A WALK ON THE PAGE

Looking Back on Four Decades of *Coastwatch*

In some form or another, *Coastwatch* has been in existence since 1974 — 43 years.

It started out as a four-page, monthly newsletter, renamed *Coastwatch* in 1979. In mid-1991, *Coastwatch* became a two-color magazine with a cover. Color inside was slowly added until the publication became full color with the Autumn 2004 issue.

Here, we look at past stories as the newsletter transformed into the publication it is today. Voices speak out to us from the pages. Shared experiences are new again.

Some things never change — invasive species, hurricanes and managing coastal resources always will be hot topics. And the fishing world constantly adds new technology, although what was cutting edge in the mid-1980s might seem simplistic today.

We developed this album of sorts to share what we found on our walk down memory lane.

In our Spring 2017 issue, we'll look ahead as well as back at the North Carolina Sea Grant program, hearing from former staff, partners and researchers. Also, look for an article from Vanda Lewis, Sea Grant food blogger, with recipes from earlier issues of *Coastwatch*.

Do you have a favorite *Coastwatch* article? Or can you recall a significant interaction with our program? Please send your stories to *eching_lee@ncsu.edu*. We want to hear from you. — E.L.

Coastwatch has changed over the years.

1. *Front page of the first newsletter, May 1974.*
2. *First issue with the new name,* Coastwatch, *March 1979.*
3. *The magazine got a cover in the early 1990s.*
4. *Then color was introduced, cover May/June 1992.*
5. *New elements continued to be added, cover High Season 2005.*
6. *The look continues to evolve, cover Summer 2016.*


March
COASTWATCH
UNC Sea Grant College Program 105 1911 Building NCSU Raleigh, N.C. 27650
The 200-mile limit: slowly but surely taking hold
It's been about two years since the Fishery Conservation and Management Act (FCMA) went into effect. In that time, the concept of 200 mile fishery conservation zones has become an accepted international standard. In the United States (US), the act's major effects have been two-fold:
—Foreign fishing within 200 miles of US shores has decreased by 27 percent, according to John M. Murphy, chairman of the House Merchant Marine and Fisheries Committee. In fact, on the East Coast, foreign vessels have taken catches well below their allocations.
—Domestic fishing, according to Representative Murphy, has increased by 8 percent. Observers say the increase in domestic fishing will be gradual because some of the fisheries must rebuild.
But fewer than 10 of the more than 70 fishery management plans being developed by the eight regional management councils around the country have actually been implemented. As those plans go into effect, domestic fishermen are coming under regulations ranging from mandatory catch reporting to gear restrictions. (Preliminary management plans were drawn up to exclude or reduce foreign fishing in jeopardized fisheries.)
The plans, which are drawn up to manage fishery resources for individual species, affect recreational as well as commercial fishermen. Seven plans are being drafted by the South Atlantic Fishery Management Council, which has jurisdiction from North Carolina to the east coast of Florida. "Most of them are really going to affect recreational fishermen," says Ed McCoy, of the North Carolina Division of Marine Fisheries and a member of the South Atlantic council.
Many fishery resources are at or near full exploitation, according to Ernie Premetz, executive director of the South Atlantic Fishery Management Council. The stocks for which there is most concern are billfish, swordfish and some species in the snapper-grouper and mackerel complexes. Those fisheries are primarily recreational.
With the exception of the billfish fishery, there has been little foreign ac-
Hey look at us. We're still the Sea Grant College newsletter, but we've made a few improvements. We've given ourselves a name, Coastwatch, which says in a nutshell what we're all about. We've redesigned the newsletter to make it more readable and attractive. And we've added a new section "The Back Page" which will keep you informed of progress in Sea Grant research, marine education, recreation, advisory services and publications. We hope you'll approve. Be sure to let us know what you think of our new format.
We'd like to thank those of you who responded to the survey we sent out (one out of five readers was randomly chosen to receive it). Many of your suggestions are incorporated in the changes you see here.
Sport fishing off Morehead City, North
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UNC Sea Grant May/June 1991
Revisiting The Lower Cape Fear
INCLUDING
Wilmington's Bright Future.
PLUS
Beaches With Character.
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Coastwatch
NORTH CAROLINA SEA GRANT • HIGH SEASON 2005 • $3.75
5
AQUARIUM ATTRACTIO
HURRICANE FRAN • SEA TURTLES • DRINKING WATER • AMAZING PLANTS
6
Coastwatch
NORTH CAROLINA SEA GRANT • SUMMER • 2016 • ISSUE 3 • $3.75
COMMUNITY COLLABORATIONS:
BRIDGING COASTAL ECONOMIES AND ECOSYSTEMS
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North Carolina Sea Grant Staff: This early *Coastwatch* issue introduced readers to the Marine Advisory Service, now known as our extension staff, and the communications team. What we do hasn't changed.

1. *These marine advisers make Sea Grant more than research.*

They're extension agents who translate scientific and technical information into layman's terms. Then they make sure that information gets put to use.

From "Meet the Crew," November/December 1986.

2. *As Sea Grant's communicators, information is our job.*

We're liaisons between coastal North Carolina and you — tourists, fishermen, scientists, businessmen. Our main goal is to give you a better understanding of the marsh where you dig for clams, the dunes you cross on your way to the beach, and even the seafood you eat.

From "Bringing you Information," November/December 1986.

Aquaculture: Sea Grant has been involved in aquaculture since the 1970s. It started with hybrid striped bass.

3. *Already North Carolina has a flourishing aquaculture industry…. But Sea Grant researchers think there is an even more promising culture candidate. The striped bass hybrid offers culturists a hardy, fast-growing culture species.*

From "Aquaculture," June/July 1985.

4. *They call it squeezin' season.*

Every spring Sea Grant Associate Director Ron Hodson and North Carolina State University zoologist Craig Sullivan become midwives, directing the birth of thousands of hybrid striped bass fingerlings.

From "Secrets of Striper Spawning" by C.R. Edgerton, July/August 1991.

5. And the fish still are spawned in Aurora, where it all started.

Sea Grant also has had other aquaculture efforts, including:

6. Soft-shell crabs, September 1980.

7. Clams, Winter 2001.

8. Southern flounder, Winter 2003.

9. Black sea bass, Early Summer 2003.

And, of course, oysters.

10. *If you develop it — and if you seed it — perhaps they will come. That's what some University of North Carolina Wilmington scientists hope their research will do: Build the oyster aquaculture industry in North Carolina.*

Seed funding from North Carolina Sea Grant has jump-started two projects that could help the state achieve this goal.

From "Planting the Seeds for a Common Wealth" by E-Ching Lee, Autumn 2015.

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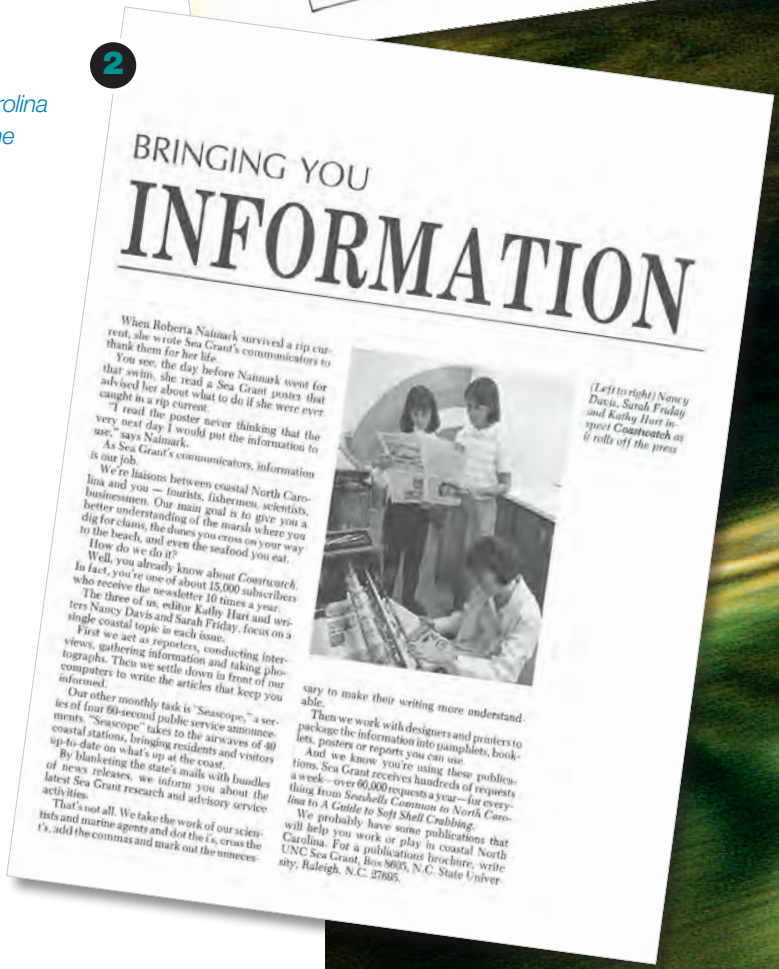

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Secrets of Striper Spawning
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BLACK
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PLANTING THE SEEDS
FOR A COMMON WEALTH

Invasive Plants: A quick scan of *Coastwatch's* pages shows that invasive plants such as European watermilfoil and *Hydrilla verticillata* have been taking root in North Carolina for decades.

1. *Since its arrival milfoil has snarled fishing lines, gummed boat motors, tipped sailboats and provoked quarrels between the bass sport fishermen who think the milfoil helps fishing and the residents and commercial fishermen who think milfoil is a pain in the neck.*

From "Creeping and Crawling on Currituck Sound: The Dilemma of Eurasian Watermilfoil," September 1976.

2. *A fast-growing Asian perennial aquatic plant,* Hydrilla *has spread across North Carolina — costing millions of dollars in control efforts. Because the state recognizes* Hydrilla verticillata *as a noxious aquatic weed, it is illegal to import, culture, transport and/or sell it here. Federal regulations ban importation to the country as a whole.*

From "Albemarle's Invader: *Hydrilla* Identified in the Sound" by Katie Mosher, Winter 2011.

3. Kathleen Angione writes about beach vitex in Spring 2006.

In Autumn 2010, Pam Smith lists crested floating heart, mile-a-minute-vine and cogongrass.

People We Met: *Coastwatch* also introduced us to extraordinary individuals with compelling stories to tell.

4. Carla Burgess met Haywood Graham and Floyd Pollock in Wilmington.

Ask them where television newsman David Brinkley used to live in Wilmington, and you might see their arms pointing in more directions than signs at an intersection. Consensus is not an issue at Pollock's Shoeshine.

From "Swapping Stories of Old Wilmington" by Carla Burgess, May/June 1991.

5. *When it comes to crab picking, Llewellyn "Miss Lue" Lewis is a master.*

Matriarch of the Luther Lewis & Son crab plant in Davis, she has taken many a novice under her wing.

"You learn by doing," says Miss Lue. At 83, she is a small, strong woman with a round face and smiling eyes.

From "A Lesson from Miss Lue" by Katie Mosher, July/August 1994.

6. Muzel Bryant was born in Ocracoke on March 12, 1904, and passed away at the age of 103 on Feb. 18, 2008.

Despite the astounding changes in technology, world politics and culture during her lifetime, Muzel takes things in stride. "Well," she admits with her shrug, "there have been a lot of changes."

From "Celebrating a Century: The Life of Muzel Bryant" by Kathleen Angione, Autumn 2004.

What's Old is New Again: Some topics never grow old, such as:

7. Algal blooms and human health.

The blooms are affecting the biological makeup of the river, and may ultimately affect what goes on downstream in the estuary — the estuaries that support our fisheries.

From October 1983.

8. Recreational fishing.

Although anglers have no trouble catching king mackerel and spotted trout today, tomorrow may be a different story.

From "Fishing for ways to improve catches," March 1985.

9. Charismatic megafauna, such as sharks.

The sounds, estuaries and ocean waters in and around North Carolina provide a variety of habitats for water-dwelling species, including an abundance of sharks.

From "Sharks of North Carolina" by Chuck Bangley, Spring 2014.

10. Coastal economies and traditions, as seen through the eyes of coastal residents such as Mike Fulcher, owner of Clayton Fulcher Seafood Company in Atlantic.

"We are closing down," Fulcher says. "We are cleaning the equipment and selling it. I hate this, but we don't have enough fishermen."

From "Oral History: Documenting Down East Traditions" by Ann Green, High Season 2007.

Hurricanes: Coastal communities have weathered storms with Sea Grant by their side.

1. In 1977, this newsletter noted that the last hurricane to hit the coast was Donna in 1960.

But according to the National Weather Service, that pattern of good luck may be changing.

From "It's hurricane season again," June 1977.

2. Spencer Rogers, Sea Grant's coastal construction and erosion specialist, has been a key player in the program's response.

Rogers is an old hand at assessing building damage from hurricanes. He's surveyed the structural damage from every hurricane that has struck the East and Gulf coasts during the last 21 years.

From "After the Storm" by Kathy Hart, January/February 1997.

3. The magazine recalled how Hurricane Floyd destroyed Princeville in 1999.

There are no mementos of the Flood of '99 in the Odeh family's convenience store in the small Edgecombe County town of Princeville; no water marks, signs or inscriptions on the building to show how high the water climbed when the Tar River breached a dike and swirled into town.

From "After the Flood: Rebuilding and Retreating" by Jerry Allegood, Autumn 2009.

4. Sea Grant has gathered decision makers, scientists and coastal residents to learn from events such as Hurricane Irene.

5. And we've helped the state look to neighboring states for lessons, such as from Hurricane Katrina.

6. The disasters during 2016's Matthew quickly drew comparisons to previous storms.

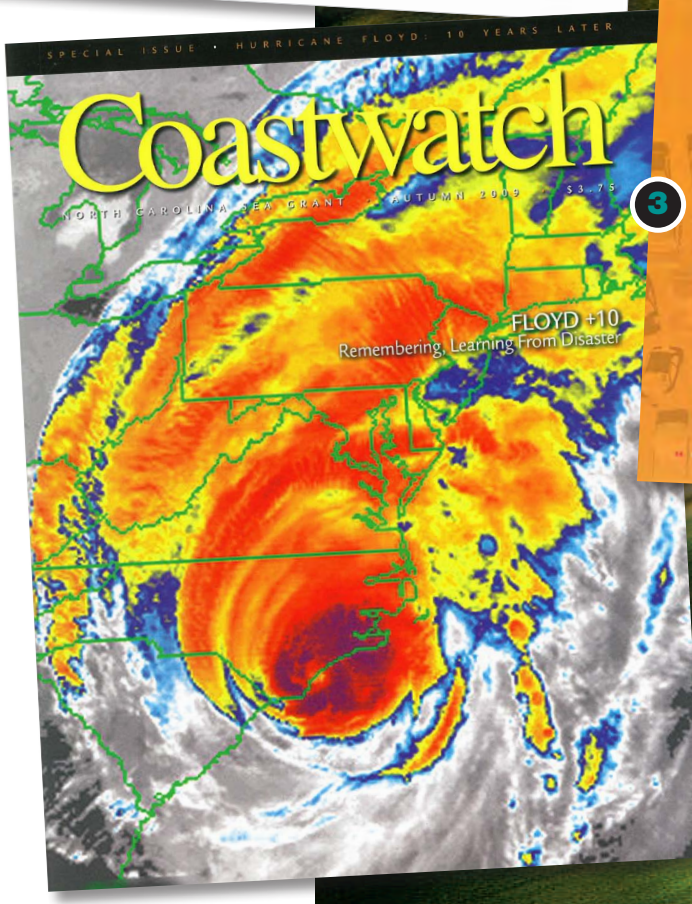
Eastern North Carolina knows by heart a lesson learned from Floyd's floods: Recovery is a long-term prospect. Residents, along with government officials and the state's Hurricane Matthew Recovery committee, expect a similar scenario moving into 2017.

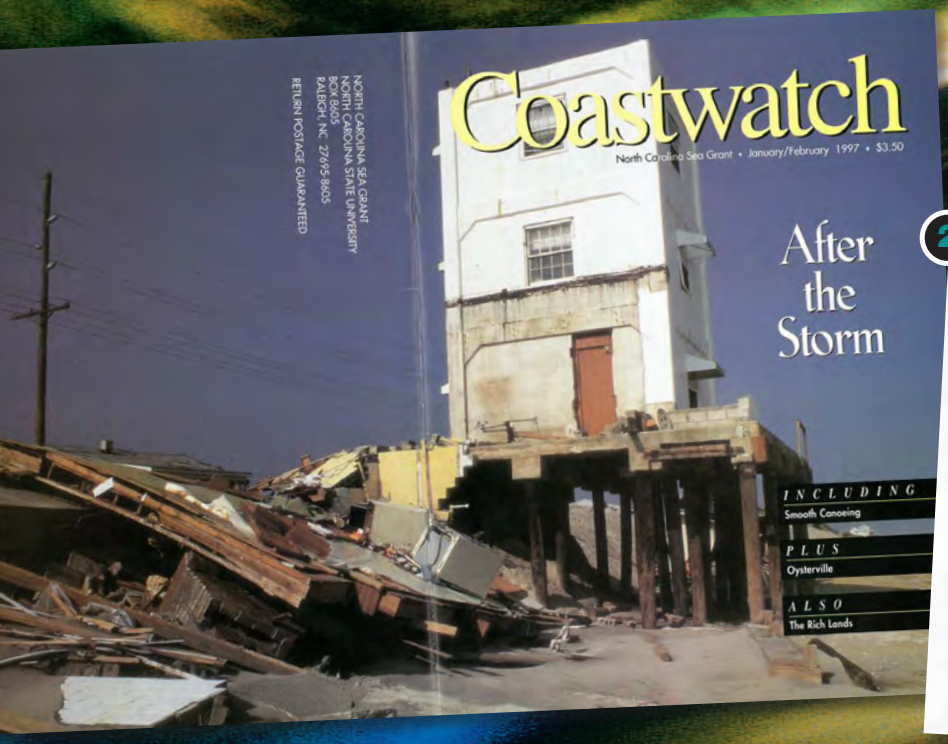
Sea Grant already has been working with several coastal communities to use tools and processes that consider the potential for increased flooding from storms, as well as other existing or anticipated conditions.

From "Matthew's Legacy: Water Falling and Rising" by Janna Sasser and Katie Mosher, Holiday 2016.

7. Matthew's floods affected many communities — such as Princeville and Kinston — that were hit hard by hurricanes Fran in 1996 and Floyd in 1999.

Turn to page 28 as we continue to follow Matthew's story.





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It's All in How It Was Built

Rogers is an old hand at assessing building damage from hurricanes. He's surveyed the structural damage from every hurricane that has struck the East and Gulf coasts during the last 21 years.

Fran, however, was the first big strike close to home. Sure, there were Diana, Emily and Bertha, but wind and wave conditions during these storms were light in comparison. Fran was a hurricane of a different category, packing winds, waves and a storm surge like the Tar Heel coast hadn't seen since the 1950s.

Wind gusts were clocked between 110 and 120 mph on the beach during the height of Fran's fury. But North Carolina's building code requires that barrier island structures withstand winds of 130 to 140 mph. Consequently, wind did not directly damage many buildings during Fran, especially those constructed in the last 20 years, Rogers says. However, trees felled by the strong winds did cause damage to buildings.

The most destructive force came in the storm surge. Along some areas of the southern barrier islands, the surge reached more than 12 feet above sea level — a height at or above the 100-year flood level.

The surge is also a key factor in erosion, which is affected by the duration of the storm. Fran's arrival on the heels of Bertha caused erosion at a level that occurs only once every hundred years.

"The worst building damage was caused by water levels, wave action and erosion," Rogers says.

Damage also depended on topography.

"If buildings were behind dunes big enough to prevent overwash and were properly elevated on pilings, then they fared better," Rogers says. "That's what happened at Wrightsville and Carolina beaches. The first-row (beachfront) houses took the brunt of the storm."

In areas with low dunes, the waves and surge knocked out the sandy humps and washed over the island. The hurricane deposited 2 to 3 feet of sand inland, and second- and third-row houses sustained considerable damage. The degree of damage in these areas depended on the elevation of the structure and depth of the foundation, Rogers says.

And in most cases, those structural elements were contingent upon when the building was constructed. Houses built before the 1960s fared the worst. Their foundations were often at or only slightly above ground level.

"On the beachfront, these houses were completely destroyed," Rogers says. "And even as far back as the fourth or fifth row, these houses had significant damage."

After the hurricanes of the 1950s, the N.C. Building Code Council adopted hurricane-resistant construction standards for barrier island buildings. Beginning in the

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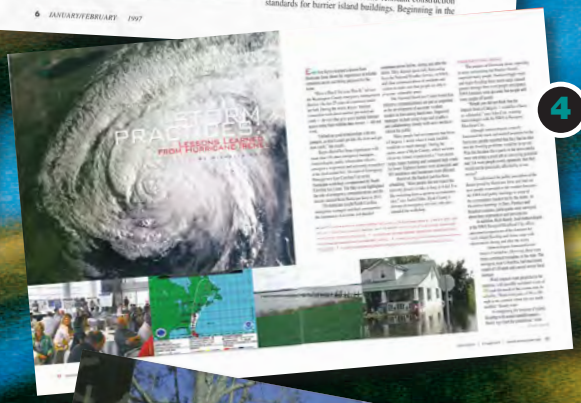

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AFTER THE FLOOD:
Rebuilding and Retreating

There are no mementoes of the Flood of '99 in the Olden family's convenience store in the small Edgecombe County town of Princeville, no water marks, signs or inscriptions on the building to show how high the water climbed when the Tar River breached a dike and swirled into town. There aren't even any photographs of the mustard stove or the soggy, jumbled mess left inside when the water receded.

"We try to forget it," says Nick Olden, who was 14 when flood water walloped the town. "You had to be here to see how horrible it was."

Like many communities across Eastern North Carolina, Princeville has moved on since the flood. New houses line the streets and residents conduct town business in a bright, roomy town hall built four years after the flood. Most of the three dozen businesses that were run out of town returned over time.

Visitors and newcomers riding through eastern North Carolina today might not readily realize that vast stretches of cities and towns were under several feet of water for weeks.

But the flood left an indelible mark on communities large and small. In some places, a federal-state buyout program — intended to keep people from rebuilding in areas that are likely to be flooded again — transformed neighborhoods into vacant lots and spacious parkland. Local officials beefed up building codes, requiring homes and other structures to be higher off the ground and stronger.

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