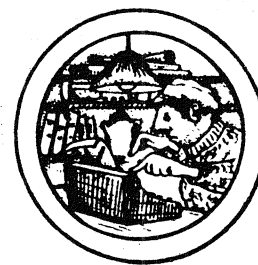


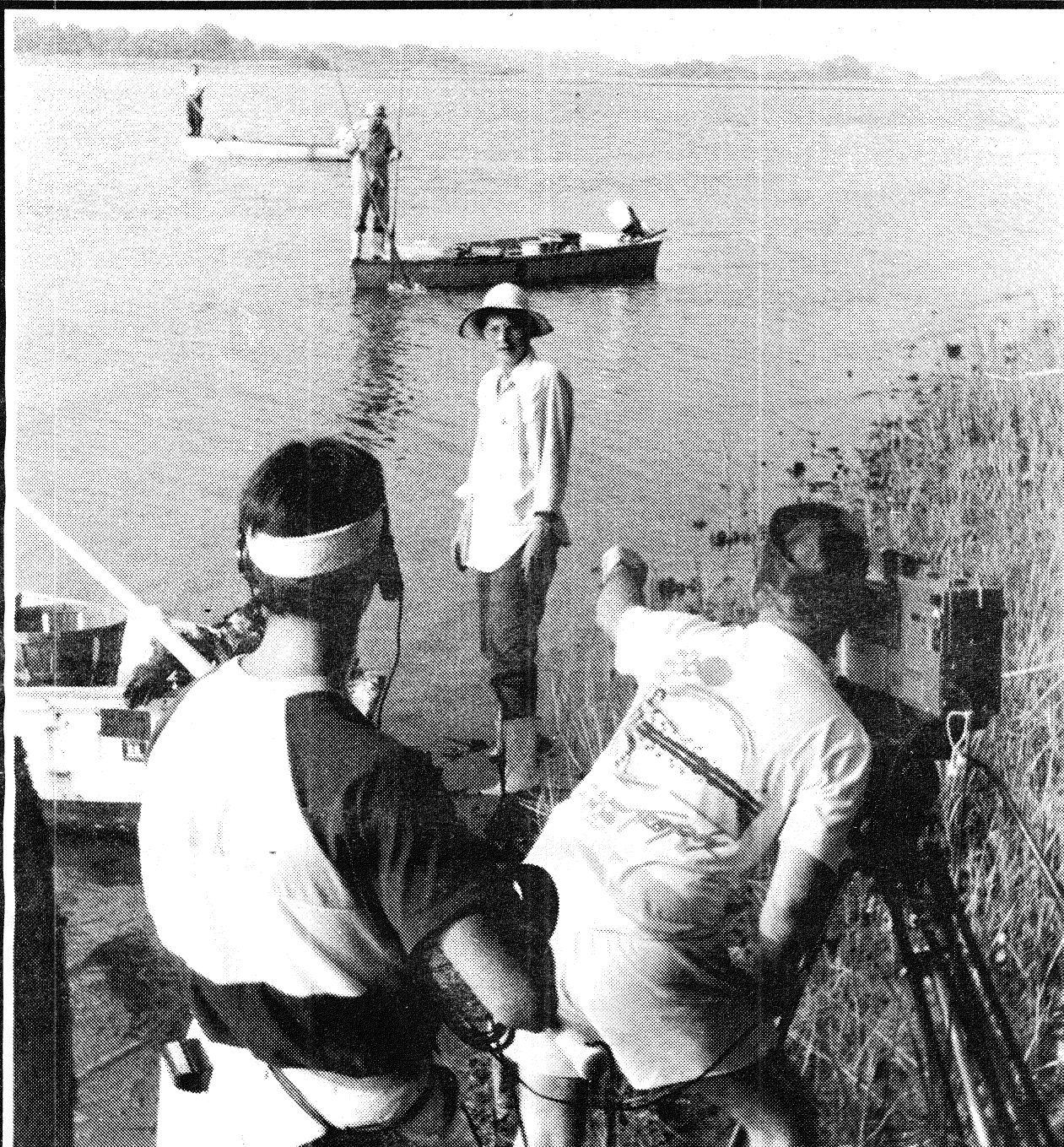
COASTAL REVIEW



Volume VI, No. 2 & 3, Summer/Fall 1988

NESLETTER OF THE N.C. COASTAL FEDERATION

PRICE - \$10.00 A YEAR



Filming A Public Service Announcement For the Coast

NC Coastal Federation, Inc.
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DOG DAYS OF SUMMER

A purple algae is spoiling many of beaches and clogging fish nets in southeastern North Carolina. Never before seen in such large quantities, the algae is too thick for even the army of trash collecting volunteers that will be marshalled by Beach Sweep 88 in September. Although its cause is unknown, many people are suspicious that the purple scum is linked to our abuse of the oceans. One reporter went as far as to recently refer to it as "ocean vomit."

Nationally, beach pollution is driving away some vacationers as national press reports of ocean pollution become an everyday occurrence. While North Carolina beaches are still crowded, from the eastern end of Long Island to the southern shore of New Jersey beach attendance has plummeted, rental-home cancellations are rising, boardwalk arcades are half empty and vacancy signs have sprouted at hotels usually booked solid through Labor Day.

While the nation looks on in horror at television pictures of dead or dying sealife, beaches littered with medical wastes, and storm drains discharging millions of gallons of untreated runoff into once pristine shellfish waters, pressures mount for a massive government clean-up effort. Meanwhile, coastal development is fueled by the fact that in the year 2000 seventy-five percent of the nation's population will live within an hour's drive of the coast. All one has to do is look at a map to deduce that high population levels result in ocean pollution.

Where does all this leave coastal North Carolina? With the region's population expected to double in the next 12 years, and with three of the four fastest growing counties in North Carolina on the coast, the safe bet is that our water quality problems will grow much worse. Already, North Carolina has written off the coastal waters around Carolina Beach and Wrightsville Beach as being too polluted to clean-up.

Meanwhile, we are not even protecting our few remaining pristine waters. We are allowing huge, high density land development projects right in the midst of some of our cleanest waters left on the coast while government commissions delay or reject potential new safeguards for those waters.

Confronted with state environmental leaders and commissions that are increasingly influenced by land development interests, state agencies are intimidated by the people they are suppose to regulate. Rules are crafted to accommodate development interests first and the environment second. While some progress has been made in protecting valuable coastal resources, these safeguards are too little to prevent the array of problems that will come with an exploding coastal population.

There are still many thousands of people that depend upon our coastal waters for their incomes. Many more people depend upon the coast for recreational opportunities. This potentially powerful constituency is just starting to wake up to the impacts of coastal pollution. They will have to become much more involved in decisions about what path coastal development will take in the future if North Carolina is to avoid falling into the same pollution predicament that our neighboring states now face.

WHAT CAN YOU DO?

Public participation in decisions about the future of coastal North Carolina is vital. If you want to get involved there is probably an organization in your area that is currently working for better protection of our coast. These groups work to draft of new regulations, comment on permit applications, and obtain better local planning and zoning. As a starting point, obtain a copy of the Coastal Federation's Citizen's Guide to Coastal Water Resource Management. But don't stop there, pick up the phone and call to find out what more you can do to help save what's left of our fragile coastal resources.

NCCF BULLETIN BOARD

NCCF ON DISPLAY AT NEW BERN SPRING ARTS SHOW

As part of an ongoing effort to increase awareness of the Coastal Federation and recruit members, NCCF participated in the April 30th Spring Arts Show in New Bern. Volunteers sold t-shirts, raffle tickets, and distributed bumper stickers and membership applications.

Thanks to Lauralyn Gans, Roger Mays, and Frank Rice for representing NCCF in New Bern. We plan to make this show an annual event.

NCCF BOARD HOSTS "SEAFOOD BRUNCH"

Over 125 patrons, sponsors, and special guests were treated to a seafood brunch on Sunday, June 19th. Tables set up on the Federation lawn offered guests a beautiful view of Bogue Sound while feasting on mainly seafood dishes. Gourmet crab cakes, clam fettucini, fish, boiled and fried shrimp, oysters, clam chowder, brining stew, and shrimp and oyster gumbo were just a few of the menu items. Pleasant temperatures and sunny skies allowed guests the opportunity for an afternoon of food and fellowship.

Special guests included U.S. Congressman Martin Lancaster from the Third District, Representative Robert Grady, Onslow and Carteret Counties, Paul

Starzynski, Onslow County Commissioner, Beth Hammond, Save the Bay, Andy Palmer, American Oceans Campaign, and Joe Kilpatrick, Z. Smith Reynolds Foundation.

A special thanks to all board members and other volunteers that helped make the day run smoothly!

SAVE OUR SHORE NETS \$700 FOR NCCF

BUCK d'BRUSH and players from HOLLA BAND, TERMINAL MOUSE AND BRO T, along with TINY & WHITEY & THE JUST SAY YES TO THE BLUES BAND joined forces on July 9th in Hillsborough to raise money for NCCF. Coordinating the event were Odie Kimball and Frances Ohalloran from BODY BILLBOARDS in Carrboro.

The 125 people in attendance were treated to some great music and the opportunity to support an NCCF event without making a trip to the coast!

Special thanks to all band members (PHIL CAMPBELL, DAVID ROSKIN, DAVID McCLOUD, RALPH DEMATI, TREY MARCHAND, BUCK PARKS, ED PARKS, DWIGHT LITTLE, PETER CASHWELL, WENDY SHADBURN, TOM REICHENBERGER, TERRY MOORE, AND CARY FLOYD), the folks at BODY BILLBOARDS, CATHY McCORD, JENNIE MILLER and all those who volunteered their time.

DILLON WINS JUNIPER SKIFF

And the winner was...Tom Dillon, a free-lance writer and coastal federation member from Winston-Salem, NC. Tom's name was drawn by the Coastal Cohorts at the June 18th performance of King Mackerel & The Blues Are Running.

In reaction to winning the 16 ft. skiff Dillon said the last big thing he remembered winning was a "bingo game" in the second grade. Since that time he has won dozens of prizes at events where there were "more prizes than people" to receive the prizes.

Tom is still agonizing over what to do with a wooden skiff in Winston-Salem. A federation member since early 1984, he loves the coast, but doesn't get to travel here often.

Congratulations on being the lucky winner, Tom and thanks to all of you who bought raffle tickets. NCCF cleared over \$1300 on this raffle!!

Better Early Than Late

Uhhh, Uhhh! Whoops! Five months and no quarterly newsletter.

To make it up to you, we are combining the summer and fall editions into one large special edition. This let's us bring you the fall edition one month early and gets us back on our publishing schedule.

Coastal Review

Newsletter of the North Carolina Coastal Federation
1832 J. Bell Lane (Ocean), Newport, NC 28570
Telephone (919) 393-8185

STAFF: Lena Ritter of Thomas Landing, President; Todd Miller of Ocean, Executive Director; Jim Kennedy of Broad Creek, Environmental Scientist; Donna Agnew of Emerald Isle, Development Director. Additional assistance received this quarter from: Sarah Hamilton, Morehead City; Graham Ritter, Thomas Landing; Steve Warner, Swansboro; Joe Moore, Bear, DL; Coastal Cohorts—Bland Simpson, Jim Wann and Don Dixon; Odie Kimball, Carrboro; Ralph Heath, Raleigh; John Costlow, Beaufort; Duke University Marine Laboratory, Beaufort; Helen Tatum, Holly Ridge; Keith & Carol Robinson, Sneads Ferry; Ed & Ann Rose, Sneads Ferry; Harold Morris, Newport; Ramona Morgan, Matthews; Barbara Bain, Swansboro; Lee Ferraro; Jeff Harrison, Carrboro; Joyce Broadway, Cape Carteret; Charlie Venable, Winston-Salem; Bob Hall, Durham; Jane Butler, Maritimes Magazine; Lockwood Phillips and Kim Moseley, This Week Magazine, Morehead City; and numerous other friends.

The NORTH CAROLINA COASTAL FEDERATION is a nonprofit, tax-exempt organization seeking to involve citizens in decisions about how coastal resources should be managed. Its aim is to share technical information and resources to better represent the present and long term economic, social and environmental interests of coastal North Carolina.

COASTAL REVIEW is published quarterly. A \$10.00 membership fee provides funds to publish the newsletter and to make special mailings about important coastal issues and events. Larger contributions are needed. All donations are tax-deductible.

SPECIAL THANKS to the Mary Reynolds Babcock Foundation; Z. Smith Reynolds Foundation; and the hundreds of private citizens that have provided generous financial support.

Pulp Mills Under Review by NCCF

By Deborah Van Dyken,
NCCF Research Associate

A review of five coastal pulp and paper mills' permits and pollution monitoring reports has been undertaken this summer by the Coastal Federation. The Federation is trying to determine if these mills are operating within their permitted pollution discharge levels and whether the state regulations governing these mills conform to federal law.

Three of the four North Carolina mills are up for permit renewal within the next six months. These plants include Weyerhaeuser (New Bern), Champion Paper (Halifax County), and Federal Paper Board (Riegelwood). Public hearings are also part of the permit renewal process, and the Coastal Federation plans to comment on each of these mills.

Two of the four North Carolina mills are also operating under Special Orders of Consent or SOC's. SOC's can be issued without public hearings by the state's Environmental Management Commission when a plant repeatedly fails to meet permitted pollution discharge standards. In a SOC, effluent pollution levels are often increased. Additionally, a series of steps and timetables for their implementation are outline such that a plant will eventually comply with its original permitted effluent pollution levels. The plants currently operating under SOC's include Weyerhaeuser (New Bern) and Federal Paper Board (Riegelwood).

Dioxin contamination by three North Carolina pulp and paper mills's effluents is currently being investigated by EPA. Dioxin is a powerful toxin and can be an accidental by-product of pulp and paper mill processes which use bleached kraft procedures.

High dioxin levels in sport and bottom-feeder fish have been found near a Champion plant's effluent outfall in western North Carolina. Subsequently, EPA has collected fish samples from the waters near the Weyerhaeuser plants (New Bern and Plymouth) and Federal Paper Board (Riegelwood). EPA will be testing the fish tissue for dioxin, and the results will be compiled by April 1989.

This summer, EPA is also working with North Carolina paper companies in testing the mills' effluent, pulp, and sludge for dioxin. Results will be available by early fall.

If dioxin is present in any of the mills' effluent, sludge, or pulp, the Coastal Federation will advocate the use of alternative technologies which reduce dioxin levels. The Federation will also propose regular dioxin monitoring.

A final report on the paper mills current status as to pollution levels, permit renewals, SOC's, and dioxin testing will be issued by the Coastal Federation later this year.

The North Carolina Coastal Federation

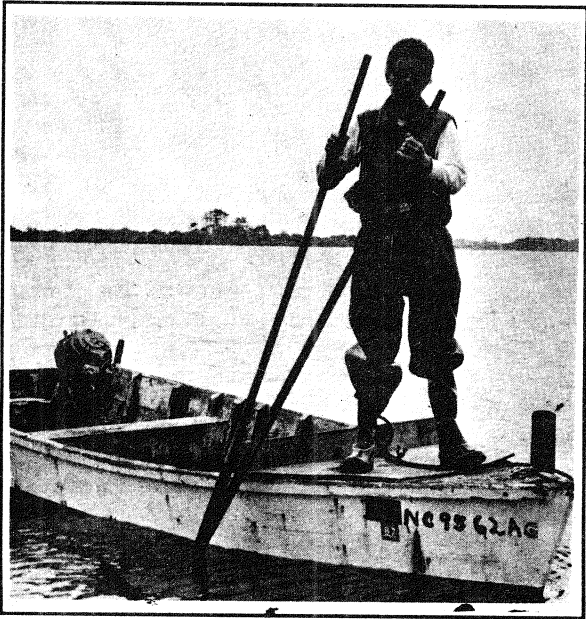
Serves Old Timers, Newcomers And Guests

Strengthened By Thousands Of Members

Who Represent The Coastal Interests:

Fishing, Farming, Tourism, Small Business

And Clean Industry.



Why Should I Join?

Because clean waters, good fishing, unspoiled beaches and healthy industries can't be taken for granted.

Because members speaking together are heard more clearly by public officials and decisions benefiting the few over the many are less likely to occur.

Because "the Coastal Federation helped us defeat a development on Permuda Island that would have polluted our oyster beds," says Lena Ritter of Stump Sound (pictured left).

Because pressures on our inviting coast are mounting: already a fourth of North Carolina's waters are closed to the taking of shellfish.

NCCF SERVICES INCLUDE

Information

- Members get newsletters and special mailings which alert them to public hearings, while explaining coastal laws, and exploring development issues.
- Members support and attend educational workshops, and enable NCCF personnel to offer technical advice to concerned citizens and public officials on critical issues.

Action

- When needed, NCCF calls members and the public out to public meetings via competerized mailings, telephone trees, and personal contacts, and lines up the necessary experts to testify, as well.
- NCCF assists members and organizations working to seek the enforcement of laws and regulations that protect coastal resources.

Take Your Stand, But Don't Stand Alone.

Join The North Carolina Coastal Federation

NCCF MEMBERSHIP FORM

☐ New Member
☐ Renewing Member

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

OCCUPATION/AFFILIATION _____

SPECIAL INTEREST AREA _____

I enclose my tax deductible dues payment of:

TYPE:	Annual Regular	Annual Sustaining	Annual Patron
INDIVIDUAL:	☐ \$10	☐ \$25	☐ \$100
ORGANIZATIONAL:	☐ \$25	☐ \$100	☐ \$200
CORPORATE:	☐ \$100	☐ \$200	☐ \$500
OTHER:	☐ _____	☐ _____	☐ _____

CLIP AND MAIL TO NC COASTAL FEDERATION, 1832 J. BELL LANE (OCEAN), NEWPORT, N.C. 28570

Message From The President

By Lena Ritter

My first year as president of the Federation has been a learning and exciting experience. I took my first plane ride in October 1987 when Todd Miller, Jim Kennedy and I had our travel paid by EPA to represent the Coastal Federation in Providence, RI at a conference on managing our estuaries. I was asked to address the conference and we all participated in workshops designed to establish an agenda on what is needed to prevent and clean-up pollution along our bays, sounds and rivers. Then in March, the Interreligious Economic Crisis Organizing Network paid for me to fly to New York City to participate in a discussion of what citizens can do to protect their environment.

As President of Federation, I spoke briefly at a congressional breakfast in D.C. organized by Senator John Chafee in April. I was part of a program to present the book "Saving Our Bays, Sounds and Great Lakes" (recommendations put together at the Rhode Island conference).

I came on board as paid staff in Jan. 1, 1988. My duties cover a wide range of activities some of which are: guest speaker for various groups; working with commercial fishermen and citizens on various coastal management issues; and working with the press including broadcasters from Swedish National Television on July 4th weekend. I do anything that needs doing from clipping newspaper articles to floor sweeping, often working three weekends out of four. I've worn my telephone thin working out of my house; drive an average of about 1200 miles per month, and can be found leading researchers for national public television to Highway 17 at midnight.

A good portion of my time is spent trying to raise funds from our membership. Donna Agnew and I have been out trying to recruit new members and financial sponsors. This can be quite frustrating at times and rewarding at others. When we are not on the road, I help out in the office by getting volunteers, copying, making calls, and preparing mass mailings. It's generally an extremely hectic pace but awfully exciting and lots of fun.

I feel that progress is being made through our efforts. Whatever we do is a combined effort of the entire staff, our board of directors, and the numerous individuals and groups with which we work. A special word of appreciation to our board members for their help in making our organization successful. I'm very grateful to the spouses of our board and to the volunteers that have given freely of their time. Even though we have estimated that volunteers provided over 1,500 hours of service in the last six months, the demands on our time are escalating and continually overload the schedule of the Federation.

We are participating in the Seafood Festival in Morehead City



Patrons enjoyed a 100-foot long seafood spread hosted by the Federation's Board of Directors.

on the water front again this year. It will be run three days. We need volunteers to sell baked goods and clam chowder all three days (September 30, 1pm-6pm; October 1 and 2, 10am-6pm). We are asking for donated homemade baked goods to sell.

They need to be something that can be packaged and sold in individual portions (cookies, cakes, breads, etc.). The Federation also plans to have a booth for the first time at the Mullet Festival in Swansboro on October 8. We will need volunteers for that booth as well.

If you are concerned about the en-

vironment and natural resources and want to get involved, we can usually find something for you to do. Please call me at our office 919-393-8185 or at home at 919-329-8821.

As your president, I will work to make the Federation even stronger by never hesitating to hit issues head on and through constant efforts to keep our members alerted to what is happening to our coastal resources. Increasing our membership and citizen involvement are high on my list. I enjoy working with people and I will never hesitate to ask for help when we need it. I may be calling YOU very soon!

Smog and Coastal Resources

By Cynthia Blackwell
and Ted M. Miller

Does a day at the beach take your breath away?

Does contaminated atmosphere threaten tourism, sport and commercial fishing, and quality of life in coastal Carolina?

Washington Post Weekly Edition, July 18-24 issue contains an article, headlined, "Our Ozone Problems are Coming Back to Earth." It states that "ozone, the key ingredient of the smog shrouding East Coast cities at record levels this summer, causes short term breathing difficulties in lower concentrations than previously realized, and long term lung damage similar to the effects of cigarette smoking, scientific studies show."

Raleigh now has ozone levels that violate National Ambient Air Quality Standards. Atlanta, 350 air-miles, southwest of Raleigh, for the 1982-1986 period, logged 17, 19 and 20 percent increases in atmospheric total suspended particulate matter, nitrogen dioxide, and photochemical oxidant (ozone).

The Washington Post article refers to cities because most monitoring for total suspended particles, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone and lead, is in urban areas. Frequent smogs over eastern Carolina makes us

wonder if extensive atmospheric pollution is widespread and not confined to the cities.

It is not possible to assess air quality over eastern North Carolina because sufficient monitoring and analysis is lacking. Even so, there is the presumptive evidence of long term residents, who ask, "What happened to all those summer days, with good visibility and blue skies reflected on a sparkling ocean?" Aesthetics aside, there may be serious damage to the marine environment.

ACID RAIN! A solubilizer of minerals and acidifier of fresh water as it enters the estuaries. One effect is introduction of trace elements and imbalances in the natural fertilizers that grow the "pasture" (phytoplankton) upon which fish and shellfish ultimately depend. Another requirement for healthy growth of phytoplankton is normal daylight which may be threatened by smog and increased levels of UV radiation.

Increased monitoring and professional assessments are needed to determine if these dangers to the marine environment and to those who live or vacation here, are imagined or real.

Status of Our Wetlands

In October 1987, the National Wildlife Federation released the 46 page four-color publication, **Status Report on Our Nation's Wetlands**.

Status Report on Our Nation's Wetlands, prepared in conjunction with the NWF's Corporate Conservation Council's "Increasing Our Wetlands Resource" Conference explains what wetlands are and where they occur, the functions and values they provide, recent trends in national and regional wetland acreage, some of the leading causes of wetland destruction, and what is necessary to stop, and perhaps reverse this trend.

The publication is available at a unit cost of \$4, which includes shipping and handling. To order, request NWF Stock Item No. 79955, enclose a \$4 check payable to the "National Wildlife Federation" and mail to:

National Wildlife Federation
1412 16th Street, NW
Washington, DC 20036

Increasing Our Wetlands

The National Wildlife Federation's Corporate Conservation Council announces the availability of **Proceedings of a Conference—Increasing Our Wetland Resources**. The 364-page soft bound **Proceedings** is the product of a 3-day international conference on wetland restoration and creation held October 4-7, 1987 in Washington, D.C. The conference brought together wetland professionals and policymakers to show firsthand their authoritative expertise in wetland creation and restoration.

The **Proceedings** contains 60 papers authored by engineers, scientists, agency and government officials, conservation leaders, and corporate executives on a wide range of issues concerning wetland restoration and creation. Among the many topics discussed are (1) wetlands loss in the United States and worldwide, (2) case histories examining current wetlands management, (3) the practicality of creating and restoring wetlands, (4) how to generate local, governmental, organizational and financial support for wetlands restoration and creation projects, (5) legislative, public and private actions which can be pursued to encourage the rebuilding of our diminished and degraded wetlands inventory, and (6) needs of the future.

The **Proceedings** is an important source document for the professional wetland scientist as well as the private citizen interested in the policy and science of wetland restoration and creation.

The publication is available at a unit cost of \$25, including postage and handling. To order, send a \$25 check payable to "CCC Wetland Proceedings," and mail to:

Barbara Hass, Director, Corporate Conservation Council—Proceedings
National Wildlife Federation, 1412 16th Street NW, Washington, D.C. 20036.

Oysters

Just what are these critters, anyway?

(Reprinted from the Eastern Weekly, May 18, 1988.)

What is an oyster? This strange critter that has been around for millions of years and which people love to eat?

For all but two weeks of its life, an oyster remains fastened to one spot. During the two weeks as oyster eggs, about 95 percent are gobbled up by other things, and the remaining 5 percent find a home, fasten on it and grow.

An oyster can live 30 years. They go back longer on this planet than we do. Oyster fossils have been estimated to be 190 million years old.

The thing about an oyster that makes it so good is, nothing else tastes like it. Goopy and salty, when taken raw, they are rich in vitamins and minerals.

Carteret County is waiting for its oysters to recuperate from the Red Tide disaster. The little one-celled algae plant that choked them out with its toxin. Now that the red tide has finally gone, scientists are watching for the oysters to cleanse themselves out.

Though oysters don't swim around—like the fish never bothered by red tide—they still have amazing digestive systems; and they also change sexes. But Mexican food doesn't bother an oyster at all. But that algae, and pollution, do.

The oyster has a heart. It has a beat range of from 6 to 50 beats a minute. The human heartbeat, at the aver-

age level, is about 80 beats a minute. No question we live in a faster lane.

Maybe too fast; at least as far as oysters are concerned. They get less year after year. The once famous Chesapeake Bay oysters have dwindled down to about 30 percent of what was harvested there 20 years ago. Pollution and overharvesting are blamed as the culprits.

Oysters thrive on phytoplankton, eating with a mouth and getting rid of waste through a rectum. To keep itself safe from a number of oyster shuckers in the sea, the oyster has an abductor muscle that can withstand 30 pounds of pressure. When an oyster "feels" vibrations in the water, it slams the old shells shut.

When the water temperature goes up in the warmer months, the male secretes sperm that fertilizes eggs from the shells of the females. At different times, males do become females.

Once fertilized, the tiny larvae have about two weeks to find root. While about the size of a pinhead, the larvae use a tiny "foot" to find their way to a firm place. When it does, it secretes a concrete-like substance to stick to the place, and it is then known as spat. The origin of the term spat is anybody's guess.

The American oyster, one of about 400 species in the world, can grow to 10 or 12 inches long. They grow fast during the first few years. In their first few weeks they

will increase in size about 30 times.

The Indians of the Carolina Coast used to call off their various wars in the Fall so they could go oyster-ing, using tongs much like those still used by some people today. Manteo, the friend to the Roanoke colonists, probably introduced them to their first oysters.

ARE THEY GOING EXTINCT?

Some biologists and certainly oyster fishers wonder if the oyster will survive at all. Vast oysters have been scraped clean. Ellis Island in New York Harbor was once known as Oyster Island. There's not an oyster to be found there now.

Then diseases like the still unexplained MSX which

kills oysters and has hit the Chesapeake Bay area particularly hard in the last few years, is debilitating their numbers.

This disease, along with overfishing and man's pollution—primarily runoff bacteria and chemicals from the land—may spell doom for the delectable oyster the ancient Romans and Greeks enjoyed.

By some accounts, these three factors have reduced oysters in Virginia and Maryland now to almost commercial extinction.

In May, 1703, a "middle-sized man, about 40, of a brown complexion, a hooked nose, wearing a wig and has a large mole near his mouth"

was placed in the stocks pillory in London. He was a troublemaker and his crime was seditious libel.

He wrote a poem while he was held this way, called Hymn to the Pillory, which he sold to the crowd, and they apparently loved, or so history tells us. Twenty-five years later, this man wrote Robinson Crusoe and Moll Flanders, and today we know these works by Daniel Defoe as classics.

Besides having been a Dissenter in his day, Defoe also had laid tile, was a brick maker, was a beer salesman, a wine seller, a tobacco salesman, and also an oyster salesman. Oysters are described in detail in both his famous novels.

NCCF to Blanket State with PSA

A public service announcement about the Coastal Federation should hit the air waves all across the state by mid-August. This 30 second spot will feature NCCF president Lena Ritter and background music by Jim Wann from **King Mackerel and the Blues are Running**. Production of the PSA was completed by Lib Willard of the Public Affairs Group, Raleigh, NC.

The PSA is being distributed to TV stations across the state to be aired over the next 9-12 months. The aim of the PSA is to increase public awareness about what is happening to our coast and to attract new members to the Coastal Federation.

Many thanks to each of the following individuals who contributed to our PSA campaign. Additional contributions to this campaign would be greatly appreciated.

Richard B. Allen
John Baskerville, Jr.
Charles Billings
Betsy and Vic Briscoe
Dr. G.F. Brumback
Alan Burroughs
Center for Reflection
on the Second Law
Ran Coble and Jane
Kendall
Elizabeth Conner
Wm. J. Davenport
Rear Admiral J.W. Davis
Marsha Dees
Alton F. Dinsmore
Cliff Duke
Michael Durham
Wells Eddleman
Dave Edwards
Marcella H. Esterhay
Grace Evans
Steve and Patricia Floyd
Cecil Fry
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Fred Immermann
Charles Jenner
T.N. and Doris Jernigan
Sam Johnson
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Florence and Lunsford Long
Percy Luney
Lou Ann and Harmon
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Karl Munn
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Richard C. Nehring
Nolan H. Newton, Ph.D
Walt Norris
Ted Odell
Odie Kimball
Janice Odom and Jeff Bruton
Kenyon Ottaway
Nancy D. Pace
Dawn L. Parks
Minnie C. Pittman
Kenneth E. Price
Alberto Quayat
Bill Raney
Linwood Respass
Haskell Rhett
Bill and Bernice Rice
Frank Rice
J.K. Ritter
W.V. Roessler

Bill Rohe
Jeffrey L. Ross
Capt. R.H. Russell
Russell E. Sachs
Robert Saveland
Daniel Schaub
Harry and Elizabeth Schlimper
Winston Seale
Maurice Shepard
Sierra Club - NC Chapter
Sandy Smith
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Micheal H. Snyder
Allan Spader
Gene Spears
Barbara Spencer
Art and Rugh Stache
Mr. and Mrs. A.W. Stafford, Jr.
Paul Starzynski
Kay Stern
Tom Stern and Tema Okun
John Taggart
Betsy and Howard Talley
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Wade, Jr.
Bonnie Waldrop
E.T. Wall
Alan Walsh
Dean Weber
Timothy West
John E. Weyher, Jr.
James and Ann White
Mr. and Mrs. Emerson Willard
Leigh Winslow, Jr.
Anna Wittpenn
Barbara and Dillon Wood
James Wylie



An artist depicted this scene of a Cavewoman eating an oyster Oct. 4, in an 1879 Harper's Weekly

Texasgulf Cleanup Begins

The Environmental Management Commission on July 14 approved a schedule requiring Texasgulf, Inc. to reduce its one ton per day discharge of phosphorus to the Pamlico River by at least 90 percent and reduce its one and a half ton daily discharge of fluoride by at least 75 percent. Texasgulf agreed with this schedule which requires which requires full compliance with a new water pollution permit by 1992.

These large pollution reductions will help the Pamlico River which has been experiencing increasing fish diseases, fish kills, and eutrophication caused by deteriorating water quality. Texasgulf is the largest source of phosphorus and fluoride pollution to the river.

The new pollution control plan, based on recycling wastewater, is the result of a year-long series of meetings between the company and citizen groups. The Coastal Federation initially proposed the recycle concept. Paul Wilms, Director of the state Division of Environmental Management, recognized the idea had potential and presented it to Texasgulf. The company quickly agreed to study the concept. After several months of analyses and discussion among the company, state, and citizen groups, all sides became firmly committed to recycling the wastewater. The Pamlico-Tar River Foundation, N.C. Wildlife Federation, and N.C. Environmental Defense Fund, as well as the Coastal Federation, participated in these meetings.

At a public hearing on the the state's draft recycle permit, public interest groups and local residents generally supported the concept, but were dissatisfied with the draft permit. The Coastal Federation and N.C. Environmental Defense Fund jointly proposed alternative wording for the permit. After Texasgulf agreed with the changes, the state included them in the final permit.

As part of a new commitment to environmental protection, Texasgulf openly provided citizen groups with technical information about pollution sources inside the plant. According to Jim Kennedy, Environmental Scientist with the Coastal Federation, "This open exchange of information was a critical element in successfully developing the new permit and was a major change from previous practice by the company. With regard to this permit, the company has followed through on all its promises."

Fishermen on the Pamlico River remain concerned about the large amount of groundwater Texasgulf will continue to discharge to the saline waters of the Pamlico River with the recycle system. In comments at the public hearing, the Coastal Federation advised the company to begin looking for alternatives to discharging the freshwater as the discharge will be a major issue when the permit is renewed in five years.

Scoping Meeting Set For Texasgulf Mining Plan

A public scoping meeting to identify issues that should be considered in preparing an Environmental Impact Statement on the 20 year mining plan proposed by Texasgulf Chemicals Company is scheduled for September 1, 7:00 p.m., at Beaufort County Community College. Texasgulf proposes to mine property that was formerly held by North Carolina Phosphate Company. The companies proposed mining plan includes proceeding through the upper part of the open water creeks that flow into the western side of South Creek. The public is encouraged to attend. For more information, contact the Coastal Federation or the Pamlico-Tar River Foundation at 946-7211.



From its dusty phosphate pit in Beaufort County to its shiny new headquarters in Paris, Texasgulf's parent company, Elf Aquitaine makes management decisions that affect the health of the Pamlico River.

Coasts Aren't Ready For Hurricanes

CORAL GABLES, FLA.—A study has found that the death toll from a major hurricane could be far worse than previously predicted, the head of the National Hurricane Center said Tuesday at the opening of the 1988 Atlantic storm season.

Recently completed hurricane coastal flood models for the Atlantic and Gulf coasts show that many more people than earlier thought must be evacuated under certain conditions, said center director Bob Sheets.

Forty-three million people live in about 175 coastal counties from Maine to Texas, and evacuating crowded urban areas and barrier islands is virtually impossible, Sheets said.

There are not enough shelters to handle the added load and there are serious concerns how new glass-windowed high-rises would fare if lashed by hurricane-force winds during evacuations, he said.

During a hurricane that struck Houston, "glass was flying every-

where," said Sheets.

He refused to make predictions about the 1988 hurricane season, saying no one has convinced forecasters they can reliably predict the number and severity of storms.

A typical Atlantic hurricane season, from June 1 to Nov. 30, has 10 named tropical storms with rain and maximum sustained wind exceeding 39 mph, six of which become hurricanes with drenching rain and wind over 74 mph, Case said.

In 1987 there were only three hurricanes and four tropical storms in the Atlantic.

Hurricane Emily slammed into the Dominican Republic on Sept. 22, causing three deaths with wind gusts up to 110 mph. It recovered enough punch to belt Bermuda with 116 mph wind three days later.

Hurricane Arlene meandered through the Atlantic in mid-August with top wind of 75 mph. Hurricane Floyd hit Key West with a 75 mph wind but fizzled out over the Everglades and Miami in mid-October.

NCCF Summer Intern Brings Her Own Funds

The Coastal Federation received an offer too good to be true this summer when it obtained the full-time services of a Duke graduate student for free.

Deborah Van Dyken, a graduate of the School of Forestry and Environmental Studies at Duke, is working for two months this summer evaluating pulp and paper factory permits in the coastal zone. She obtained her funding for the internship through a special program offered by Duke.

Before going to work for NCCF, Deborah has worked for the NC Department of Natural Resources and

Community Development as a Duke Fellow looking at bacterial indicators of fecal contamination in surface waters. She has also worked as a tutor at Sheperd College and as a lab assistant for the National Park Service. Before returning to school in 1982, she sold real estate in Washington, DC.

The Federation is pleased to provide the opportunity for students to work with us on environmental issues. We would encourage other students to follow Deborah's example of finding their own funding to enable them to contribute to the work of the Federation.

Rising Sea Level Threatens Fishing

Ensuring the continued survival of coastal wetlands should be made state policy even in the face of coastal erosion and a rise in sea level, scientists and legal experts agreed during a daylong workshop on rising sea level held earlier this month in Beaufort.

The May 11 gathering was the first held to discuss how the state's swamps and marshes could be threatened because of the continuing warming of the Earth.

According to presenters, sea level on North Carolina's coast is rising now just as it has for the past 10,000 years. This natural phenomenon had been of little concern until recently, when substantial investments in real estate for residences and agriculture were made near the shoreline in low-lying eastern North Carolina.

Now even the relatively moderate rate of rise is generating social and economic problems. As landowners seek to protect property from encroaching water, valuable coastal marshes, which naturally migrate landward, are prevented from moving and ultimately drown.

The problem will get worse, statistics indicate. The tide of development of coastal land is accelerating and the rate of sea level rise, because of atmospheric warming, is conservatively expected to double within two decades.

Workshop participants estimated that by the year 2025 marine animals such as mullet and blue crabs will be common in areas as far west as Greenville and Williamston.

Because eastern North Carolina is so flat, especially near Albemarle and Pamlico Sounds, even slight increases in sea level result in major horizontal movements of the shoreline. A one-foot rise in sea level can be expected to eat away 100 feet or more of oceanfront in some areas along the coast.

However, many factors, including vegetative cover and exposure to prevailing winds, will govern the rate of movement of the shoreline on any given site.

The warming of the Earth, a process known as the greenhouse effect, happens as increasing concentration of gases, such as carbon dioxide, methane and chloro-fluorocarbons, into the atmosphere. Those gases, like the glass in a greenhouse, allow energy from the sun to come to Earth, but trap some of the heat that would otherwise radiate back into space.

Scientists believe this trapped energy throws the planet's climate out of balance, causing changes in rainfall patterns, glacial melting and a more rapid rise in sea level.

Conferees' Findings

Geologists, biologists and legal experts at the Workshop on Sea Level Rise and Estuarine Resource Management in North Carolina issued the following mutually agreed upon

findings, which illustrate the problem and point toward solutions:

- The present relatively moderate sea level rise along the North Carolina coast is conservatively projected to result in increase of one to three inches by the year 2000, and two to six inches by the year 2025. Increased "greenhouse effect" is expected to increase melting of polar ice caps, generating a sea level rise of three feet by 2100.

- In North Carolina, unrestricted estuarine boundaries are conservatively projected to migrate horizontally as much as a mile by 2000, only 12 years from now, from two to five miles by the year 2025 and up to 40 miles by 2100.

- Ditch drainage to support agriculture and timber production will become impossible without pumping water from thousands of currently managed acres. Pumping will become necessary on additional thousands of acres of property that are naturally drained now. Hundreds of miles of dikes would be required to prevent salt water intrusion and flooding of much land presently farmed.

- Thousands of residences will, if not protected by reinforced shoreline, fall in, or will become completely surrounded by water.

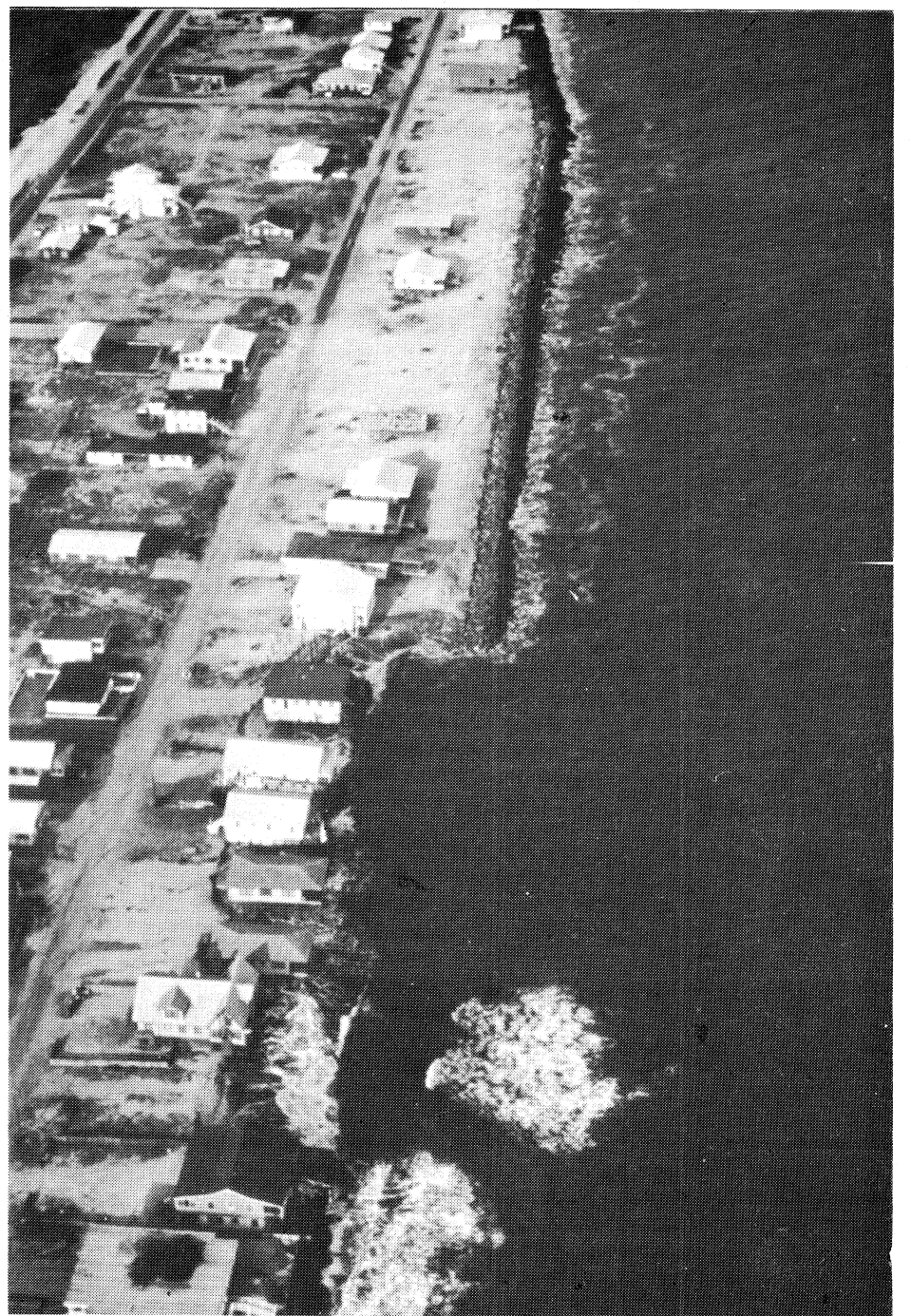
- Estuarine marshes and other coastal wetlands will, if unrestricted, migrate naturally landward. As flooding proceeds landward, relative potential for estuarine habitat will decrease. This would be most obvious when flooding reaches the "Suffolk Scarp" formation, where higher ground is located. Physical forces of nature, such as wave action, will abrade and prohibit the growth of marsh grasses.

- Failure to artificially fix the shoreline will result in large loss of private property values. On the other hand, artificially fixing the shoreline will result in large loss of estuarine habitat and fishery resources. Although both losses are undesirable, conferees agreed that the top priority for government planning should be the protection of estuarine areas. While houses can be moved or rebuilt, loss of estuarine ecosystems would be irreversible.

- Acceptance of a migrating shoreline is required in both public policy and private attitude to preserve irreplaceable estuarine values. This acceptance would not have to deviate from currently followed legal principle in North Carolina.

- Set back standards, long-term land use plans, density control, preservation of buffer vegetation, designing structures so they can be moved, and tighter restrictions on bulkheads are required to prevent the loss of invaluable estuarine resources.

- A good first step in the area of policy development is that govern-



ment entities should adopt management policies for their own lands that preserve wetlands by allowing them to migrate. The Coastal Area management Act definition for Areas of Environmental Concern (AEC) should be revised for estuarine shorelines based on a vegetation and topography standard.

Also, the scientists recommended that state government, in conjunction with local governments, must decide which areas should be artificially protected and which areas should be allowed to erode and flood naturally.

Since a large portion of eastern North Carolina (the Albemarle-Pamlico Peninsula) is populated at low density level, it provides and excellent location for unprotected shoreline changes.

Certainly, the conferees concluded, some developed areas should be allowed to be protected, whereas some natural, undeveloped areas should not be protected.

The workshop was sponsored by the National Marine Fisheries Service Beaufort Laboratory, the N.C. Coastal Federation, N.C. Wildlife Federation, Duke University Marine Laboratory, UNC Institute of Marine Sciences, Carteret County Wildlife Club, and the state divisions of Marine Fisheries, Coastal Management and Environmental Management.

Invited experts were Mark Brinson, William Kirby-Smith, Dan McLawhorn, Preston Pate, Orrin Pilkey, William Raney, and James Titus.

"WISH LIST"

The following items (new or used) are needed in the Coastal Federation's office:

Filing cabinets
Computer table
Slide projector

Office Desk and Chairs
Typewriter table
FORTRAN compiler

Desktop publishing system - hardware and software

ALL DONATIONS ARE TAX-DEDUCTIBLE! Please contact Donna Agnew at the Federation office if you are interested in making donations.

NCCF Press Tour Shows Coastal Problems

By Frank Tursi
(Reprinted from Winston-Salem
Journal, May 1, 1988.)

The bus passed another row of wooden houses perched on stilts, another stretch of shops whose signs proclaimed the sale of Copper-toned and flounder rigs.

It was Thursday, so according to the schedule, that must have been Avon. Or was it Frisco? Maybe Buxton?

I was beginning to feel like a weary traveler on an American tour of Europe who had just been to 10 cities in seven days. The inside of the Trailways bus was looking too familiar; the cushioned seat was beginning to feel like home.

For three days last week, the bus was a constant companion to about 30 other people—sundry journalists, an assortment of state and federal officials, some conservationists, and a few university professors.

We started in Beaufort and ended there, after moving up the Outer Banks and winding down the mainland side of Pamlico Sound.

The media tour, as it was called, was the doing of the N.C. Coastal Federation, an environmental group in Newport. The purpose was to give us journalists a sampling of some of the environmental problems facing the coast.

We walked through green fields of winter wheat and toured a tree farm and a phosphate mine. We spoke with coastal residents about high taxes and high rises. And various experts talked with us about our imperiled wetlands and rivers, about erosion eating away at our beaches and about developers chewing up what remained.

The trip left behind a pad full of notes and some fleeting images. They are no more than snapshots, really, mere glimpses of life from the seat of a bus.

BLANCHE HOWARD Joliff was raking leaves in her small yard on East Howard Street on Ocracoke Island when the horde from the bus approached. It was led by Alton M. Ballance, an Ocracoke native and a Hyde County Commissioner.

Ballance had told us that rising property taxes were putting a terrible squeeze on the island's 700 full-time residents. After the county's property revaluation last year, taxes on Ocracoke increased 300 percent, Ballance said. For the rest of the county, which is 25 miles away across Pamlico Sound, the increase was on the order of 30 percent.

Property on Ocracoke is considered more valuable than the farms on the mainland because developers of condominiums, motels and such apparently are willing to pay what most of us consider big money for small lots. As the ferry, the Silver Lake, approached the Ocracoke harbor, Ballance had pointed to a modest wooden house facing the sound. The house and three acres sold for

\$150,000 two years ago, he had said. The owner has it up for sale now. The asking price: \$1.5 million.

So Mrs. Joliff tried to explain the effects of soaring prices on Ocracoke's full-time residents. Most are retired, have lived here all their lives, and have no desire to build condominiums, motels and such. Her tax bill last year was \$768, she said. She got her new bill not too long ago. It's \$1,649.39.

She stood on the other side of the wooden fence that separates her yard from the sandy road. Dressed in a red plaid shirt and blue pants and wearing work gloves, Mrs. Joliff stood among the budding snapdragons and looked somewhat bewildered as the horde scribbled in their notebooks or stuck microphones in her face.

Her people have been on the island since 1759, she said. She pointed to the thick woods that surround her house. Most of them are buried among those live oaks, she said. "I don't think the tax law is fair to the people who want to hold on to their land," she said. "A lot of us are retired, and it's a great concern to all of us. I never thought the time would come when people here couldn't live in peace."

If it were on the mainland, Mrs. Joliff's house, for tax purposes, would be worth about \$50,000, Ballance explained, and not \$200,000.

"Our island is being redeveloped," he said aboard the bus as we waited for the ferry to shuttle us onward. "That is as much the essence of the problem here as anything—the gradual transformation of an old fishing village."

NO ONE was teeing off in Buxton Woods. Carolyn Johnson considered that a victory.

She is president of the Friends of Hatteras Island, a conservation group that formed two years ago to save Buxton Woods.

The Woods, as it's called locally, stretches for about 3,000 acres along the southern end of Hatteras Island. It is the largest remaining maritime forest in North Carolina, and, more important, the water found just below the ground serves as the drinking supply for everyone from Hatteras to Avon.

A few years ago, someone wanted to build houses and a golf course almost in the middle of the Woods. Mrs. Johnson's group led the opposition, and the plan wilted. The state ended up buying 150 acres in the woods. "That particular problem worked out," Mrs. Johnson said as the bus bounced up N.C. 12. The woods were on either side. Houses and shops have cut holes in its dense tangle.

"As you can see," Mrs. Johnson continued, "Buxton Woods faces many other pressures."

But at least a golf cart didn't whine by to disturb the egret that was patiently stalking the grass at the pond's edge.



Linda Shore, noon anchor for WITN-TV in Washington, talks with Wayne Hauser official during Federation press tour.

Marci Lyons, a naturalist with the U.S. Park Service, led us through a section of Buxton Woods at the Cape Hatteras National Seashore. The sun streaked through the sweet gum, dogwood and red maple trees that grow deep in the woods, away from the harsh salt spray. A hawk glided overhead.

"The biological diversity here is really pretty amazing," Ms. Lyons said.

The egret was finding lunch hard to come by as it stood motionless in a pond in Jennette Fedge, a 400-acre freshwater marsh in Buxton Woods. The egret seemed determined, until one of the horde's photographers, with cameras clanking around his neck, went rushing to the water's edge. A now hungry egret flew away.

THE BUS WAS heading to a reception and dinner in our honor at the N.C. Aquarium on Roanoke Island. I was trying to decide if it was sacrilegious to attend a fish fry in an aquarium when Ran Carpenter sat next to me.

J. Randolph Carpenter is the vice president of marketing at Texasgulf Chemicals Co., which runs the huge phosphate mine and fertilizer plant along the Pamlico River. He was joining us for dinner this night.

Texasgulf, Carpenter said, would work diligently to meet the terms of the new discharge permit that the state was proposing. The permit would require that Texasgulf drastically reduce the tons of phosphorus and fluorides that it dumps into the river daily. A draft of the permit was released a couple of months ago, and a public hearing will be held next week.

"We've had good meetings with the state and with the environmental groups," Carpenter said. "Everybody's working together. We think this is a way we can demonstrate our commitment to being a good corporate citizen."

I tried not to frown, but I apparently wasn't successful.

"I'm sure it all sounds like a P guy," Carpenter said. "But maybe the public relations industry is changing the way it looks at the world. I want to save the Pamlico River for my children, too."

THE FLOUNDER was almost transparent and no more than half-inch long. Terry Sholar picked it from the net and held it out on the end of his pinky. Its back was starting to turn brown and two small black dots of eyes made the top of its head. "This is why that water is so important," Sholar told us as we stood on the banks of Far Creek, which flows out of Dare County into Pamlico Sound.

He is a sectional chief for the state Division of Marine Fisheries. Far Creek, he says, is one of the most important in the state. It's so important that the state bans trolling and dredging in the creek by classifying it as a Primary Nursery Area.

Those are shallow, secluded creeks and bays where most fish go to grow. About 78,000 acres have such designations, he said. "And Far Creek was one of the first to be classified," Sholar said.

One of the division's trollers seemed to prove that point by bringing back a net full of baby trout, menhaden, and small spot.

A white sign on a tree near the water announced that Far Creek is indeed a PNA and warns fishermen not to troll or dredge.

A yellow sign above it read "CLOSED AREA: Unlawful to Take Oysters and Clams." Sholar looked sheepish.

"Coliform bacteria," he said. "Unfortunately, that's not unusual. Most PNA's are closed to shellfishing."

North Carolina's Troubled Waters

By Cass Peterson
(Reprinted from the Washington Post, June 27, 1988.)

AURORA, N.C.—Crab pots are stacked high and boats bob at their moorings outside Etles Henries Jr.'s crab-processing house on the Pamlico River, whose glistening waters are renowned for the best commercial crabbing in North Carolina.

But the season is barely under way and already Henries has the look of a worried man. "The big problem is finding enough seafood," he said. "Last year was the worst year buying I ever had. Everything was dying, literally."

Something is amiss in the Albemarle-Pamlico Sound, where coastal rivers meet the sea behind North Carolina's Outer Banks. Last year it was a toxic brown tide, of a type never before seen in Carolina waters, that devastated the oyster and scallop harvest.

Before that, it was a puzzling fungal disease that etched holes in crabs' shells and left fish with gaping sores on their bodies. And every year, it's a spreading blight of algal blooms that rob the water of oxygen and create "dead areas" devoid of marine life.

Experts have a variety of explanations for the ills spreading through the sound's intricate system of inlets and bays: too much industrial effluent, too much sewage from burgeoning seaside developments, too much chemical and fertilizer runoff from inland farms and timber plantations.

Henries, walking slowly through a seafood plant that last year operated at less than one-third its usual capacity, has a simpler explanation. "People," he said. "People. That's where it comes from."

The Albemarle-Pamlico Sound has joined a growing roster of tidal ranges suffering the effects of overload as the nation's population moves inexorably toward the shore. The incessant rumble of construction trucks here underscores what marine specialists regard as a disastrous statistic: By the end of the decade, according to the U.S. Census Bureau, as many as three out of four Americans will live within 50 miles of a coastline.

The migration has already led to a clash of life styles between newcomers eager for ocean views and longtime residents resentful of overcrowding and tax hikes. Escalating property values have driven taxes up as much as 300 percent in Ocracoke, a village of 700 at the southern tip of the Cape Hatteras National Seashore, where much of the land has been in the same families since the 1700s.

"The older ones feel they're being pushed out," said Alton Ballance, the village's only elected official. "It's the Martha's Vineyardization of the coast."

In recent years, however, the confrontations between people have been overshadowed by a trend that scientists regard as more ominous. The fragile coastal environment itself has begun to rebel, in ways that are as hard to ignore as the beach houses springing from the sand.

"Last year we had eels, hogsuckers and crabs jumping out of the water and crawling up the bank," said Doug Rader, an environmental scientist who recently left his state job to work for the Environmental Defense Fund here. "They couldn't breathe in the water."

The phenomenon is known as "anoxia," a loss of oxygen in the water, and it stems from too much of a normally good thing.

The sound owes its productivity to the fresh water that flows into it from the mainland, carrying nutrients from decayed vegetation. When there are too many nutrients, however, the sound acts just like a freshly fertilized lawn: it greens up.

Microscopic algae grows lushly in waters rich in nitrogen and phosphorus, which are contained in sewage effluent and runoff from farms and lawns. The "blooms" spread across the water like a carpet, absorbing oxygen and shutting sunlight away from natural vegetation.

percent of the menhaden catch in some areas.

Then the brown tide came sailing in. Toxic algae blooms—known as red or brown tides—are common in some coastal areas, but not in North Carolina. Nonetheless, a particularly virulent strain wreaked havoc with the shellfish fishery and sickened some coastal residents last winter.

"It started in Bogue Bank, in southeast North Carolina," Rader said. "People started complaining about a yellow-orange, mustard-colored material in the water. They complained of respiratory problems, visual problems."

The tide turned out to be a variety common on the Gulf Coast that had never before been observed north of Florida. State officials say the infestation was a fluke, the result of an unusual ocean current that carried the organism up the coast.

But the state was forced to close more than 100 miles of shoreline in the middle of the oyster and scallop season, a severe financial blow to hundreds of watermen.

One of the victims was Lena Ritter, who became widely known as one of the state's leading coastal activists after winning a celebrated battle over a developer's plan to build a 382-condo development on a mile-long island near prime shellfish beds.

For a living, however, she and her husband plied the waters of the sound in a 16-foot skiff. The brown tide wiped them out. "It hurt a lot of people," she said. "It was the kind of



Reporters Cass Peterson from the Washington Post (front left) and Sallie Clotfelder from the Greensboro News and Record talk with Terry Sholar of the NC Division of Marine Fisheries overlooking South Creek during NCCF press tour. Also pictured are Allyn Powell (front right) of National Marine Fisheries Service, Melva Okun of WUNC Radio and Tom Mather of the News and Observer.

thing we were trying to keep from happening."

The incident also damaged the market for other North Carolina seafood products, even those unaffected by the brown tide, and left the state shaken. "It had a profound impact. We woke up and all of a sudden we were vulnerable," Rader said. "These systems have some capacity to absorb and buffer human impacts, but as the population goes up, the slack gets used up."

For the moment, the disease outbreak and toxic tide appear to have faded. When the algae dies and begins to decay, it absorbs even more oxygen, literally suffocating marine life.

Hardest hit are the coastal estuaries, where fresh water mingles with salt water in shallow basins and inlets. These are the nurseries of the sea, and the delicate mix of fresh and salt water is critical to the survival of shrimp, crabs, oysters and fish species that breed there.

Nutrient overload has damaged many of the most productive estuaries, experts say, but the near-in waters also face another threat: Their salinity balance has been disrupted by the elaborate drainage systems that have allowed row crops, tree plantations and condominium developments to sprout on swamp-land.

"You change the salt content, you change the production," said Terry Sholler of the state Marine Fisheries Department.

Fishermen say they have complained about the drainage problems for years, to no avail. "Farming's worth more to the state's economy, I guess," said Lena Ritter, a shellfisherman and president of the North Carolina Coastal Federation. "You just couldn't get anybody to listen."

But in the last few years, events have conspired to grab the state's attention.

First came an epidemic of fish disease. "It appears to have shown up out of nowhere in the 1980s," said Ed Noga of North Carolina State University's School of Medicine. "It

hit the menhaden [a bait fish] and the flounder first. Then we started seeing crabs with holes in their shells."

The disease appears worst in a stretch of the Pamlico River that receives phosphate- and fluorine-laced wastewater from Texasgulf, the world's largest open-pit phosphate mine. The coincidence makes the plant a prime suspect, but marine scientists say they still don't know what is triggering the disease, which has affected as much as 90 percent of the menhaden catch in some areas.

But developers are already eyeing sites on the mainland, and experts caution that even halting new residential construction will not solve the continuing problems of agricultural runoff and fresh-water drainage.

"To go back and try to reroute all the drainage in North Carolina would be a formidable task," Sholler said.

In some areas, farmers are installing special gates on drainage ditches to slow the runoff of nutrient-rich water. "We can't afford to fight each other here in Hyde County," said David O'Neal, who farms 200 acres near the Pamlico. "Farmer, fisherman, hunter—we got to work together."

Coastal residents hope the spirit of cooperation can be sustained, because they say it may take far more stringent measures to restore the sound to health.

"Everybody's contributed to it. Somebody washing cars in Raleigh-Durham or fertilizing the flowers," said Murray Flucher, owner of Southpoint Seafood Inc. in Ocracoke. "Ultimately, it ends up in Albemarle-Pamlico Sound."

As if to underscore the point, diseased fish are turning up in fishermen's nets again this summer.

"We've got more than we can handle," Noga said. "We've got the fungal disease back, mainly in the menhaden, and we're starting to see problems with crabs again. It's going to be a bad year for fishermen."

NCCF Sponsors Conference On Problems of Oregon Inlet

By Julie Powers Rives
(Reprinted from The News and Observer, July 10, 1988.)

KILL DEVIL HILLS—A conference on the proposed \$110 million Oregon Inlet jetties hit a familiar impasse last week, as participants argued over whether the structures are the best way to keep the inlet passable.

But Friday's [July 8] round-table discussion, sponsored by the N.C. Coastal Federation and Dare County, may have prompted an effort to look for short-term solutions to the problem while the jetty debate continues.

"The philosophy we've discussed long enough," William T. Hogarth said after the meeting. "It's obvious we need to do something." Hogarth is director of the N.C. Division of Marine Fisheries.

Hogarth and others suggested a second meeting where arguments over the jetties would be barred. Instead, Hogarth said, participants would take a long look at temporary breakwaters, pipe dredging or other ways of keeping the inlet open now.

"What we would do is to bring in engineering types, biologist types, and we'd be strict about it," he said. "We'd say we're here to look at solutions, period."

Hogarth said he still supports the jetty project, but temporary methods are needed now because the stone and concrete barriers—if approved and financed—are at least 10 years away. Dare County officials said they would consider Hogarth's proposal.

At issue is the corps' proposal to stop the shifting of the channel in Oregon Inlet with two 3,500-foot jetties that would extend into the Atlantic. The project also calls for a "sand bypass" system to move sand from where it piles up along the north jetty onto the shore beyond the south jetty.

The project was authorized by Congress in 1970, but controversy has stalled financing since 1983. The Office of Management and Budget has balked at the cost, and the U.S. Department of the Interior has raised anxiety about a possible

threat to the surrounding shorelines.

Last week's conference brought many for and against the jetties together for the first time. Todd L. Miller, executive director of the coastal federation, said the forum was an attempt to "establish a dialogue" and that no big achievement had been expected.

The panel of about 20 participants included representatives for the fishing industry, the U.S. Army Corp of Engineers, Dare County, N.C. Division of Marine Fisheries and the N.C. Wildlife Federation, along with geologists, oceanographers, private consulting engineers and others.

"I don't know what we accomplished today, but I don't think it's been a waste of time," Miller said after the meeting.

The federation, a private conservation group in Newport, has not taken a stand on the project because its board of directors is evenly split, Miller said.

The fishing industry says the inlet, created by a hurricane in 1846, would do wonders for the coastal economy if it were made into a safe, reliable passage to Pamlico Sound. Periodic dredging, at a cost of \$5 million a year, keeps the ever-shifting channel open only part of the time.

Hogarth, of the state marine fisheries office, said 49 million pounds of fish could be landed a year off the North Carolina coast if Oregon Inlet were stabilized, compared with about 20 million pounds now.

Some geologists portrayed the jetties as a threat to much of the shoreline of Bodie Island to the north and Pea Island to the south. They also said the jetties would not guarantee the inlet would remain passable.

"It's a big experiment," said Stanley R. Riggs, a geology professor at East Carolina University. Riggs and Orrin H. Pilkey Jr., a Duke University geology professor who attended, have long opposed the jetty project

and called for alternatives such as different means of dredging.

The corps and other proponents countered with their own comparisons with existing successful jetties and said shoreline erosion could be controlled.

Guidebook Is Available

A Citizen's Guide to Coastal Water Resource Management is available from the Coastal Federation. The guidebook is the product of five years of experience by the Coastal Federation. It serves as resource material for citizens interested in participating in protecting coastal resources.

The book and a series of workshops at which it was discussed were financed by the U.S. Environmental Protection Agency's National Estuary Program as part of the Albemarle-Pamlico Estuarine Study. The National Estuary Program is a federal and state program designed to improve the management of our coastal estuaries. EPA and the various state agencies discussed in the guidebook assisted in its review and production.

The book was written by Federation staff members Jim Kennedy and Todd Miller. Contributing to the book were Lundie Spence, Walter Clark and Kathy Hart of the University of North Carolina Sea Grant College Program. They helped in developing the book's content and served as its editors.

The complex combination of state and federal laws that form the basis of the state's coastal management program are discussed in the guidebook. The most notable of these laws are the federal Clean Water Act, the NC Coastal Area Management Act and the NC Sedimentation and Pollution Control Act. General concepts of regulatory programs and the basic principles of public participation are also summarized in the book.

Copies can be obtained from the Coastal Federation or from the Sea Grant office at NC State.

Special Thanks Are Due To Regulatory Agencies

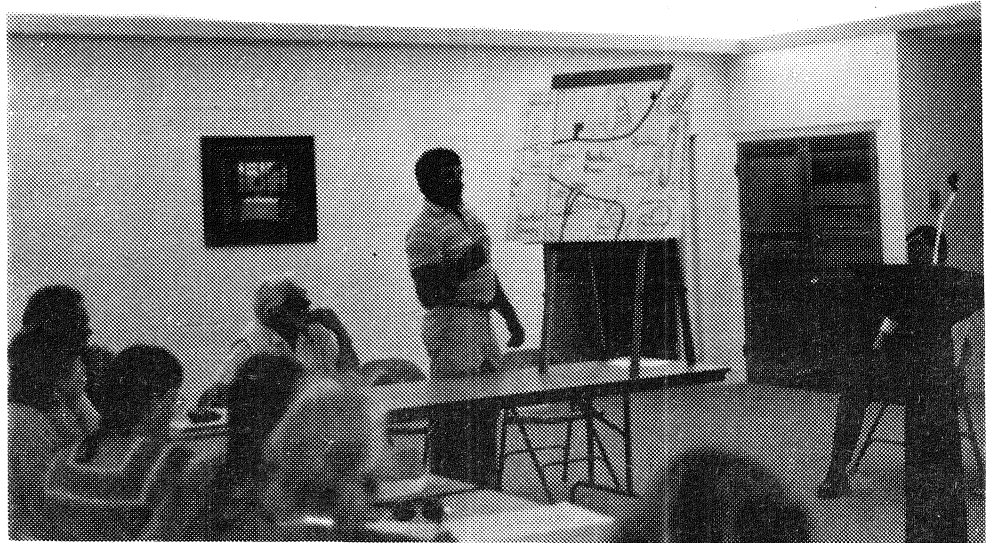
Four workshops and two field trips have been held to help citizens understand how coastal management regulatory decisions are made. The two-day classroom workshops were held in Edenton, Washington, Beaufort and Nags Head and the field trips at the Aquariums in Manteo and Pine Knoll Shores.

Special thanks to the following agency staff members for their valuable contributions to these workshops: David Griffin, Terry Moore, and Charles Jones, NC Division of Coastal Management; Floyd Williams, Pat McCain, and Dan Sams, NC Division of Land Quality; Jim Mulligan, Roger Thorp, and Preston Howard, NC Division of Environmental Management; Jim Poteat and Mike Smith, U.S. Army Corps of Engineers; and Reece Collier, U.S. Fish and Wildlife Service.

We would also like to thank the local organizations that agreed to host the workshops. They included the Dare County League of Women Voters, Carteret County Crossroads, Carteret County Wildlife Club, North Carolina Fisheries Association, Pamlico-Tar River Foundation, Albemarle Environmental Association, and Albemarle Sound Action Project.

Special Thanks To Dare County

Dare County and its Waterways Commission provided extremely valuable assistance in co-hosting the recent round table discussion that the Coastal Federation sponsored on the future of Oregon Inlet. All participants seemed to feel that the day was worth the effort. Special thanks to Eve Trow for the valuable contribution she made to making the day run smoothly.



Terry Moore, NC Division of Coastal Management, explains his regulatory programs at Federation workshop.

Broad Reach Marina Permit Issued

The Division of Coastal Management approved a 75 slip upland marina for use by the residents of the controversial Broad Reach project on western Bogue Sound, near Ocean.

Plans for a second boat basin to be used as a commercial marina were rejected due to the threat to shellfish waters and because the proposed commercial operations were inconsistent with the Carteret County land use plan. The overall density of development proposed in the permit application was also ruled inconsistent with the land use plan.

The county has assigned the area the "community" land use classification, which is intended for rural areas with low density, clustered residential development with fewer than 500 dwellings per square mile. The Broad Reach proposal called for over twice the allowed density.

The developers must obtain further approval prior to development around the marina, but they may begin constructing the marina if a federal permit from the U.S. Army Corps of Engineers is obtained. According to Todd Miller, Director of the Coastal Federation, "We commend the state for upholding the land use plan, but the piecemeal approval of the project may set a precedent in which the overall impacts of projects are never evaluated."

"The 75 slip marina is consistent with the current marina siting policies," Miller said, "but policies which allow 75 large boats at this site do not adequately protect shellfish resources." The present policies for protecting shellfish waters from marinas are the result of negotiations between development interests and agency staff, according to persons involved. These changes cut in half the buffer area around large marinas such as proposed for Broad Reach. The policy change was made last October, which was during the period the Broad Reach developers were attempting to resolve initial agency objections about effects of the project on shellfish waters.

The Broad Reach project became controversial as a result of unusual permit processing and the fact that a principle developer, Stephen Stroud of Raleigh, is an acknowledged strong backer of Governor Martin. The issue of political pressure arose openly in March when a memo in the Division of Coastal Management files said that S. Thomas Rhodes, Secretary of the Department of Natural Resources and Community Development, "wants issuance this week" of the Broad Reach permit. Rhodes explained the memo as a misunderstanding.

Questions persisted when Division of Marine Fisheries staff carried out additional studies looking for a path of low shellfish resources for an access channel to the commercial marina. The agency and independent scientists had previously concluded that significant shellfish resources were present

throughout the study area and over 150 people had signed petitions stating they had personally shellfished at the site.

A permit from the U.S. Army Corps of Engineers must be obtained before the the access channel for the residential marina can be constructed. Federal agencies that have previously objected to the permit will have to comment on the scaled down project.

LATE BREAKING UPDATE

Scientists from the National Marine Fisheries Service visited the Broad Reach marina site on July 27 to identifying viable seagrass habitat in the vicinity of the proposed channel.

Beaufort lab staff members Randy Ferguson, Dave Colby and Lisa Wood completed their evaluation both of aerial photography taken in May 1981 and March 1985 and of information and samples collected during their sight visit.

They concluded that the entire western shoreline of Sanders Creek including the vicinity of the proposed channel is habitat for submerged aquatic vegetation. Two species of submerged aquatic vegetation were found, *Zostera marina* and *Halodule wrightii*. However, the scientists also found that the aerial extent of the grassbeds was substantially less than present in the 1985 photography or from earlier photos taken in 1981.

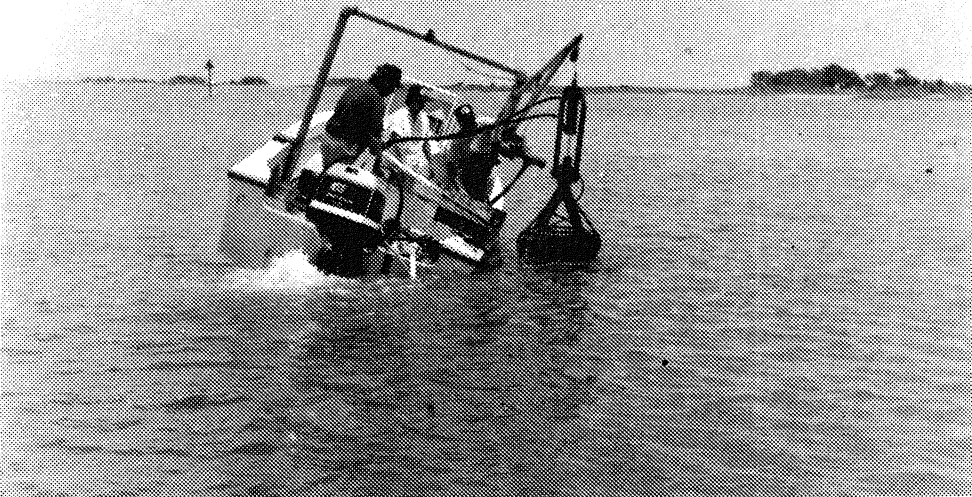
Ford A. Cross, Laboratory Director, stated that "the apparent low ebb in SAV [submerged aquatic vegetation] distribution at this time indicates that the SAV in the area has experienced or is experiencing stress from natural and/or anthropogenic factors.

Cross went on to say that, "In our opinion the dredging of proposed Channel B and subsequent increased boat traffic would have extensive direct and indirect effects on the SAV in Sanders Creek. SAV in the area appears to have declined since 1985 and any additional stress could result in total loss of SAV in the area."

The permit decision by the U.S. Army Corps of Engineers is still pending.

"APES" Meeting October 15

The first annual review session for the Albemarle-Pamlico Estuarine Study is scheduled for October 15 at Beaufort Community College in Washington. Hosted by the Citizen Advisory Committees for the study, the program will be a chance for citizens to evaluate the success of the study. The estuarine study is now in its second year of a five year effort to develop a comprehensive management plan for Albemarle and Pamlico Sounds. For more information contact Mrs. Joan Giordano at 946-6481.



NC Division of Marine Fisheries samples for shellfish at Broad Reach Marina site.

Proposed Groundwater Regulations Weaken Water Quality Safeguards

New regulations proposed by the Department of Natural Resources and Community Development would allow increased pollution of the state's groundwater. Although the public hearings have already been held, written comments on the proposed regulations can be submitted until September 1.

Under existing regulations, man made substances that do not occur naturally in groundwater are prohibited unless specific safe concentrations have been set based on scientific data.

Under the proposed regulations, substances would have no restrictions unless the state specifically established concentration limits. The state would have to set these numerical limits even when sound scientific toxicity data is not available. For a cancer causing substance, the state would try to estimate the concentration that would cause cancer for one out of a million people. Since this concentration would be greater than zero, some release into the groundwater would be allowed -- as opposed to the current policy of no discharge for such substances.

The proposed regulations would also allow the Director of the Division of Environmental Management to issue exceptions to the

groundwater standards without following the procedures normally required for a variance.

The proposed regulations have many other changes from the current rules. Some of the proposed changes would improve upon the existing regulations. For example, the existing regulations exempt groundwater within 20 feet of the land surface from the standards. The proposed rules would apply to all water below the water table.

The Department of Natural Resources and Community Development proposed the changes in spite of the Martin Administration's June, 1987 announcement of an initiative to reduce the use of landfills. "The existing groundwater regulations are forcing local governments to decrease the use of landfills by reducing or recycling solid waste. The proposed regulations would make it easier to get permits for landfills," said Bill Holman, lobbyist for the Conservation Council of North Carolina and North Carolina Sierra Club.

Public comments on the proposed regulations can be sent to: Groundwater Section, Division of Environmental Management, P.O. Box 27687, Raleigh, NC 27611. Copies of the proposed regulations can be obtained from the same address.

HELP NCCF "BRING THE COAST CLOSER" TO PEOPLE ACROSS THE STATE. VOLUNTEER TO:

- Distribute newsletters 4 times/year
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Our Coastal Estuaries

(The following is taken from a speech given at the NCCF Annual Meeting by 15-year-old Kimmie Lissor, State 4-H Shellfish Conservation Winner.)

The most important, most misunderstood and most abused coastal resources are our estuaries. What makes them so important to man?

An estuary is a place where "rivers meet the sea" or in other words, where fresh water and salt water meet and mix. The salt water of the sea is brought in by the tides and mixes with fresh water coming out of rivers.

An estuarine system includes a marsh, an ocean inlet, a sound and a river.

Estuaries on the East Coast receive salt water from the Atlantic Ocean. Sandy offshore islands or barrier islands often separate estuaries from the ocean. The islands help to protect the estuary from storms and rough waves. Inlets are the openings between barrier islands. The tide and wind transport sea water through the inlets and mix the sea water with fresh water from rivers. The water found between a barrier island and the mainland is called a sound.

Salt marshes are found on the edges of estuaries. The marshes are low, wet land covered with grasses that are bathed by the incoming tides. Many plants cannot survive in a salt marsh since they cannot tolerate living in salt water. Salt marsh plants are special in that they have found ways to live in salty water. In many areas salt marsh cordgrass or *Spartina alterniflora* is best adapted to living in salt water and lives closest to the water's edge.

Many people think marshes are smelly, muddy wastelands that are havens for mosquitoes. Salt marshes are a vital part of the estuarine system.

So what makes an estuary so important?

Have you ever wondered where baby fish and shrimp grow up?

With all the larger fish in the ocean it would seem that small fish would hardly have a chance to survive.

One reason estuaries are so important is that they serve as nursery grounds for many animals such as fish, crab and shrimp. In fact, estuaries serve as nurseries for 90 percent of fish and shellfish caught in commercial and recreational fishing. Some animals, such as worms, oysters, mussels and barnacles, spend their entire lives in an estuary. Other animals, such as shrimp, spot and croaker, just grow up there.

Mother Nature sends billions of baby fish into the estuaries every year by tides and currents. They young fish are at first so small they can hardly be seen. While staying in the "nursery" young fish and shrimp feed on the estuary's abundant food supply. Shallow estuarine waters and submerged plants make excellent hiding places from large hungry



Kimmie Lissor, 4-H winner.

fish. Young fish spend from two months to a year in the estuarine nursery grounds. As they reach adulthood, many fish return to the ocean where they may be caught by a fisherman.

Although an estuary is called a nursery, it is not an easy place in which to live. Sudden changes in water temperature and salinity (water saltiness) can occur in a shallow estuary and may be fatal to animals that are not used to such changes. Young fish and shrimp can tolerate brackish or lower salinity water where adults often cannot. For this reason many large ocean fish cannot survive in the estuary to hunt for baby fish and shrimp.

The estuarine system contains a wide variety of animals.

When winter approaches, some of the marsh animals disappear. Some animals migrate to the ocean. Others stay and burrow under the mud to hibernate and escape freezing. During the spring and summer months the animals return to the surface.

Mud flats are usually found at the edge of the marsh. The flats are covered at high tide and uncovered at low tide. The mud flat is an area extremely rich in animal life. This may seem strange since at first glance little can be seen other than mud and occasional clam shells. Yet a shovelful of mud sieved through a wire screen will uncover all sorts of mollusks and marine worms.

When the mud flat is exposed at low tide, many animals from the marsh, such as raccoons and birds, come out on the flats to feed. At high tide the mud flats are covered with water, and animals such as fish and crabs take their turn at searching for food on the mud flat.

In addition to providing shelter for many animals, estuaries and nearby marshes offer a rich food supply to organisms. The food supply comes from three major sources—land runoff, salt marsh grass and submerged seagrasses. Rainfall washes nutrients from land to nearby streams and rivers. Rivers, in turn, carry the nutrients to salt marshes and estuaries.

Salt marsh vegetation, nourished by the nutrients brought down by

rivers produce enormous amounts of plant material. In fact, it has been estimated that an acre of marsh can produce six times as much food as an acre of alfalfa and two to six times as much as an acre of Iowa corn!

Few animals eat the salt marsh grass (and submerged seagrasses) directly. Instead the grass becomes a more important food after it dies. When salt marsh grass dies it begins to decay. With the help of bacteria, the small plant particles are broken down into detritus, which many animals use for food. In fact, detritus is a "better food" for animals than when the plant was alive. This is partly due to the fact that bacteria and fungi break the plant material down into a form that is easier for animals to digest. But more importantly, the bacteria and fungi that cover the pieces of decaying plants also serve as food for animals. You may not like the thought of eating decayed plant particles, but many estuarine animals find detritus nutritious and delicious!

The dead salt marsh grass also provides nutrients for microscopic plants called phytoplankton that float in estuarine waters. Microscopic floating animals or zooplankton may choose to feed on detritus or on phytoplankton. In turn, larger animals such as shrimp feed on detritus or smaller animals and a food chain is begun.

Food chains in an estuary interconnect since many animals eat many different things and in turn provide food for a variety of creatures. Interconnected food chains are called food webs.

Estuarine systems are also important in that they serve as "water treatment plants" along the coast. If you have ever been to a sewage treatment plant in your town, you know it takes a lot of work and money to take dirty water and make it clean again. The water must be pumped into large tanks for particles to settle out, filtered, and then chemicals must be added to kill harmful bacteria and break-down wastes.

Likewise, marshes and swamps help to clean water naturally, yet on a limited basis. Rivers carrying silt and organic wastes pass through swamps and marshes on the way to the coast. The grasses and trees in wetland areas trap solid particles that are in the water. Bacteria that live on the roots of grasses and trees eat and digest organic wastes that are brought down by the river. As the tides rise and fall, the cleansed water is carried out toward the ocean.

We have learned that estuaries are important for several reasons. In addition to providing a nursery where so many important marine animals begin life and providing a habitat for coastal birds and wildlife, estuaries also help to cleanse our waters. For this reason, estuaries are very important areas to man. Since estuaries and marshes provide so many good things for man, it would seem that people would be careful not to upset

natural estuarine systems. Yet thousands of acres of our estuaries are being threatened by pollution and development every year. Let's look at a few ways in which man is affecting the estuary.

First of all, man doesn't need to be near an estuary to have a tremendous effect on the area. Rivers and streams can carry a problem to an estuary from miles away. Fertilizers from farm lands and home lawns wash into rivers and streams and eventually enter the estuary even though estuaries naturally receive nutrients that wash down from land, too many fertilizers are harmful. An overabundance of fertilizers may cause an algae bloom. Millions of tiny plants reproduce turning the water a bright green or red. As the plants die and decay, oxygen in the water is depleted. If the oxygen levels become too low, huge numbers of fish suffocate and die.

Needless to say, estuarine systems are affected when man is nearby. Now more than ever the coast is becoming man's favorite place to live, work and play.

Industries such as paper mills and chemical plants often locate on estuaries due to the need of large supplies of water for manufacturing and waste disposal. Yet industrial wastes are only one type of pollutant that enters the estuary.

Another type of pollutant may enter the estuary in the form of untreated sewage. As more and more people move to the coast to live or vacation, more septic tanks must be built to treat home owners' waste water.

Under proper conditions septic tanks can work effectively in treating waste water. Yet in some coastal areas septic tanks have a more difficult time doing their job. For a septic tank to work properly, the waste water from the tank must filter slowly through the ground. Bacteria in the soil can then break down wastes into harmless matter.

Since the ground water level in many coastal areas is so high, the septic tank has less time to treat the waste water before it drains into the estuary or ocean. In many areas septic tanks are placed too close together or too near shore. This means too much untreated sewage containing harmful bacteria reaches the sounds and estuaries.

Oysters and clams that live in the estuary filter gallons of water a day to get food. When harmful bacteria and other pollutants get into the water, the animals concentrate the poisons in their bodies. As a result, the shellfish are contaminated and are unsafe for food. To protect our health, thousands of acres of estuarine waters are closed to the harvest of shellfish.

Another source of pollution to estuaries is fresh water. But wait... we said fresh water naturally enters estuaries from rivers and streams. The problems start when too much fresh water enters the estuary too fast or too irregularly. Young fish

Continued on page 16

Sea Change? Coastal Panel in Flux

By Charles Herndon
(Reprinted from The Virginian-Pilot, July 10, 1988.)

North Carolina's coastal management program may be in for major changes if, as environmentalists suspect, Gov. James G. Martin replaces a majority of the state Coastal Resources Commission whose terms expired June 30.

Although Martin has said he will not replace or reappoint the eight commission members until after the group's meeting July 28 and 29 in Morehead City, the prospect of a rightward shift on the state's premier coastal policy-making body has environmentalists concerned.

"It could be a radical change, not only in the composition of the board but, more importantly, in its philosophy on coastal development," said Todd Miller, executive director of the North Carolina Coastal Federation, a coastal watchdog group.

"I share the concern," said Bob Daland, coastal coordinator for the North Carolina chapter of the Sierra Club. "What I fear is he'll respond to the special interests instead of the public interests."

"We've urged him to maintain a balance. In the view of environmentalists, these are the most important appointments Governor Martin will make this year."

An informal poll of five of the members whose terms expired last month indicates that Martin is playing his cards close to the vest. Most said they had not been contacted by the governor's office and had no idea whether they would be reappointed.

But environmentalists and, privately, some staff members of the state Division of Coastal Management are worried that Martin may replace the last two original appointees to the 15-member commission. Charles Wells of Wilmington and Erie Haste of Hertford were appointed to the board when it was formed in the early 1970s and have served ever since.

Environmentalists also expressed concern that some of the commission's members, including Nags Head Mayor Donald Bryan and Karen Gottovi of Wilmington, are unlikely to be reappointed. Bryan and Gottovi have advocated a cautious approach to coastal development during their terms on the board.

Others whose terms have expired are Eugene Tomlinson of Southport, Art Cooper of Raleigh, Mayme Davenport of Creswell and Thomas B. Gray of Buxton, who is also a Dare County Commissioner.

Observers say Cooper and Haste probably have the best shot at reappointment.

"I'm almost campaigning to be reappointed," said Haste, who represents marine-related business on the board. "My feeling is, through

the feedback I've had from the administration, that there's a good chance I'll be reappointed."

Bryan, an appointee of former Democratic Gov. James B. Hunt Jr. in 1982, said he'd like to be reappointed but hadn't heard anything about his chances. Several sources said extensive lobbying efforts have been conducted for Bryan and for Tomlinson.

Gray has said repeatedly that he expects to be replaced. That view is shared by conservationists. "Gray's a Democrat," explained Bill Holman, one of the state's most influential environmental lobbyists.

Among the names mentioned as possible replacements are Manteo Town Commissioner Luther Daniels, who sits on Martin's Coastal Initiative panel, and Elizabeth City developer Tim Thornton. Both men are active Republicans.

Daniels said he'd had no word from the administration about serving on the board. Thornton was out of town and unavailable for comment.

Despite fears in conservation quarters that Martin will shift the board to favor coastal development, there is also a feeling among com-

mission watchers that the governor is walking a political tightrope.

The tightrope was frayed Wednesday [July 7] when the state Ethics Board reprimanded commission member Ronnie Watson, a Martin appointee, for a potential conflict of interest. Watson, a coastal developer, has strenuously objected to revisions in the erosion-rate studies that the state uses to determine how far from the ocean development can occur.

The issue was referred to the Ethics Board after the North Carolina Wildlife Federation charged that Watson's actions would benefit an Emerald Isle project he is developing.

"If you look at the overall record of (Martin's) appointments" to the Coastal Resources Commission, the Environmental Management Commission and the Marine Fisheries Commission, "the picture has not been as good as we in the conservation sector would like," said Michael Corcoran, executive director of the Wildlife Federation.

"To my mind, the governor has not been able to deliver on environmental protection," Corcoran added. "I hope he'll select commission members who have in their hearts the best interests of the coast."

Martin's decision to postpone his appointments until after the Coastal Resources Commission votes on the new erosion rates later this month is seen by environmentalists and some commission members as a sign that the governor is sensitive to charges that he wants to revamp the board.

Provisions in the commission rules allow members whose terms have expired to stay on the board until replacements are named.

"Clearly, both Mr. Watson and the governor have been sensitized to at least the appearance of impropriety," Corcoran said.

"I'd speculate the thing with Watson will have a lot to do with who he appoints," said Haste.

Election-year politics also may play a role in the appointments. "He's going to be extremely careful not to send in people who will set off red flags," Miller said.

New Bern attorney Dan Besse, the current commission chairman, and a Martin appointee, has urged coastal officials and others to consider nominating Democrats and Republicans to the open seats.

"To be frank, politics always plays a role," he said, "but when you've got a Republican in office in this state, there's always a lot of pressure to put some balance in appointments. . . I think we'll see that here."

Besse has counseled Martin on the appointments and said the governor has not yet decided on who he will select, adding, "He's going to have to make some tough choices."

Despite the political tiptoeing, conservationists are not expecting much when Martin makes his decision. "His track record has clearly been influenced with the interests of developers," Miller said.

Besse disagrees, saying Martin "has taken a bad rap" on his past appointments.

"I'm sure he's concerned with maintaining a balance," he said. "I

look on his appointments and see a fairly balanced record."

Environmentalists say the appointments are particularly important because the issues expected to come before the commission in the next four years will be increasingly complex and controversial.

"We've been through the easy days when there was a lot of land available and a lot of leeway for the commission," Miller said. "Now we're getting into more marginal situations. Those rules (made by the commission) will become harder and harder to decide."

RED DRUM TOURNAMENT GETS NEW TWIST

In support of efforts to conserve our resources, the 1988 Red Drum Tournament will feature a tag and release program for red drum. All drum caught will be measured, tagged and released. Jeff Ross, Division of Marine Fisheries will conduct a tagging seminar for this year's officials.

Joe Moore, Tournament Director is busy finalizing sponsors and making plans for promoting the tournament. Posters and brochures (complete with sponsors and prize categories) will be available by mid-August. Please contact Donna Agnew at the Federation office (919-393-8185) if you are interested in helping with ANY aspect of the tournament.

NCCF PATRONS

The following individuals are patrons of the Coastal Federation as of July 31, 1988.

Dr. C.H. Ashford	Jerry and Jan Lawson
Charles Billings	Dr. Charlotte Levine
Eric and Cathy Brinsfield	Lunsford and Florence Long
Sue Carroll	Brad Marshall and Debra Rice
Tom Caulfield	Joe McLeod
John and Muriel Chapin	Ramona Morgan
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Allies Fight On

By Joan Oleck
(Reprinted from the Virginian-Pilot,
July 7, 1988.)

RALEIGH—It took an overheated auto in Rocky Mount, an all-night drive from Hatteras, a crowded elevator ride with Democratic power broker Tony Rand and some lunchtime lobbying by Sen. Marc Basnight, D-Dare.

But Dare County officials and nine Outer Banks residents working to keep Buxton Woods—a maritime forest—free from development, reported success by day's end Wednesday [July 6].

Commissioners Thomas B. Gray and Robert V. "Bobby" Owens announced that they had not only secured 30 minutes with Lt. Gov. Robert B. Jordan III, but also the Democratic leader's promise that he would seek \$300,000 in state park land acquisition money for Buxton Woods.

Any new purchases had been put in doubt last week after Gov. James G. Martin included \$500,000 in his proposed budget for the project and Democrats—reacting to what they called Martin's \$100 million overage—had taken it out of both the House and Senate capital improvement bills.

Will the lieutenant governor's support seal the deal? "I certainly feel that he'll succeed," Basnight said. "He has to ask the House for the funds. And the Senate will request the \$300,000 at the direction of the lieutenant governor. I can't envision the House (then) rejecting his direct request."

Noting Jordan's position as head of the state Democratic Party and its gubernatorial nominee, Basnight added: "You can't go any higher than that."

Asked how the deal was struck, Basnight deferred credit to Gray and Owens. Gray, in a statement, in turn credited Basnight. Continued the commissioner in an interview, "We stressed to Basnight on the phone that this was a must, that we could not allow the acquisition efforts of the state to break down."

Pointing to \$500,000 in federal matching funds waiting for the state money, Gray added, "We anticipate this \$300,000 and I'm going after \$200,000 more." He said he'd look

for the \$200,000 with help from U.S. Rep. Walter B. Jones, D-N.C.

What Gray, flushed with success, didn't discuss was how he and Owen's overheated car had broken down that morning and how nine Hatteras Island citizens had fanned out across the legislative office building that morning for intensive lobbying.

There was, for instance, Frank Terrizzi, a National Weather Service employee who left work at midnight Tuesday and drove all night to help residents from Buxton and Frisco lobby Sen. Anthony E. "Tony" Rand, D-Fayetteville, a captive audience on a crowded elevator.

Shay Clanton, head of the board of directors of Friends of Hatteras Island, said to Rand: "There's really no feasible alternative. This is the biggest maritime forest left on the East Coast. It's imperative that action be taken as soon as possible. This is not just a local thing. It's national. . ."

T. L. Quay, a leader of the Triangle chapters of the Sierra Club, pointed out to Basnight that plans to pump millions into the Oregon Inlet bridge and possibly a pair of jetties beneath it mean nothing if once the tourists arrive on Hatteras Island, there's no potable water awaiting them.

Terrizzi worried aloud that developers, who are trying to develop 150 acres of the woods, plus other tracts, might threaten the area by removing the thick vegetative canopy that keep the destructive salt air out.

Members of the group also said a future alternative—a desalting plant—could increase resident's water fees to \$125 a month, out of bounds of the budgets of fixed-income retirees.

"We're 40 miles out to sea, and besides being a maritime forest, it's our sole source of water. . . Everybody stands to lose," Carol Anderson, president of the Save Hatteras Island group, said.

Kim Clanton decried the fact that local officials wanted to carve a portion of the woods into acre lots, despite the fact that the state Coastal Resource Commission had turned over control of Buxton Woods to the county as an "Area of Environmental Concern."

The Hatteras lobbyists said the forest, which adjoins the national seashore, is 3,000 acres in size. Of this, the state has bought 300 acres, and the National Park Service already controls 900 acres.

Bob Daland, former coastal chairman for the Sierra Club's state chapter, and William Holman, an environmental lobbyist, said their groups give the Buxton Woods acquisition top priority.

Holman explained that the legislative leadership apparently considered the purchase a local "pork barrel" project and did not recognize its national significance as a natural area.



Shay Clanton, representing Friends of Hatteras Island, addresses the Federation Annual Meeting in June.

Law Center Works Actively With Coastal Federation

The Coastal Federation has developed a close working relationship with the Southern Environmental Law Center based in Charlottesville, VA during the last year. The availability of the resources of the center has enabled the Federation to have much greater access to legal assistance. This has been particularly true since Lark Hayes joined its staff in July, 1987 and opened a branch office in Chapel Hill.

The Center is representing the Federation in a federal lawsuit filed in July, 1987 as a result of the Corps of Engineers failure to exert its wetland jurisdiction over a proposed 7,000 acre peat mining operation proposed by White Tail Farm in Hyde County. This is a major federal case being handled primarily by David Carr who works out of the Charlottesville office. The Corps of Engineers is required to regulate the proposed development under the federal Clean Water Act, but has refused to do so on the grounds that the developer ditched and drained the area five years ago in preparation for its peat-mining operation, thereby changing its wetlands char-

acter and rendering it a "non-wetland" no longer subject to federal jurisdiction. The Center has already prevailed on a motion to dismiss filed by EPA.

The Federation has referred numerous coastal groups to Lark Hayes to which she has provided valuable assistance. She has worked with Friends of Hatteras Island on Buxton Woods; Friends of Newport Beach on the proposed discharge of treated sewage by the Town of Atlantic Beach; residents of Pine Key Shores on a request by the town to obtain a variance from stormwater rules to drain runoff into water classified for shellfishing; Pen Watch and Conservancy on a permit to mine limestone and county zoning; and with groups involved in Texasgulf's NPDES permit application. In addition, the Center has worked on providing comments on new proposed groundwater regulations and on developing rules on billboards.

The Coastal Federation appreciates the help that the Southern Environmental Law Center has provided and looks forward to expanding our work with it in the future.

Doug Rader Joins EDF

The former coordinator for the Albemarle-Pamlico Estuarine Study is now the senior scientist for the N.C. Environmental Defense Fund. Doug Rader left the estuarine study this spring to assume a new post with the Fund in its new Raleigh office. Rader has already worked closely with the Coastal Federation on several occasions, including helping to prepare joint comments that were submitted at the public hearing on Texasgulf's water discharge permit.

Counties Recycle!

Several coastal counties have joined a national team to improve their appearance and reduce litter. Carteret, Craven, Onslow, and New Hanover counties joined the Keep America Beautiful System, a private sector initiative. The mission of KAB is to build and sustain a national movement to prevent litter-

ing and encourage "voluntary recycling". It works to be successful in changing attitudes about litter and solid waste management.

For information on how you can get involved in recycling or clean up litter in your area, contact your county manager.

Coastal Cohorts Entertain

By Jeff Jones and Sherry Wells
(Reprinted from Carteret County News-Times, June 22, 1988.)

Next time you get a chance to see "King Mackerel and the Blues are Running," grab it.

The concert is about us. It weaves folk, country and beach music into a beautiful picture of life in eastern North Carolina, with just the right amount of reverence and mocking good humor.

The Coastal Cohorts gave their latest performance Friday and Saturday nights [June 17 & 18] in the West Carteret High School auditorium, as a benefit for the North Carolina Coastal Federation.

The concert was sponsored by This Week Magazine, a regional entertainment publication, and that was appropriate. The show was solid entertainment, great fun.

Don Dixon, Jim Wann and Bland Simpson make up the Coastal Cohorts. The concert was a reunion, of sorts, for three men who met when they were in college at the University of North Carolina, Chapel Hill, in the early 1970s.

Each has gone on to become a star in his own right, but they get together periodically to give the performance, this time to help raise money for the Coastal Federation, a nonprofit organization dedicated to preserving the North Carolina coast.

While this was a third annual event in Carteret County, the show has brightened performance halls in Durham, Chapel Hill, Fayetteville, Virginia Beach and Lexington in Virginia, and in New York City.

Songs and stories are by Mr. Simpson and Mr. Wann, a pair of UNC English majors, with additional material by Jerry Leath Mills and Cass Morgan.

The show is directed by Mr. Morgan.

Mr. Simpson, 39 years old, is from Durham originally, although he grew up (to age 10) in Elizabeth City. Now he lives in Chapel Hill, where he worked for a few years as a creative writing lecturer in the UNC English Department.

Music is a full-time business for him these days. He tours with the Red Clay Ramblers, a string band out of Blue Heaven. The group is difficult to categorize, as evidenced by its latest accomplishment, the sound track for Sam Sheppard's new movie, "Far North." In the film, you'll hear Dixieland, country, bluegrass and mountain tunes, as well as gospel and something akin to Scandinavian folk music.

Mr. Wann, 39, also lives in Chapel Hill, although he got there by way of Chatanooga, Tenn. He is a self-employed composer and playwright.

He was the principal author of "Pump Boys and Dinettes," a play that enjoyed a year-and-a-half run in New York and was a Tony nominee for best musical.

And, of course, it should have won. Mr. Dixon, in his mid-30s, hails from Lancaster, S.C., and now lives in Canton, Ohio. He produces records for such notables as Marti Jones, REM and Smitherines, and has a couple of albums of his own music on the Enigma label.

His interests range from rock and roll with a southern flavor to folk and pop. Mr. Dixon's voice, richest of the three, is a treat for blues lovers.

Mr. Simpson and Mr. Wann are wonderful storytellers, as well as accomplished musicians and songwriters. For "King Mackerel and the Blues are Running," the show-cased all those abilities. Mr. Simpson worked the piano and Mr. Wann, acoustic guitar, while Mr. Dixon was busy on bass and, occasionally, the synthesizer.

The trio took turns soloing and blending voices in rousing, pleasant harmony. If anything was missing in this show, it was more of Mr. Dixon's fabulous voice.

The three men expressed pleasure in performing for a cause "dear to our hearts," said Mr. Wann.

The multimedia theatrical performance began with a black and white video of fish being caught from boats and one the beach. The video slid into an interview with Miss Mattie Jewell (Madelyn Smoak), of the fictitious Corncake Inlet Inn.

(Corncake Inlet exists, south of Wilmington and not far from Cape Fear. But the inn was fabricated as the ideal coastal hide-away, a "sentimental landmark," in the words of Mr. Simpson.)

Miss Mattie sat in her rocking chair and spun a tale of how the Corncake lost its roof in a hurricane, and how she and the boys, the Cohorts, were trying to raise money for repairs. Failure would mean that the inn would fall to the Greedheads (Bill Ellington and John Haber), who'd like nothing more than to plow it under and plant condominiums on hallowed Corncake ground.

She thanked everyone who was at the performance for coming, because some of the proceeds would help her rebuild.

In a very real sense, that was true, not for the Corncake Inn, but for the beauty and wonder of eastern North Carolina championed by the N.C. Coastal Federation.

The Cohorts appeared on stage at the end of the video and slipped into the show's title song, "King Mackerel and the Blues are Running," a funny, rousing work that celebrates the fall fishing season.

The trio sang ballads of the North Carolina coast that proclaimed its beauty ("Beautiful Day"), history ("Kitty Hawk and Jockey's Ridge" and "The Maco Light") and the fun of growing up on the coast ("Joyride" and "Whose Idea Was This?").

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Zoning Comes to Pender County

By Pat Howes, President,
PenderWatch and Conservancy

Pender County is North Carolina's best kept secret! It is a beautiful coastal county that intends to stay that way. PenderWatch and Conservancy, a 450-member environmental organization, formed in 1986 to monitor the quality of life in Pender County, made the discovery that without land use controls that task was impossible.

In 1980 the first zoning ordinance went down to resounding defeat as landowners loudly advocated personal property rights. Subdivision regulations were written but not adopted in 1981 and 1985. Residents of four developments were denied a "petition for a zoning district" in 1986, but the tide was turning. In 1987 the Planning Board was charged by the County Commissioners to develop a countywide zoning ordinance. There has been no more devoted group of citizens in Pender County than the Planning Board who met weekly, sometimes twice weekly, over 10-month period—with a planning staff of one—to put the ordinance together. Board members from PenderWatch were equally dedicated and attended every meeting with them—a 50-mile roundtrip from Hampstead. Six public hearings were held and the ordinance was sent to the County Commissioners in November. They kicked it back to the Planning Board for Planned Development District regulations and

two more public hearings in February, 1988.

With support from a very vocal PW&C the time had come for a zoning ordinance in Pender County. The only remaining question was the Planning Board's strong stand on a 35' height limitation and equally strong pressure on the County Commissioners from a developer who wanted to build 70' high condominiums along the Intra-Coastal Waterway. The County Commissioners, still waffling, sat on the ordinance until a May 25th public hearing, where a large crowd turned out. No one spoke in opposition to the ordinance or the 35' height limitation. The County Commissioners were made aware of their personal vulnerability both in court and the election booth if they permitted high rise buildings without providing fire equipment for public safety. On June 6th they unanimously passed the ordinance as written by the Planning Board.

It was then discovered that the public notices for the May 25th hearing did not fall within the required "not more than 25 days before or less than 10 days before" the hearing and the County Attorney declared the ordinance void. A public hearing was quickly readvertised and held July 5th following which the ordinance was enacted.

PenderWatch is very much aware that this milestone ordinance will be no stronger than the Board of Adjustment that backs it. We will be "watching" that its integrity is not compromised.

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Our Coastal Estuaries

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and shrimp live in brackish water which is a mixture of fresh water and salt water. Large amounts of incoming fresh water can quickly lower the saltiness of the water and kill huge amounts of fish and shrimp.

Where does all the extra fresh water come from? In recent years, more and more coastal lands have been cleared for farmland, timber and residential uses. Acres of swamp, forest and lowlands have been bulldozed for development. These areas once trapped water and allowed it to filter slowly into the estuaries. Now the fresh water from these areas, especially after heavy rains, rushes to the coast and suddenly changes the saltiness of marshes, creeks and sounds. The

fresh water is especially harmful when it empties through ditches into primary nursery grounds where most young fish and shrimp live.

Estuary management is expensive. Yet the fish and shellfish that depend on the estuary sometime in their life are "renewable resources." That is, fish and shellfish, if protected, can provide money and jobs for people year after year. For this reason, it is well worth the expense to protect these "nursery grounds of the sea." Outside the jobs and food that estuaries provide man a price cannot be put upon the beauty of an estuary. The best way to learn about an estuary it to put on your boots and visit one. for it is here that you can have hours of fun catching fish, watching animals and birds or just "getting muddy." Try it!

Cohorts

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Many in the audience were return customers. The clapped and sang along to familiar favorites.

After a brief intermission, the Cohorts began the second part of the drawing the name of a winner of a 16-foot wooden skiff made by Harold Morris of Newport. Someone in a Spuds MacKenzie costume actually drew the winning ticket.

Tom Dillon, an outdoors sports writer from Winston-Salem, won the skiff. Mr. Dillon was not present, so the prize was accepted for him by Todd Miller, director of the N.C. Coastal Federation and a resident of Ocean, an unincorporated community east of Cape Carteret.

But before Mr. Miller could escape, he found himself dancing with Spuds while the Cohorts and mem-

bers of the audience sang "Happy Birthday" to him. His birthday was Friday, but he had to endure the attention both nights.

Part II of the show, though shorter, was just as enjoyable as the first set. "King Mackerel—Reprise" wrapped it up.

Picking a favorite was impossible: the title song, perhaps, but "Food Chain," a new piece, "Corncake Inlet Inn," "Georgia Rose," "Sound Side," "I'm the Breeze" and "The Maco Light" would be hard to overlook.

Members of the audience paid Coastal Cohorts the high compliment of lining up in the lobby at intermission to buy tape cassettes of the show and "King Mackerel and the Blues are Running" T-shirts.

Donna Agnew of the N.C. Coastal Federation said 800 people showed up for Friday and Saturday performances, although even more tickets were sold.

5th Annual WORLD CHAMPIONSHIP RED DRUM TOURNAMENT

Tournament Director: Joe Moore



The 1988 Red Drum Tournament will feature a tag and release program for red drum (individual competition) and individual and team bluefish competition.

DATES: Thursday - Sunday,
October 27-30, 1988

SCHEDULE OF EVENTS:

Thursday, October 27:

1 PM - Casting tournament, sponsored by Sportcast USA, **FREE**, Prizes given for both pendulum and non-pendulum casting.

3 PM - MIDNIGHT - Tourney registration

8 PM - Reception and rules meeting

Friday, October 28 (12:01 AM) —

Sunday, October 30 (4 PM):
Tournament Fishing

Sunday, October 30, 1988:

6 PM - Fish Fry and Awards Presentation

October 27-30, 1988
Hatteras Island

ENTRY FEES:

\$25/day (includes 1 ticket to fish fry, 1 ticket for drawing for Kona Kai lodging package)

\$75/3 days (includes tournament cap, two tickets to fish fry, and 3 tickets for drawing for Kona Kai lodging package)

HEADQUARTERS:

Kona Kai Hatteras Beach Hotel, Avon, NC

PLACE:

Fishing allowed no farther north than Ramp 20 and not south of the National Park Service ramp at the campground approximately 1/2 mile south of Cape Point.

TEAM COMPETITION (Bluefish ONLY):

TEAM - 6 member teams ONLY
1 fish/team member/day
measured in
Longest fish on team wins

ALL WINNERS WILL BE DETERMINED BY "SWEEP MEASURE". IN CASE OF TIE, FIRST FISH MEASURED IN AT HEADQUARTERS WINS.

SURF FISHING, ONLY — NO PIER FISHING.

Contestants may register on a daily basis, but entry forms must be turned in at **TOURNEY HEADQUARTERS** by 12 Midnight before the day registered. Contestants are encouraged to pre-register by mail (see address below for entry forms).

Tag & Release Program-
RED DRUM
(Individual Competition)

Individual & Team-
BLUEFISH COMPETITION

PRIZES TO BE AWARDED IN THE FOLLOWING CATEGORIES:

INDIVIDUAL:

Largest Red Drum (Overall Tourney)
Largest Red Drum (Each Day)
2nd Largest Red Drum (Overall Tourney)
Most Red Drum released

Largest Bluefish (Overall Tourney)
Largest Bluefish (Each Day)

In addition, prizes (both for Red Drum and Bluefish) will be awarded in these categories:

Junior - 18 years or younger
Senior - 65 years or older
Lady Angler

TEAM:

Largest Bluefish (Overall Tourney)
Largest Bluefish (Each Day)

FOR MORE INFORMATION, CONTACT:

Joe Moore, 148 South DuPont Parkway,
New Castle, DE 19720
(302) 328-6242

Donna Agnew, NCCF,
1832 J. Bell Lane (Ocean),
Newport, NC 28570
(919) 393-8185

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