



**Michael Castagna  
Honored Life Member**

Michael Castagna, known to almost everyone in NSA as Mike, was born in Janesville, Wisconsin on October 21, 1927. His parents immigrated to this country from Sicily; his father worked in a General Motors factory in Janesville and his mother worked in the home and for a time in a woolen mill. Following graduation from Janesville High School in 1945, Mike joined the Navy, received his initial training in the Great Lakes, and first viewed the ocean when he shipped out for the Pacific. Mike was stationed in Honolulu where he served as a Pharmacist Mate 2nd Class from 1945 until 1949.

After leaving active duty in the Navy, he enrolled at Florida State University as an undergraduate where he participated in intercollegiate sports, swimming on the all-Navy swim team. In 1951, with only one semester of study remaining at FSU, Mike was recalled to active duty for the Korean conflict as a Hospital Corpsman 2nd Class. Mike's swimming talents were quickly put to use as he became one of the first Navy divers to use SCUBA, taking part in many of the initial dives that led to the development of the now familiar dive tables. When his tour of duty was over in 1953, he returned to FSU to complete work on his Bachelor of Science degree. While enrolled in school, Mike supported himself by working in the Women's Department of Physical Education. After receiving his B.S. degree in 1953, he was admitted to the graduate program at FSU where he worked on a Master's degree. He completed this degree in 1955 with a study of the distribution and ecology of the hogchoker (*Trinectes maculatus*) in the Wakulla River under the guidance of Dr. Ralph Yerger.

In his first job out of graduate school, many of Mike's talents—swimming, fisheries, biology, and a keen love of the ocean—were used as an Assistant Curator at Marine Studios of Marineland, located just south of St. Augustine, FL. He literally swam with dolphins and was in charge of caring for and treating any of the animals that became ill. At this time Mike and his wife of 48 y, Mary Sperry, got married. Mary worked for many years as a nurse and she and Mike have four children.

In 1956, Mike was hired by the Bureau of Commercial Fisheries (BCF) in Boothbay Harbor, ME, to work on the herring investigations under Les Scattergood. This job put him back out on the ocean with frequent sampling trips offshore. During the two years Mike spent in Boothbay Harbor, he served in the Naval Reserves and on several occasions was sent to Key West, FL, for Underwater Demolition Training. There, as the oldest member of the team at nearly 30, he was called "Grandpa" by the younger team members, but he went on to graduate with highest honors.

In 1958 he left Boothbay Harbor and began work at a small BCF laboratory in Franklin City, VA. This laboratory was placed at the end of a long causeway on a former railroad spur, which extended into Chincoteague Bay. The sheet metal building was built next to the former railroad pier. It was a perfect place for Mike who has both the ability to develop new techniques and a hands-on work ethic. Mike has always had a firm commitment to understanding the fundamental ecology of the area where he was working. This included what was present, where it could be found, general observations on abundance, and life history biology. To that end, he helped to design and fabricate the gear needed to investigate the marine life of the bay.

After a short time in Franklin City, he was asked by a fellow Florida State graduate, Bill Hargis, to become the Scientist-in-Charge of the Virginia Institute of Marine Science (VIMS), College of William and Mary laboratory in Wachapreague, VA (At the time it was only known as the "Eastern Shore Laboratory", and it was not until much later that the formal connection to William and Mary was

established). This new position included moving into a newly constructed, single floor building housing offices, wet and dry laboratories, and two dormitory rooms. This was an inspired choice, because it allowed Mike's skills, of leadership, mentoring, innovation, and hard work to flourish. Mike began this position in 1962, remained at the Eastern Shore Laboratory moving up the ranks at VIMS until he retired as a Professor and Division Director in 1992. He continues to work at the laboratory as a Professor Emeritus.

Mike instituted a program to gather basic biological information on the flora and fauna of the local area. He became intimately involved in seeking information from, and giving information to, the local fishing community and encouraged others to take field trips to the Wachapreague area.

In addition to the basic science efforts, Mike coordinated the Eastern Shore components of many oyster trials that were being conducted at VIMS in Gloucester Point, VA. Efforts to control oyster drills with the pesticides Polystream and Sevin, numerous studies on oyster disease and the effectiveness of disease resistant stocks in the higher salinity waters were among the research projects that kept Mike and many others busy with field work.

Although his diving skills were not used heavily at Wachapreague, he often helped members of the community find lost gear or clear fouled propellers. The love of diving and natural history were combined when Mike was invited to spend nine days in the Underwater Laboratory Helgoland in the Baltic Sea in 1974. He returned there as a scientific coordinator for a 14 day underwater mission in 1978. In between (1976) he spent five days in a Hydro Laboratory off Freeport, Bahamas.

In 1962, Mike hired Paul Chanley and they began a series of investigations into bivalve natural history. This included providing information on spawning times, salinity tolerance, larval development, and other aspects for over 60 species. By the end of Mike's tenure as head of the laboratory, 55 species had been reared to setting and 26 species had been reared through their entire life cycle. Much of this work was done in large garbage cans. Water was exchanged by siphons, but was, from time to time, carried in buckets across the road by hand. When temperatures in the wet laboratory were not high enough to rear larvae, the "culture containers" were placed on wheeled carts and aligned down the hall between the offices. This Spartan setting was certainly indicative of funding limitations, but it also reflected Mike's frugal, get-the-job-done approach.

As a direct result of the efforts to document the various life history parameters of bivalves, Mike developed expertise in hatchery technology and aquaculture. This led to the development of a greenhouse for culturing large quantities of algae via the Wells-Glancy technique and later, in a converted oyster shucking house, to a fairly large nursery for the hatchery output of bay scallops and hard clams. Here again, Mike's ability to design and engineer simple, cost-effective solutions was critical. One of the most enduring images from this hatchery was a heat exchanger crafted from an old whiskey barrel and salvaged tubing. Mike often said, "There's no reason to spend \$2 on a valve if pinching a hose will work just as well."

Already involved with maintaining a large number of oysters in trays, scattered throughout several bays, Mike was well aware of the difficulties with field studies. This reality and the lack of seed caused his early focus on hatchery and nursery work with clams and scallops. The success of this program provided burgeoning numbers of clams and scallops and he began to develop experimental field plantings. Unless they were heavily protected in trays, the early clam plantings were nearly all consumed by crabs, and even modest size grow-out experiments required tremendous effort. As an example of Mike's inventiveness, one fall, with a substantial number of clam seed on hand, and the necessity of having to close down the seawater pumps for the winter, Mike happened to glance out the window. Within the past week, the road had been tarred and covered with gravel. Most of the gravel had been pushed to the side of the road. Mike decided that, because of the well-documented association of clams with shell beds, gravel might be a good shell substitute. The gravel was swept from the road, loaded into a scow and placed on an intertidal mud flat of a marsh creek. Clams were planted in this gravel and survival was excellent! Unfortunately, subsequent years' plantings did not survive as well. It took Mike, the Eastern Shore Laboratory staff, input from various watermen, many clams, a number of years and a lot of trial and error to develop the knowledge of planting size and protective mechanisms to assure consistent results with seed planting. This effort, as with the innovative descriptive work of Chanley and Castagna a decade earlier, established the Eastern Shore Laboratory as a premier place to do research on bivalve shellfish. This reputation was enhanced by the development of a course to teach basic techniques in clam aquaculture, including how to make the gear, to a cadre of individuals. Many of these individuals became leaders in the hard clam aquaculture industry that has spread throughout the east and gulf coasts, now employs hundreds of individuals and is worth tens of millions of dollars annually.

Mike has authored or co-authored >75 peer reviewed publications, many abstracts, served as editor for two books and was a co-author on a host of reports—including one that has probably been read by more individuals than any work published in the peer-reviewed literature, "A manual for growing the hard clam *Mercenaria mercenaria*".

### *Field Trips*

Because of his interest in natural history and his gregarious nature, Mike was always ready to lead a field trip. These were of two types, those for fellow scientists visiting the Eastern Shore Laboratory and those for students.

Always the raconteur *par excellence* Mike had many tales to tell about visits from scientists. One that left a distinct impression was a visit by a distinguished senior scientist from Europe. Mike was impressed by the scientist's world reputation and wanted to provide a grand tour, which included visiting the habitats on a nearby barrier island. The island had a few cabins that were used primarily on summer weekends, and in the winter for hunting. Mike anchored the boat and indicated they would have to wade ashore. The senior scientist had already figured this out and proceeded to disrobe—completely. Though there were seldom people on the island, passing sport or commercial fishing boats were not uncommon. Mike, thinking that someone might pass by, and wanting to keep the situation as decorous as possible for the laboratory's reputation, handed the individual a towel. The scientist thanked him and proceeded to wrap the towel around his head as a turban and walked ashore.

A significant part of the program at the VIMS Eastern Shore Laboratory was the hosting of field trips for students from other

institutions. This program, which Mike enthusiastically instituted and formalized, required the maintenance and use of small boats. Laboratory staff ran the boats and depending on the group size, availability of various personnel, Mike, or senior staff members were often responsible for conducting the tour. During Mike's tenure, thousands of students from dozens of institutions of higher learning were housed at the Eastern Shore Laboratory and given a first class "hands on" introduction to local habitats.

As might be expected at such a small laboratory, everyone on Mike's staff was expected to do a little of everything and to be on hand to help everyone else. This expectation included a weekly, Friday afternoon general clean up of the laboratory and offices. Everyone was expected to grab a broom or mop, haul out the trash and perform other janitorial duties. While this might seem like a waste of "valuable staff" time to some, the system worked well because Mike participated regularly. It also made everyone aware that if the laboratory was kept clean all week, there was less to do on Friday afternoon. In addition, the "janitor" for the laboratory and dorm was also an individual who helped run the hatchery, ran the nursery and helped in the field when needed. The entire laboratory staff also participated in building the new shop, installing bulkheads, and refurbishing the seawater system and the "new dorm". In the more sophisticated environments of today's laboratories, such a system might help reestablish the "hands on" and "everyone is responsible for the entire laboratory" attitude that is so often lacking, but to do so requires commitment and leadership. This Friday clean up continued as Mike expanded the laboratory's footprint by purchasing a complex of buildings including a former oyster shucking business and a house with a large lot next door (a future dormitory). Also included in the laboratory administration and staff duties, with a few hired local hands during the winter, was building the greenhouse mentioned above, the construction of a new shop/storage complex, refurbishing of the bulkheads along the entire property, and converting the shucking house to a wet-laboratory/bivalve nursery.

### *Society Work*

Leadership is a hallmark of Mike Castagna. While Mike's "aw shucks" demeanor might not lead one to conclude that he was leading, he did so by example. This leadership quality has always been clearly evident to all who worked with him, and was recognized by his peers. Evidence of this is his enormous efforts on the part of the Atlantic Estuarine Research Society, Estuarine Research Federation and his beloved National Shellfisheries Association. In all three organizations he served as Secretary, Treasurer (or Secretary-Treasurer) and President, and has been active on numerous committees and subcommittees, often for many years. Mike spent 16 y as Chair of the NSA Publications Committee and almost single handedly rescued the *Journal of Shellfish Research* from near oblivion. For this and his continued efforts on behalf of the NSA, he was recognized with an honorary award and a student endowment was established in his name accompanying this honor. It was Mike who recruited Sandy Shumway as Editor, and thus he is directly responsible for the expansion of the journal quality and quantity.

He has received honorary awards from the Atlantic Estuarine Research Society (1983) and the Estuarine Research Federation (1985). He also became an Honorary Life Member of the Virginia Shellfish Growers Association (1992). The National Shellfisheries Association honored him with the Wallace Award (1983), the Honored Life Member Award (1990), a special recognition in 1992, and lastly the Society rewarded him for 16 y of service to the Publications Committee and the NSA with the establishment of the Castagna Student Endowment, noting specifically that the award was to go to a student carrying out applied research.

In addition, Mike was an early enthusiastic supporter of the then fledgling Nature Conservancy. He particularly liked the fact that they didn't spend a lot of time litigating or trying to infringe on others land use, but simply bought the land and then tried to develop appropriate management plans. Again this is a "hands on" approach and it earned Mike the Oak Leaf Award from the Nature Conservancy as the Conservationist of the Year in 1974 for his efforts to preserve portions of the Eastern Shore for future generations.

In addition to these formal society activities, Mike also enjoyed the evening meeting socials, particularly if there was good music for dancing. If there were music and willing partners, Mike would be on the dance floor until the music stopped, and then he would often organize a group to go out and find a spot to continue the dancing. Somehow he always seemed to be ready for the first paper of the meeting the next day.

A true love for the natural world and its mysteries, leadership coupled with humbleness, a "can do" spirit and interest in seeing these combined and applied are the mark of someone who cares and makes a difference. These are the hallmarks of Mike's efforts for NSA, Virginia, shellfish culturists, and science. We can all be Mike's students in this regard.

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