-Rhode Island WEA, projects are primarily in site assessment and construction stages. Site assessment requires BOEM approval of a Site Assessment Plan (SAP) outlining details related to meteorological and oceanographic surveys in a lease area. Following completion of site assessment surveys, a developer submits a COP outlining a plan for the proposed construction and operation of all on- and offshore facilities associated with the project. The COP analyzes environmental, cultural, and socioeconomic impacts resulting from the project to inform BOEM's preparation of an Environmental Impact Statement (EIS) under the National Environmental Policy Act.

Here's a quick overview of offshore wind activities by region:

**Maine:** Under the nation's wind leasing strategy for 2021–2025, BOEM intends to hold a commercial lease sale within the Gulf of Maine in 2024. To initiate this process, BOEM hosted the Gulf of Maine Intergovernmental Renewable Energy Task Force Meeting on May 19, 2022. The Task Force is comprised of federal officials and elected Tribal, state, and local officials from Maine, New Hampshire, and Massachusetts. Topics included an overview of the commercial planning process for the Gulf of Maine and a framework approach for developing a Request for Interest (RFI). In October 2021, the State of Maine submitted an unsolicited research lease application to construct an offshore wind energy array ("Research Array"). The array would include up to 12 floating wind turbine generators (WTGs) within a 10,000-acre lease area approximately 25 nautical miles offshore. It would be the nation's first offshore floating wind research array.

**Massachusetts and Massachusetts-Rhode Island WEAs:** Vineyard Wind 1 (VW1) was the first commercial-scale offshore wind farm to be fully approved for construction in U.S. federal waters. The Project's COP received approval on July 15, 2021. VW1 will consist of 62 turbines and an export cable that will travel through Muskeget Channel and Nantucket Sound to interconnect onshore at Covell's Beach, Barnstable. Export cable construction is scheduled to begin this year and the project is expected to be operational by 2023.

On the heels of VW1, South Fork Wind was approved on November 1, 2021. Smaller in scale, the Project will consist of 12 turbines and an export cable that will interconnect at East Hampton, New York. Onshore construction has already begun, and the project is expected to be operational by 2023.

In 2021, BOEM submitted four NOIs to prepare EISs for the following projects: Revolution Wind, New England Wind, Sunrise Wind, and Mayflower Wind. The projects are in varying stages of permitting at the state level and environmental surveys are ongoing. Two additional projects in the MA WEA, Beacon Wind and Bay State Wind, received SAP approval for site characterization in June 2017 and September 2021, respectively. Neither project has submitted a COP.

**New York Bight:** In February 2022, BOEM held a record-breaking offshore wind auction for six lease areas in the New York Bight. The sale drew competitive winning bids from six companies totaling $4.37 billion, marking the highest-grossing competitive offshore energy lease sale in history, including oil and gas industries. The new lease areas expand on a growing industry offshore of New York and New Jersey. In 2021, BOEM submitted three NOIs to prepare EISs for the following projects: Ocean Wind, Empire Wind, and Atlantic Shores.

**Central Atlantic:** Planning, analysis, and leasing activities continue farther down the Atlantic coast. In 2021, BOEM submitted two NOIs to prepare EISs for the Coastal Virginia Offshore Wind Commercial Project and the Kitty Hawk Offshore Wind Project. In April 2022, BOEM announced that it will publish a Call for Information and Nominations (Call) to assess commercial interest in wind energy leasing activities farther offshore in the Central Atlantic. The six Call Areas (A-F) comprise approximately 3.9 million acres offshore of Delaware, Maryland, Virginia, and North Carolina. Lastly, the environmental assessment of the Carolina Long Bay area offshore of North and South Carolina is complete and wind energy developers will bid for one or both lease areas in the Wilmington East WEA in May 2022.

**Gulf of Mexico and the Pacific Coast:** As the nation marches toward its goal of 30 GW by 2030, offshore wind will continue to develop in the Gulf of Mexico and along the Pacific Coast. BOEM held its second Gulf of Mexico Intergovernmental Renewable Energy Task Force meeting in February 2022. In April, the agency announced it will publish a Call to assess commercial interest off the coast of Oregon. In the same month, BOEM published a Draft Environmental Assessment for the Morro Bay Wind Energy Area in southern California, and in May BOEM announced a Finding of No Significant Impact (FONSI) for the Humboldt Wind Energy Area in northern California.

**Key Issues for MA's Fisheries:**
The Commonwealth supports the co-existence of wind energy development and the fishing community. To ensure the two industries are compatible, state and federal agencies are working together with regional bodies on issues including regional monitoring and fisheries compensation.

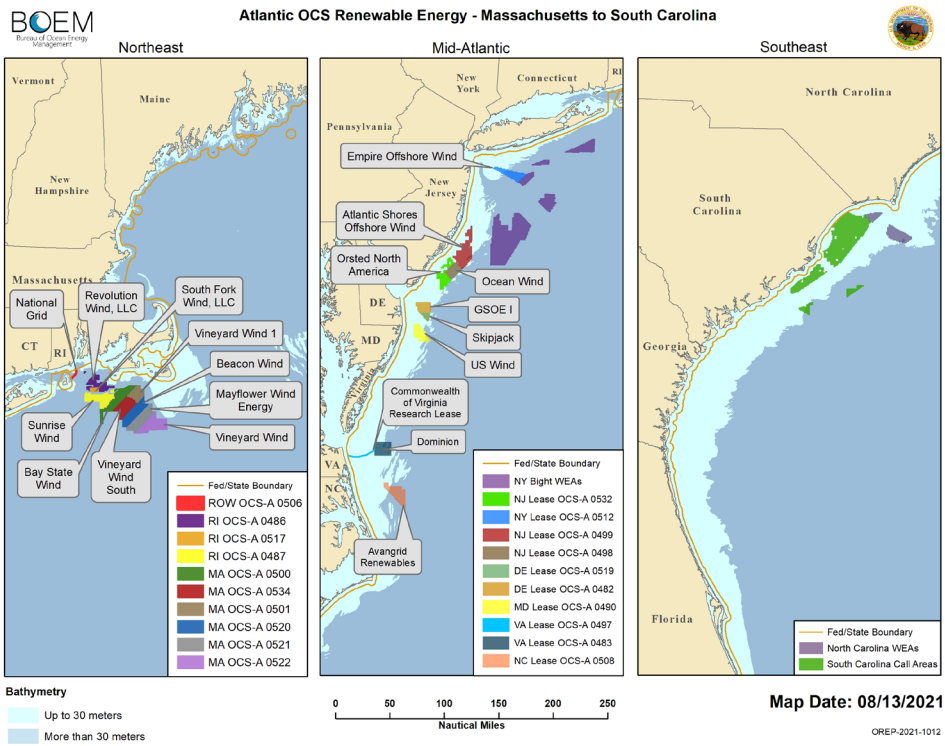
*Regional science*: Several organizations have emerged in recent years to facilitate offshore wind research and monitoring at a regional scale:

- The Responsible Offshore Development Alliance (RODA) collaborates with regulatory agencies, developers, and researchers to coordinate science and policy approaches to managing offshore development with a focus on minimizing conflicts with the fishing community. Current efforts include the creation of a Fisheries Knowledge Trust, an industry-owned platform to facilitate information sharing between the fishing and science communities.
- The Responsible Offshore Science Alliance (ROSA) seeks to advance regional research and monitoring of fisheries and offshore wind interactions from Maine to North Carolina. ROSA's interim Offshore Wind Project Monitoring Framework and Guidelines were published in March 2021 to identify key elements of offshore wind fisheries' project monitoring plans and associated studies.
- The Regional Wildlife Science Collaborative (RWSC) is hosted by the Northeast Regional Ocean Council (NROC), Mid-Atlantic Regional Council on the Ocean (MARCO), and the Coastal States Stewardship Foundation (CSSF) to support research and monitoring of interactions between wildlife and offshore wind. Current efforts include creation of an Offshore Wind & Wildlife Research Database to track efforts focused on marine mammals, sea turtles, birds and bats, protected fish species, habitat and ecosystem, and cross-taxa surveys.

*Fisheries compensation:* BOEM is working with NOAA Fisheries and affected coastal states, including Massachusetts, to develop guidance for mitigating the impacts of offshore renewable energy projects. As part of this effort, BOEM published a Request for Information in November 2021 to obtain public input on avoiding, minimizing, and compensating for impacts from offshore wind energy projects to commercial and recreational fisheries. The agency plans to release a draft guidance document for public comment in June 2022. Focal topics of the guidance will include a general approach to mitigation; project siting, design, navigation, and access; safety measures; and financial compensation for the fisheries industry.

MA DMF engages in offshore wind development by conducting technical review of permitting documents and fulfilling advisory roles for regional research and stakeholder engagement efforts. In the last year, DMF has reviewed permitting documents, economic exposure and environmental impact assessments, and monitoring plans associated with the South Fork, Sunrise, Revolution, Mayflower, and New England Wind projects. After assisting in the development of fisheries mitigation packages for Vineyard Wind 1 and South Fork Wind, DMF will continue to support EEA in hosting and administering the Vineyard Wind Fisheries Innovation Fund. As an advisory member to ROSA, DMF contributed to the preparation of ROSA's 2021 interim Framework and Guidelines. EEA convened two working groups for fisheries and marine habitat issues to engage directly with key stakeholders and keep Massachusetts communities up to date on the state of offshore wind development. The Habitat Working Group on Offshore Wind Energy includes scientists and technical experts from environmental organizations, academia, and state and federal agencies. The Fisheries Working Group on Offshore Wind Energy is comprised of commercial and recreational fishermen, scientists, and state and federal agencies. In March 2021, DMF assisted in establishing Terms of Reference for the Fisheries Working Group. Meetings are convened quarterly or at certain benchmark points in the commercial leasing process and are open to the public. For more information on past and future meetings, visit the Offshore Wind webpage at https://www.mass.gov/service-details/offshore-wind.

*By Simonetta Harrison, Offshore Wind Specialist*




**Locations of offshore wind development activity on the Atlantic Outer Continental Shelf as of August 13, 2021. Map provided by BOEM Office of Renewable Energy Programs.**

# Marine Fisheries Advisory Commission Celebrates its 60th Anniversary

## *Former MFAC Chair Mark Amorello Honored*

On June 16, the Marine Fisheries Advisory Commission (MFAC) celebrated its 60th anniversary with a social gathering on the grounds of the Division's New Bedford facility. With DMF staff and current and former Commission members in attendance, the event commemorated the six-decade history of the MFAC. To top of the event, the Commission bestowed the David L. Belding Award to former MFAC Chair, Mark Amorello.


**Mark Amorello accepting the Belding Award. From L to R: Director Dan McKiernan, Commissioner Ron Amidon, Mark Amorello, and current MFAC Chair Ray Kane.**

The Commission was first formed in 1960 when then-Governor Foster Furcolo created through Executive Order an ad-hoc group called the Marine Fisheries Advisory Commission to address problems in marine fisheries. After holding a series of public hearings to gather stakeholder input, the Commission presented an extensive report to the Governor outlining the challenges of the day and including a suite of well- recommendations. This report is historic in its depiction of the marine fisheries landscape of the time. Problems of foreign vessels fishing three miles from shore were highlighted along with familiar group conflicts (e.g., recreational vs. commercial, draggers vs. lobstermen, and lobstermen vs. "skin divers"), need for fish and shellfish conservation and improved management approaches.

One of the most important recommendations was to make the Commission a permanent body to continue its work. The MFAC also recommended more administrative control over fisheries rules. (Legislative amendments to fishing rules was considered too slow and unpredictable.) Subsequently, the Commission was created by the state legislature as a permanent entity in 1962 and was tasked with approval authority for rule changes made by the Director as well as overseeing the hiring and removal of the Director. The Commission's vision for an unpaid "nonpolitical body whereby the different interests on the salt water could get together in advance on matters affecting their sport and livelihood" has succeeded for the past 60 years.

Today's Commission spends substantial time assisting DMF to address conservation and management issues that involve co-management with NOAA Fisheries through the New England and Mid-Atlantic Fishery Management Councils and the Atlantic States Marine Fisheries Commission. There are management plans and committees for so many species that were completely unmanaged back in 1960s, and many were labeled "trash fish" due to a lack of commercial markets. Just as the original Commission consisted of various interests involved with fisheries, today's Commission also reflects a balanced and varied cross-section of stakeholders. Each brings their experience and perspective to the table and contribute their views to Commission debates that in the end help make DMF a more responsive and aware agency.

**Current and former directors of DMF as well as MFAC members.**

The Anniversary event featured short tributes from former MFAC Chairs: Elizabeth Stromeyer who served in the 1970s and 80s; Frank Mirarchi, who served in the 1970s through early 1990s; and Mark Amorello who served for 25 years from 1992 through 2016. Mark was also awarded the David L. Belding Award for his years of service to the Commission and for his outstanding work restoring river herring populations in his role as Superintendent of the Pembroke Herring Fisheries Commission.


**Frank Mirarchi giving a tribute to his time serving on the MFAC.**

During his decade of leadership in his home community, Mark worked with DMF to accomplish extensive brook-wide maintenance and fishway improvement efforts, as well as the installation of electronic fish counters. Mark can rightfully take credit for helping to improve the run counts in Herring Brook in Pembroke, because as a result of these efforts, Herring Brook has been able to witness and document fish passage increases from tens of thousands per year to hundreds of thousands per year. His most recent efforts in the Herring Brook watershed involved the rehabilitation of Herring Brook Park, with associated improvements to fish passage incorporating a historic look with a replica water wheel and granite block walls that has been attracting the public for viewing ever since.

It was extremely rewarding for all involved to recognize the Commission's contributions to fisheries management. While the issues have evolved over six decades, the function of this Commission as a set of diverse experts advising DMF is as relevant today as it was in 1962. And recognizing Mark Amorello for being one of its most dedicated members for his 25 years of service—almost half of the history of the Commission—was a perfect ending to the celebration.

*By Dan McKiernan, DMF Director*

# Recent Publications

The following publications are recent articles written or co-written by DMF staff and published in scholarly journals or the DMF technical series. A full list of publications can be found at https://www.mass.gov/marine-fisheries-publications.

**Technical Reports**

***TR-77 Archer, A.F., and Chase, B.C. 2022. River Herring Spawning and Nursery Habitat Assessment.***

Abigail Archer and Brad Chase published Technical Report 77 which focuses on an assessment completed at Tom Matthews Pond in Yarmouth, Massachusetts. The assessment documented a high degree of water quality impairment with Impaired classifications assigned for water temperature, water pH, Secchi disc, total phosphorus, and total nitrogen.

# DMF Accolades

On March 31, 2022 DFG held the 2nd Virtual Performance Recognition Program Webinar which celebrated the amazing accomplishments of DFG staff. The **Resource Assessment Team of Alex Boeri, Matt Camisa, Ross Kessler, Elise Koob, Vin Manfredi, Brendan Reilly, Derek Perry, Steve Voss, and Steve Wilcox** received the Department of Fish and Game's Pride and Performance award for completing resource assessment trips during the pandemic and committing to be at sea for longer periods of time.

**Kerry Allard** of DMF also received Department of Fish and Game Pride and Performance award for her dedication and ability to keep permitting operations running smoothly throughout the pandemic.

# In Memoriam: Mike Hardy


**Mike Hardy at the Newburyport Shellfish Purification Plant.**

On April 14, 2022 long-time DMF employee Richard M. Hardy (Mike) passed away after a year-long illness. Mike was instrumental at the Shellfish Purification Plant in Newburyport where he worked for the last 21 years. He was dependable, reserved, a good colleague, a hard worker with a steady demeanor, with never a harsh word for anyone and quiet until he got to know you.

Operations at the Shellfish Plant are unique in the agency where the schedule is dictated by the tides, depuration clam digger activity, and market demand. At "the Plant" coordinating schedules with co workers is critical to maintain seven- day-a-week coverage. Mike would always prioritize those needs to keep the diggers digging and plant operations smooth. Preferring to keep busy and never dissuaded by hard work, he helped out his co-workers by coming in weekends and holidays, collecting samples for the lab, and maintaining Plant operating procedures to remain in compliance with state and federal regulations—always with a smile.

Mike's background and contacts in the shellfish industry were very useful in understanding digger and dealer activity. He could relate market activity (increase prices/extended rainfall/new harvest areas etc.) to how it was impacting depuration harvesting and plant productivity; very helpful when managing the unique softshell clam contaminated fishery.

Talking sports was a favorite topic in the front office when Mike was around, particularly the Patriots. His game analysis was spot-on, you could learn a lot from listening to Mike break down Sunday's game—and we did.

Our hearts go out to his family. Mike will be sorely missed by all his co-workers and friends at the Shellfish Plant and throughout DMF.

# Division Comings and Goings

**Stephanie Berkman** joined the DMF Diadromous Fish Project in April to serve as an Aquatic Biologist II working out of our New Bedford laboratory on the monitoring, management, and restoration of diadromous fish. Stephanie grew up on the North Shore of Massachusetts and attended the University of MA in Amherst as an undergraduate in Natural Resource Conservation. She received a MS at the University of Alaska working on the growth, survival, and recruitment of chinook salmon. In addition to her academic experiences with diadromous fish she is well-trained for our Project from past positions with the Alaska Department of Fish and Game, Lake Erie Biological Station, and as a marine ecologist for a consulting firm working on marine assessments related to offshore wind farms.

**Amanda Davis** began working as an environmental analyst within the Habitat Program in the New Bedford office in June. In her new position, Amanda will conduct environmental review of coastal construction projects and play a key role in all aspects of Habitat Program research. Amanda previously worked as a contractor to DMF in 2015 on a dock shading study before returning to graduate school, and again earlier this year as an eDNA technician collecting and processing samples from Cape Cod estuaries to evaluate DMF time of year restrictions. While in graduate school, Amanda served as the field leader for a project using remote sensing techniques to survey, monitor, and classify types of land cover in coastal habitats throughout Massachusetts. Amanda received her B.S in Biology and her M.S. in Fish and Wildlife Conservation and Management from the University of MA.

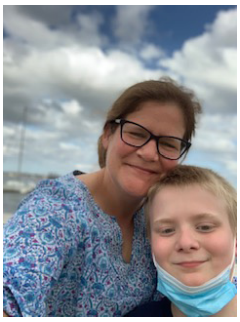
**Dr. Tara Dolan** started this April as a Stock Assessment Specialist based in the Gloucester office. A large part of her responsibilities will be to serve on the New England Fishery Management Council's Groundfish and Monkfish Plan Development Teams. Tara received her bachelor's and master's degrees in Marine Affairs and Policy from the University of Miami, and a Ph.D. in Marine Science from the State University of New York-Stony Brook where she studied ecology of winter flounder. She comes to us from the University of California-Santa Cruz where she completed a post-doc on empirical dynamic modeling used for forecasting fish abundance.

**Jake Madden** joined DMF as a Bacteriologist at the Newburyport Shellfish Purification Plant in April. Jake has broad experience in all aspects of the shellfish industry, from trucker to harvester to plant worker. He previously worked for seven years at a private shellfish purification plant in Maine, where for the last three years he ran the purification plants' NSSP conforming bacteriological laboratory and managed the operation of their oyster aquaculture farm. While in the lab, he completed an ISSC single laboratory validation study for Male Specific Coliphage in wastewater, a verification method of fecal coliform using MF mTec agar, and participated in re-submergence studies to address the increased risk of Vibrio associated with air drying oysters and the impact of roosting birds on aquaculture farms. Jake earned a B.S. degree in Marine Biology from UMass Dartmouth.

**Amanda Meli** joined DMF in January as a Receiving Teller. Based in New Bedford, she will assist in issuing recreational and commercial permits. Amanda graduated from the University of Massachusetts - Dartmouth in 2018 with a Bachelor's in marine biology and is now working on her Master's in Marine Sciences and Technology at UMass Dartmouth SMAST, creating a baseline assessment of crustaceans along the continental shelf and investigating what environmental variables affect their distribution. Since 2018, she has also spent time working as a contractor with DMF as a MRIP sampler.

In April, **Iris Seto** began working as an eelgrass field technician with the Habitat Program in Gloucester. Iris will support Program staff conducting eelgrass restoration and collecting data for the development of a site selection model to identify sites in MA suitable for eelgrass restoration. Iris comes to DMF from Charles River Watershed Association and was the recipient of the Association's 2021 Rita Barron Fellowship. Iris holds a B.A. in Environmental Biology from Washington University and an M.S. in Marine Biology from Northeastern. While completing her master's degree, Iris interned with DMF on a project examining the utility of conservation moorings in minimizing impacts to eelgrass.

**Luke Putaansuu** started this March as a Receiving Teller in our Gloucester office. Previously he was management in a retail pet supply store where he worked with tropical marine fish as well as other small critters. Born and raised in Gloucester, Luke holds a bachelor's degree in Animal Science from the University of Maine in Orono.



**Amber Woolfenden** came aboard as the Division's newest bacteriologist in the Gloucester lab this June. Amber brings with her over 10 years of scientific research experience in cell culture, in vivo biology and wet bench practices. She has extensive laboratory experience, including handling mice, which is a requirement for our biotoxin lab. Amber earned her Bachelor's in science zoology from Northern Michigan University.

This February, **Greg Sawyer** retired from DMF after more than 36 years with the Commonwealth, all within the Shellfish Program. Greg started with the shellfish classification program when it was still within the Department of Environmental Quality Engineering (now the Department of Environmental Protection). He transferred when the shellfish classification program was moved to DMF in January 1988. Greg spent many years as a shellfish area biologist working out of the Sandwich, Pocasset, and New Bedford offices. In 2015, he was promoted to Senior Shellfish Biologist as the area biologist supervisor. In addition to managing daily operations of the classification biologists while maintaining his own towns and areas, Greg was responsible for the Division's Contaminated Area Relay Project. During his tenure Greg oversaw the transplant of more than 300,000 bushels of shellfish for utilization by thousands of shellfishers in no fewer than 17 recipient communities in the Commonwealth. Greg was well known and liked throughout the region and his experience and dedication will be missed.

The Division said a fond farewell to **Maggie Nazarenus** this past March. Maggie joined DMF as a grant coordinator at the start of the pandemic to manage the CARES Act Fisheries Relief Program for the Commonwealth. She spent the past two years overseeing several grants, with a primary focus on the successful distribution of over $50 million in relief to the seafood industry. Recently, she was offered a position working for a non-profit organization where she will be working on programs that aid in the relocation of refugees. Maggie was a tremendous asset to DMF, and she will no doubt help many more people as she brings her passion to this new endeavor.

**Staff Transitions: Mark Rousseau** was promoted to Manager of DMF's Habitat Program last August. **Dr. John Logan** began a new role in May as Fisheries Habitat Specialist for the Habitat Program, moving over from the Environmental Review team. In February, **Matt Camisa** transitioned from the Resource Assessment Project to join the Shellfish Program as the new lead of our New Bedford Shellfish Classification Team. **Brianne Shanks** was promoted to Senior Bacteriologist of the Division's New Bedford Shellfish Laboratory in January. **Steve Wilcox** earned the new title of Resource Assessment Project Leader in March, making the move from Invertebrate Fisheries Project biologist. The Fisheries Dependent Sampling Project welcomed **Elise Koob** as its newest aquatic biologist, joining the team from Age and Growth lab technician.

# Dr. Michael Sissenwine's Departure from the New England Fisheries Management Council

On June 10, the Commonwealth said goodbye to one of its three appointed members to the New England Fishery Management Council, Dr. Michael Sissenwine. Dr. Sissenwine has been a longstanding contributor to the Council process, terming out of his seat after nine full years in service. His departure opens a seat for which the Commonwealth has recommended several excellent candidates–we should hear from the Secretary of Commerce on her appointment sometime this summer. Transitions such as these offer a time for contemplation and so we asked Mike to reflect on his time at the New England Council:

*"Nine years as a Council member seems to have flown by, which is indicative of positive experience overall. If I include my years as a Scientific and Statistical Committee member, the Council has been a substantial part of my professional life for more than a decade. I will miss the stimulation of working on important challenges and emerging opportunities to improve performance of fishery management in terms of stewardship and livelihoods. During this decade, I have participated in processes that have led to adoption of a risk policy, various issues concerning at sea monitoring of fisheries, international negotiations to gain a foothold for a US fishery off the Grand Banks of Canada, continuing refinement of rotational area management of sea scallops, development of Ecosystem Based Fishery Management, scientific debates about the implications of climate change on the Maximum Sustainable Yield paradigm that underpins the legal framework for fisheries management, and countless specifications to operationalize existing Fishery Management Plans (FMPs) for dozens of fish stocks.*

*FMP specifications are the Council's 'meat and potatoes'. They are demanding and time consuming, and it is where stakeholders are most engaged. Nevertheless, I think it is important that significant energy and resources be invested in development of new approaches to improve current processes and address emerging challenges.*

*I want to share one more observation from my experience as a Council member. It is about participants (Council members, staff, meeting attendees and other stakeholders) in the Council process. I have been extremely impressed by their capability, objectivity, professionalism and collegiality. This wasn't my experience decades ago as a young scientist involved in the early days of the Council. I think this evolution in participants is reflected in the performance of the Council when it comes to adhering to scientific advice and the law, and preventing overfishing. As a Council member I have established many friendships that I hope to maintain."*

Dr. Sissenwine's parting words about process improvement and emerging issues are no small part of the leadership he provided over the years. Mike's missives, often coming on the heels of Council debates and decisions, challenged his colleagues to concern themselves with collective problems that often necessitate longer-term strategic thinking; the type of work that exists beyond the day-to-day more reactive effort that can swallow up creative and hopefully more successful fisheries management.

DMF thanks Dr. Sissenwine for all his work on behalf of our New England fisheries, and wishes him smooth sailing!

# Adjudicatory Proceedings

Under state law, DMF may sanction commercial and recreational fishing permits for violations of the state's marine fishery laws and regulations subject to a due process adjudicatory proceeding. These adjudicatory proceedings are held before a magistrate. They may be initiated by the agency, the Environmental Police, or municipal officials (constables) authorized to enforce the marine fishery laws of the Commonwealth.

During the period of December 1, 2021 – May 31, 2022 , DMF initiated three adjudicatory proceedings. Two of these matters address alleged protected species violations and the other an alleged permitting violation. All three proceedings remain ongoing. DMF initiated two adjudicatory proceedings between June 1, 2021 and November 30, 2021 that remain ongoing. One matter involves lobster bycatch limits for gillnets and was concluded with a settlement agreement involving a permit suspension and probation. The other matter involves alleged violations of lobster conservation and management and protected species regulations. This matter has proceeded to hearing and final decision is pending.

# Regulatory Updates

During the period of January 1, 2022 through June 30, 2022 the following regulatory changes were enacted by DMF after public hearings and Marine Fisheries Advisory Commission approval, or by the Director under his declaratory and emergency authorities.

**April Commercial Groundfish Closure (322 CMR 8.05).** The conditional commercial groundfish closure during the month of April between 42°00' and 42°30'N latitude west of 70°30' W longitude was rescinded and replaced with an April 15–April 30 commercial groundfish closure within all state waters from 42°00'N latitude north to the Massachusetts/New Hampshire maritime border. This old conditional groundfish closure was a mortality closure designed to prevent the state waters groundfish fishery from exceeding federally set harvest targets for certain stocks. The new commercial groundfish closure is designed to enhance spawning cod protections.

**Atlantic Sea Herring Effort Controls for Management Area 1A (322 CMR 9.00).** To start the 2022 Season I (June 1–September 30) in Management Area 1A, DMF adopted effort controls consistent with those approved by the Atlantic States Marine Fisheries Commission's Atlantic Herring Management Board. The directed fishery will start on July 10, 2022 at 6:00PM. Federal Category A permit holders who have declared into the directed fishery may retain sea herring harvested from Management Area 1A from 6PM on Sundays to 6PM on Fridays and may not land in excess of 240,000 pounds per week. Federal Category C and D permit holders who have declared into the differential small mesh bottom trawl days out program may retain sea herring harvested from Management Area 1A beginning on Sundays at 6PM to Saturdays at 6PM. Landings by these vessels are subject to federal trip limits. Non-federal permit holders or vessels who have not declared into the directed fishery are prohibited from retaining more than 2,000 pounds per trip.

**Buoy Line Marking Rules (322 CMR 4.13).** DMF modified its buoy line marking rules enacted in 2021 for 2022 to clarify that buoy lines fished by Massachusetts trap fishermen in federal waters were to have a green mark next to all adjacent red marks and that buoy lines fished by Massachusetts trap fishermen in state waters were to have only red marks in the buoy line. This was done to maintain the integrity of the jurisdiction-specific buoy line marking requirements for the trap fisheries.

**Commercial Bluefish Minimum Size (322 CMR 6.18).** DMF established a 16" minimum size for the commercial bluefish fishery. This was done to prevent the commercial permit from being misused to allow anglers to retain snapper bluefish in excess of the recreational bag limit for personal use.

**Commercial Black Sea Bass (322 CMR 6.28).** In response to increases in the commercial quota and fishery performance in recent years, DMF adjusted the directed commercial black sea bass season, trip limits, and open fishing days. The directed commercial fishery now opens a week earlier on the first open fishing day on or after July 1; the previous season start date was July 8. During the period of July 1–September 14, potters may land up to 500 pounds of black sea bass; other directed fishing gears (e.g., hook and line) may land up to 250 pounds of black sea bass. Open fishing days during this directed fishing period are Sundays–Thursdays. On September 15, the Friday and Saturday closed fishing days are

rescinded allowing directed fishing seven days per week, and if on that date more than 15% of the overall annual quote remains, trip limits will also be increased to 600 pounds for potters and 300 pounds for other directed gears. Consistent with the changes in the open fishing days for the directed commercial summer flounder trawl fishery, trawlers may retain a 100-pound bycatch of black sea bass beginning on April 23 with no closed days.

**Commercial Horseshoe Crab limits (322 CMR 6.34).** Consistent with the changes in the open fishing days for the directed commercial summer flounder trawl fishery, trawlers may retain their lawful bycatch of horseshoe crabs beginning on April 23 with no closed fishing days. The lunar closures still apply to the trawl fishery. The bycatch limit remains 300 crabs for limited entry permit holders and 75 crabs for non-permit holders.

**Commercial Menhaden Season (322 CMR 6.43).** DMF has established a June 1 start date for the limited entry commercial menhaden fishery. Accordingly, all permit holders are prohibited from possessing, retaining, or landing more than 6,000 pounds of menhaden prior to the June 1 start date. Exempt from this are weir fishermen who may opportunistically encounter menhaden in their multi-species gear during the spring. This was done to better align the harvest of the menhaden quota with local bait demand from the state's commercial lobster trap fishery.

**Commercial Spiny Dogfish Trip Limit (322 CMR 6.35).** Effective May 1, the spiny dogfish trip limit was increased from 6,000 pounds to 7,500 pounds consistent with changes to the federal trip limit.

**Commercial Summer Flounder Limits (322 CMR 6.22).** In response to increases in the commercial quota and fishery performance in recent years, DMF adjusted the commercial summer flounder seasons, trip limits, and fishing days. During Period I (January 1–April 22), the trip limit will be 3,000 pounds and commercial fishing and landing allowed seven days per week. Should 30% of the overall annual quota be taken, the trip limit is reduced to 100 pounds for the remainder of the period. During Period II, the spring bycatch season (April 23–June 9) was eliminated and the directed fishery will now start on April 23. From April 23–August 31, the trip limit for trawlers using large mesh is 500 pounds and the trip limit for hook and line fishermen is 300 pounds; closed fishing days on Fridays and Saturdays were eliminated thereby allowing commercial fishing seven days per week. From September 1–September 30, the trip limit is increased to 800 pounds for all gear types if greater than 20% of the quota remains on September 1; if 20% of the quota or less remains on September 1, the trip limits remain unchanged from the April 23–August 31 period. From October 1–December 31, the trip limit increases to 3,000 pounds for all gear types if greater than 5% of the quota remains on October 1; if 5% of the quota or less remains on October 1, the trip limit is 800 pounds for all gear types. Throughout Period II, if a trawl vessel is fishing with net meshes less than 5.5" diamond or 6" square throughout the cod end or is in possession of more than 250 pounds of squid, then the summer flounder limit is 100 pounds.

**Control Date for Striped Bass Permit Endorsement (322 CMR 7.04).** DMF refreshed the control date for the commercial striped bass permit endorsement. The new control date is June 14, 2022 and it replaces the prior, near decade old September 13, 2013 control date. This control date may be used to limit future access and allowable harvest in the commercial striped bass fishery.

**Gillnet Closure to Protect Right Whales (322 CMR 12.04).** The January 1–May 15 gillnet closure in Cape Cod Bay was extended throughout all state waters to further protect right whales. Additionally, the closure may now be extended past May 15 or rescinded after April 30 based on the observed presence or absence of right whales.

**Lobster Trap Tag Installation Deadline (322 CMR 6.31).** The deadline whereby any lobster traps being fished must have a current year trap tag installed in the trap was set at May 1 for all Lobster Conservation Management Areas. Previously, this was a March 16 deadline for the Outer Cape Cod Lobster Conservation Management Area and a June 1 deadline for all other Lobster Conservation Management Areas.

**Owner-Operator Clarification (322 CMR 7.03 and 7.06).** DMF clarified that the owner-operator requirement in certain fisheries does not require the individual named on the permit be present when fish is sold to a primary buyer or when fish is transported overland for sale to a primary buyer.

**Recreational Lobster and Crab Trap Clarification (322 CMR 6.19).** DMF clarified that recreational fishermen may only use traps to catch Cancer crabs and that all traps used must comply with recreational lobster trap restrictions.

**Regulated Multi-Species Groundfish Trip Limits (322 CMR 6.03).** DMF increased the commercial cod trip limit for the Gulf of Maine Management Area from 200 pounds to 400 pounds and the state waters yellowtail flounder trip limit from 250 pounds to 350 pounds.

**Recreational Black Sea Bass Limits (322 CMR 6.28).** The recreational black sea bass limits were amended by emergency regulation. The emergency regulations establish a May 21–September 4 open season, 4-fish bag limit, and 16" minimum size. This replaces the May 18–September 8 open season, 5-fish bag limit, and 15" minimum size. These changes were necessary to reduce projected recreational harvest by 20.7% as required by the Atlantic States Marine Fisheries Commission.

**Recreational Scup Limits (322 CMR 6.27).** The recreational scup minimum size was increased from 9" to 10" by emergency regulation. This change was required by the Atlantic States Marine Fisheries Commission to achieve a projected 33% reduction in harvest coastwide.

**Recreational Summer Flounder Limits (322 CMR 6.22).** The recreational summer flounder limits were amended by emergency regulation. The emergency regulations establish a May 21–September 29 open season, 5-fish bag limit, and 16.5" minimum size. This replaces the May 23–October 9 open season, 5-fish bag limit, and 17" minimum size. These changes were enacted to meet an allowed 16.5% liberalization in projected recreational harvest in 2022, accomplished principally through the minimum size decrease, and to align the start of the season with the recreational black sea bass season.

## Saltwater Fishing Derby

The Massachusetts Saltwater Fishing Derby is underway! Entries must be caught on rod and reel, meet minimum qualifying weights and lengths, and be caught in state controlled waters and/or first landed in a Massachusetts port. Fish submitted for the weigh-in portion of the derby must be measured and weighed at a Division certified weigh station. Anglers participating in the catch and release portion of the derby are required to submit a picture of their fish on a measuring device.

At the end of the derby year, trophies are awarded to anglers landing the heaviest or longest fish in each species category. All eligible entries will receive a derby pin. For more information, visit: https://www.mass.gov/saltwater-fishing-derby.

**Eve Skomal pictured with her fluke catch.**

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