

■ THE SHAD FOUNDATION'S ■

# SHAD JOURNAL

*"For the study, protection, and celebration of shad around the world"*

***Identifying unique shad populations on the East Coast  
Dr. Zaientz takes the shad's pulse on the Connecticut River***

VOLUME 3, NUMBER 3, SUMMER 1998

### **President's Note:**

**T**his issue features articles on the status of shad fishing on the Connecticut River from a commercial fisherman's point of view, by Joe Zaientz, and life on the road as a shad population genetics biologist, by Kathleen Nolan. Although they have very different goals in their work, they are up against a common difficulty—trying to catch enough shad to make the work worthwhile and trying to get the shad to yield their secrets. Only the keenest and most relentless observers are able to make two plus two equal four in the mysterious world of the shad. We thank the authors for revealing their hard-won knowledge.

Luckily, many of the foremost experts of shad are gathering to share what they have learned about the shad in two upcoming meetings. One, in Bordeaux, France, will focus on the genus *Alosa*. The other, to be held in the United States in 2001, will focus on shad worldwide. These are discussed more fully in the Shad Forum department, and formal announcements will be forthcoming.

Many of our league are up against the same problems of understanding shad, educating the public, and working to restore shad under some very difficult political and environmental conditions. These meetings, and our networking through the Shad Foundation, will encourage us in our difficult task, and bring to bear our combined expertise against our common problems.

As Karin Limburg wrote [see "A World Shad Conference Proposal," SHAD JOURNAL, Vol. 2, Number 1; February 1997], "As mounting pressures of human population growth and pollution continue to impinge on natural ecosystems, many alosine species are experiencing serious declines.



COURTESY OF THE HADDAM SHAD MUSEUM

**GEORGE BERNARD (left) AND JOE ZAIENTZ pose at the entrance of the Haddam Shad Museum located near the Connecticut River in Higganum, Connecticut. Joe is the museum's director and George, the curator. Shad enthusiasts make the pilgrimage to learn about the history of shad fishing, the shad's biology, and shad as an epicurean delight. George is smiling because after this picture he will be fishing for Hickory Shad in Long Island Sound.**

Some are locally extinct in large areas of their historic range and are threatened in the remainder." We thank Karin and others who have worked to make these meetings a reality and for bringing to light the common plight of many shad species.

*-R. Hinrichsen*

### INSIDE

|                             |   |
|-----------------------------|---|
| Shad Forum                  | 2 |
| Nolan's Research Adventures | 3 |
| Zaientz's Shad Museum       | 6 |

# SHAD FORUM

In the "Shad Forum" department, we publish letters and comments on issues surrounding shad and their fisheries. Your contributions are welcome.

## Shad Meetings To be Held In France and U.S.

### To the Editor:

Hello from Stockholm—I hope you all had good summers. I've been holding off on contacting folks about shad conferences until I had a better idea of what's going on. Three of us—Eric Rochard, John Waldman, and myself—were able to get together and have some chats at the last International Council for the Exploration of the Sea (ICES) Scientific Meeting in Portugal, this past September. I'd like to fill you in on our discussions there.

First, there will be a conference in late spring 2000 focused on the genus *Alosa*. This will be held in Bordeaux, France, and a group called GRISAM is handling the logistics. This conference sounds like it is well underway, and announcements will be appearing in the next few months, according to Eric.

We've decided to abandon the search for a European venue for a global conference on the *Alosinae*, and plan to hold it in the U.S. in the year 2001. The most likely locations will be either Baltimore, Maryland or Amherst, Massachusetts. Both locations are well-situated in terms of making field trips to observe shad runs, although transportation connections are probably better in and out of Baltimore.

The format we discussed for the global shad conference is to focus, as was done for a similar meeting on sturgeons, on key topics for which we will invite speakers. Others who wish to present their research will be able to do so in poster sessions. By the way I think it is very important to make the poster sessions a key part of the meeting, so the posters should be well displayed and there should be adequate time to go through them. At this point we believe the meeting should be 2-3 days in length.

We also would like to publish a peer-reviewed proceedings of this conference. If we can make it work, the best method would be to have people bring manuscripts

to the meeting.

There are many details to work out: funding, where to locate the meeting, announcements, publisher, etc. But at least we are making some headway.

I invite all of your participation. I should mention that as of August 1999 I'll be taking a new job back in the U.S., and I know I will be extremely busy with that. So I'd like to try to do what I can now, but will need to turn over the reins sometime next year.

Wishing you the best, and hoping you'll write back with comments and ideas!

KARIN E. LIMBURG  
DEPARTMENT OF SYSTEMS ECOLOGY  
UNIVERSITY OF STOCKHOLM  
S-106 91 STOCKHOLM, SWEDEN  
+46/8 16 49 20  
+46/8 15 84 17 (FAX)  
KARIN\_L@SYSTEM.ECOLOGY.SU.SE

## Ready To Help with Shad Passage

### To the Editor:

I am very interested in helping with shad passage overseas. I recently spent time in Colombia working on a dam project on the Sinu' river, where there are no passage facilities, and the fish (for example, "bocachico" or *Prochilodus reticulatus*) have nearly been wiped out. The fishermen and their families are desperate. As you probably know, this is happening all over the world. Please put me in touch with those that may be interested in my help.

ERIC THEISS  
700 MCCOY CT. #20  
LODI, CA 95240  
USA  
209-369-5364  
ERIC\_THEISS@JUNO.COM (TEXT ONLY)  
ERIC\_THEISS@MINDSPRING.COM

*Editor's Note:* Eric Theiss recently worked with Marco Sammachi to review the design of the first fishway planned for rehabilitating shad on the Ombrone River in Italy, which drains the Chianti region (land of the famous wine). We salute them in their new partnership.

## Shad Fishing Book and Boning Video Available

Lenox Dick is selling his recent book on shad fishing and a video on how to bone shad. The book, written by Lenox and published in 1996 by Frank Amato, contains beautiful photographs of fishing locations, and has a wealth of information on fishing techniques, places to fish, how to bone a shad, and shad recipes.

The book is available for \$7.95 (U.S.), and the video, by Helene Biddle Dick, is available for \$15.00 (U.S.). To order the book or video, write to Lenox Dick, 3214 S.E. Biddle Road, Vancouver, Washington, 98683, U.S.A.

## THE SHAD JOURNAL®

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## THE SHAD FOUNDATION

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The *Shad Foundation* is a Washington State non-profit corporation that was established in 1996 to promote a greater understanding of shad for the purpose of restoration where depleted, or their responsible use where sufficiently abundant.

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**Submissions.** The editors welcome submission of articles on any aspect of shad. The *Journal* publishes letters, commentaries, histories, scientific articles, interviews, reviews, and philosophical and methodological items related to shad the world over. (Please see back cover.)

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# Breaking the Genetic Code

## *A biologist describes her adventures sampling shad populations up and down the East Coast*

Kathleen A. Nolan

I wanted to do my Ph.D. on something that had to do with fish. I walked into Dr. Grossfield's lab and Grossfield, a population geneticist, asked me if I would like to do a Ph.D. thesis that would attempt to differentiate populations of American shad using mitochondrial DNA analysis. I replied, "Sure, why not?" Dr. Grossfield's lab was in the City College of New York, right in the middle of Harlem and very close to the Hudson River. I would collect many shad from this river.

Since Dr. Grossfield had a research grant, we were able to get money for me to travel to nine different rivers over three seasons to get shad, and for the materials needed to do the experiments. (Sadly, Dr. Grossfield died on Dec. 14, 1987, of lung cancer. I continued my work under Dr. Sharon Cosloy and Dr. Jane Gallagher, both in the Biology Department at City College, and Isaac Wirgin, now at the New York University School of Environmental Medicine in Tuxedo, New York.)

Dr. Isaac Wirgin, who was a Ph.D. graduate student in Grossfield's lab at the time, helped me tremendously with this project, and was able to procure shad specimens for me from places too difficult to travel to.

Since the experiments were very long and tiresome, and monotonous, I will focus instead on my experiences collecting shad.

I was able to meet a lot of interesting people and learn a lot about shad in my travels. I didn't actually travel to every river; sometimes someone from a lab would send me shad roe and/or testes on ice through overnight mail. I focused on collecting gonads because they are a good source of mitochondria. Unlike the liver, they do not suffer from a lot of blood contamination, and are therefore a cleaner tissue sample.

### **Hudson: My Humble Beginnings**

The first time I saw shad fishing was in the Hudson River. Ron Ingold, a veteran fisherman, had stakes with nets between them set up in the river right around the George Washington Bridge. He took his white husky, Budweiser, and me out on his motor boat to clear the nets of shad. I was able to get six shad for my project. Now I know that this sounds like a small amount of fish, but the machines that I was learning how to use in the lab took six samples at a time. Eventually, I was able to get fast enough to process twelve fish samples at a time, and we got new lab equipment that allowed me to do that.

Next, I moved up the Hudson River. I landed in Nyack, about 20 miles north of the George Washington Bridge, and went out with Bob Gabrielson to help clear his nets of shad. Mr. Gabrielson is a gill-netter who sets his nets off Nyack. He took me in a motor boat to collect shad from his nets. I was able to return for the next three years and buy shad from Mr. Gabrielson.

Everett Nack was my contact for shad in Claverack, New York. His son was working for the Pennsylvania Fish Commission, and this group was transporting fish from the Hudson to the Susquehanna River in Pennsylvania. Apparently, the many dams that have been built on the Susquehanna have been a deterrent to shad migrations, and that river was badly depleted. The Fish Commission collected shad and put them in circular tanks on refrigerated trucks and

shipped them to Pennsylvania.

When I called Mr. Nack to ask him if I could buy or obtain some shad from him, he told me to be at his house at 8 a.m. on a Saturday morning. My husband, Dick, drove me up there from New York City starting at 5 a.m. As we drew closer to Claverack, I saw that Dick started to look excitedly around him at the landscape. I asked him what he found so interesting, and he said he was getting interested in antiquing. "What?" I said. "Is this some new hidden hobby of yours?" "And after I hit an antique shop," he replied, "I'll sit in a coffee shop and drink coffee and read the paper." Soon we passed an antique shop



**AUTHOR KATHY NOLAN holds up a shining shad specimen freshly caught from the Delaware River.**

with a diner adjacent to it. My heart sank when I realized he wanted to desert me while I was on my fishing trip. However, my spirit changed when we got to Everett Nack's house. He and his wife greeted us, then Everett threw me two pairs of waders, hopped into his pickup truck and said, "Follow me to the river." Too bad, I said smugly to my husband. "There goes your antiquing trip." We followed Everett to the river.

When we arrived, we noticed that he and the fish commission had quite an operation going. We got into one of a pair of twin boats. They were connected by netting, but we started to sail away from each other. I began to understand the meaning of "purse seining" as we started to put stakes into the river bottom every few yards or so, and did a "dance" where we drew a circle and eventually met each other again. It was a beautiful day and the water was warm and shallow. We became expert at walking with our waders and "claiming" our territory. We had managed to make a circular trap for fish.

We pulled up the net and collected our bounty. Besides shad, alewives, and lamprey, we caught a large turtle with a shell that was two feet in diameter. Wow! I was able to get my dozen or so shad, and a couple dozen others were put into tanks and sent to Pennsylvania.

As the shad moved further north, so did I. I collected fish during three springs—1985-1987.

Then the lab work started. I would begin working on the fish as early in the morning as possible, and would often be there until three in the morning or later. You would have to read my dissertation to catch all the lab procedures we performed.

### Connecticut River

I moved north to South Hadley, Massachusetts, on the Connecticut River, where there was a hydroelectric power plant with a fish elevator installed. The elevator was constructed mostly to help the salmon runs, but thankfully, it also helped American shad.

The fish were funneled into the elevator through an intake shoot, and then lifted up in an elevator car filled with water. Upon reaching the top of the dam, they were released through a chute that emptied into the reservoir behind the dam. This process was done slowly enough so that I

could "bag" my fish. This was cheating by most fishermen's standards!

### Delaware River

Shad from the Delaware River were more elusive. Someone from the Pennsylvania Fish Commission put me in touch with John Punola, who was invaluable in helping me to obtain shad. John writes about fishing for *Outdoor Life* and other sources.

Unfortunately, the times I went fishing with him, we didn't catch much, but we enjoyed the beautiful weather on the river. I went collecting with John for three years, and the last time we went we got dunked! A friend of John's actually bought a spear and thought he might be able to spear some shad while scuba diving. He made one crucial error though. When he dove from our aluminum rowboat, he went over the starboard side instead of the stern—we, in turn, went promptly over the leeward side! It was cold! I was able to recover my glasses, though, and everyone was all right. Fortunately, our hosts at a campground had dry clothes and let us put our stuff in the driers.

A couple of other trips proved equally fruitless. My husband used to fish in Maine, and fancies himself a fisherman. But I was not surprised when some of the more seasoned fishermen started laughing at his puny pole. You also may have imagined by now, that it is not my sport either—although I have made a few feeble attempts at it. I prefer the lab work.

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## As the shad moved further north, so did I.

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Another time I was out with Mark Pez-zano, an avid fishermen, and a true Portuguese pescador, Rui Proenca, and only one shad was caught all day, by Rui.

Bob Angyal from the New York State Department of Environmental Conservation (NYSDEC) in New Paltz proved to be very helpful. There was a suspect point source of pollution flowing into the Ten Mile River, a small tributary of the Delaware, so the NYSDEC took fish samples from an affected stream. Fish traps were set up overnight, and I got to set up my

tent. The next morning there were plenty of shad in the traps, as well as a gizzard shad, which I used as an out group in my analysis. I learned a lot about other types of common freshwater fish in this way. If you are not a regular fisherman you tend to forget what some of the varieties look like.

I finally hit pay-dirt my third year collecting on the Delaware. We drove to Lambertville and met "the" Fred Lewis. After a series of convoluted directions and routes, and several 10-cent tolls, we made it, and I was able to purchase 20 shad from Lewis.

### The South and Federal Express

During my collecting I discovered that Federal Express will make deliveries of things packed in wet ice. In this way, I was able to save myself some trips and have the fish parts (roe, testes, or liver) shipped fresh so I could work on the tissues before they degraded. Rick Long from Florida sent me fish for three years from the St. Johns River in this manner.

The second year of collecting I made trips to Georgia, South Carolina and North Carolina. Occasionally I'd catch a little Yankee teasing, but everyone was overall extremely cordial and helpful. I really thank the fishery biologists who would—after they personally got to know me—take the time to mail me shad roe via Federal Express.

Carl Hall, a fisheries biologist from Georgia, was able to get me 20 fish in a most unusual way. A fisheries enforcement agent who worked for him was setting up a sting operation for which the agent opened up his own fish market. He was trying to catch people illegally catching endangered sturgeon. To do this, he had to remain incognito. The agent very secretly delivered to me at the fish hatchery a box of 20 shad in the back of his pickup truck. He kept looking over his shoulder to make sure that nobody was following him. He told me that he purchased the fish directly from the fishermen at the docks on the particular river that I was interested in. In this way I knew the correct origin of the fish. If the fish were purchased from a store, they might have come from multiple rivers.

I was introduced to another fishing method by Tom Curtis in South Carolina. In his hatchery, the fishery biologists were trying to breed striped bass for pond and river stocking. We collected striped bass



**NOLAN PURIFIES a sample for mitochondrial DNA testing back at the laboratory.**

and American shad by electroshocking in a diversion canal between the Cooper and Santee rivers. Electroshocking is a technique of “fishing” whereby cables attached to a generator in a boat are lowered into the water. The fish closest to the boat are soon floating belly-up, but most of them are not dead, as is evidenced by the number of fish that turn over after a few minutes when we pull away from them.

There was a wire across the river that the “lay” fishermen were not allowed to venture across. There were plenty of these fishermen in the canal with us, as it was a beautiful day. “If you touch that catfish, you’re gonna end up in jail,” Tom told a fisherman who was straying a little too close to our wire and his potential supper.

This was the kind of fishing I liked. The biologists made me stand in this contraption on the bow of the boat that looked like a lit-

tle porch. They gave me a big net and told me to “catch” all the fish. Not too hard to catch a fish that isn’t moving! I actually netted a big striper that they were able to take back to their lab. (The main function of their lab is striped-bass rearing and stocking.)

Of course, the biologists helped me, and I was able to get a few shad. They were scarce, though. We got one hickory shad which made for a nice phylogenetic or “family tree” comparison. They invited me for a wonderful fish fry—catfish, of course!

The shad were also scarce in North Carolina and were collected from the Chowan River and the Albermarle Sound. I went with Harrell Johnson and some of his coworkers to some of the

places where men were rod-and-reel fishing. We were able to get a few shad. I also sampled pickled shad for the first time [See Christopher Lett’s recipe, page 6 of this issue]. That lab had also done a lot of age analysis using scales.

I had a difficult time collecting fish from Virginia. I finally persuaded someone to send me fish from the Rappahannock River.

### Customs Shake-Down

Getting through customs at the Kennedy Airport when you have something unusual such as shad roe can be quite an experience! Procuring the shad roe that was sent to me from the Mirimichi River in New Brunswick, Canada, took me a mere six hours.

I showed the clerk at Air Canada what

I thought was the necessary form for obtaining my specimens. When I tried to pick up the roe, I was told emphatically that I needed to go to the U.S. Department of Agriculture to get another form stamped. A fellow who was carrying brisquets destined for the Catskills gave me a lift in his truck the two miles to Agriculture.

I waited around in Agriculture for a while until somebody changed their minds and sent me to U.S. Fish and Wildlife. The officials there looked at the cooler of 15 shad ovaries for a while and scratched their heads. Now, what is this being used for again?

I finally obtained the necessary approval, but was told I would have to wait for the customs inspector to make his rounds again. It was then 3 p.m. and he wouldn’t be around until 5 p.m. I must have looked pathetic sitting there, because the clerk said, “Let’s take a walk.” He took me for a stroll to in front of Japanese Airlines, turned his head to see if anyone was looking, stamped my form in exchange for my eight dollars, and sent me on my way. A frustrating day, but I had the goods!

### Postscript

In the end, I wasn’t able to unequivocally tell fish in river A apart from fish in river B. What I discovered was many genotypes that were unique to single individuals and differences in frequencies of shared genotypes among fish from various rivers. Shad from rivers that were the farthest apart in this study (the St. Johns in Florida and the Miramichi in Canada) had the least overlap in genotypes. We attributed common genotypes to gene flow among populations, perhaps caused by infidelity in homing or geological changes.

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### The Author

Kathleen A. Nolan, Ph.D. teaches biology at St. Francis College, Brooklyn, New York, and is a visiting scientist in the lab of Rob DeSalle at the American Museum of Natural History, New York, New York. She finished her Ph.D. on shad biology, and her results are another story. They were cited in a previous article by John Waldman [“Who’s Who,” *SHAD JOURNAL*, Vol. 2, Number 3; Summer 1997]. For information contact the author via e-mail at [knolan@worldnet.att.net](mailto:knolan@worldnet.att.net).

### Further Reading

GENETIC DIFFERENTIATION OF THREE KEY ANADROMOUS FISH POPULATIONS OF THE HUDSON RIVER. J. Waldman, K. Nolan, J. Hart, and I. Wirgin in *Estuaries*, Vol. 19, pages 759-768; 1996.

MITOCHONDRIAL DNA ANALYSIS OF AMERICAN SHAD (*ALOSA SAPIDISSIMA*) POPULATIONS. Kathleen Nolan’s Ph.D. Dissertation. City University of New York; 1992.

DISCRIMINATION AMONG ATLANTIC COAST POPULATIONS OF AMERICAN SHAD (*ALOSA SAPIDISSIMA*) USING MITOCHONDRIAL DNA. K. Nolan, J. Grossfield, and I. Wirgin in *Canadian Journal of Fisheries and Aquatic Sciences*. Vol. 48, pages 1724-1734; 1991.

# Connecticut River Shad Report

*A commercial fisherman describes this year's shad season and progress on building the Connecticut River shad museum's collections*

by Joe Zaiantz

I probably should have started writing this report as soon as the season ended and/or took good notes, but I am going to report on shad fishing on my "reach" on the Connecticut River, which runs from the most southern part of Middletown to Haddam Island in Haddam, Connecticut.

The season opened 1 April but because shad enter the river according to water temperature and we are about 40 miles upstream from Long Island Sound, we didn't start netting fish until mid-April. Due to lack of much snow this winter, there was not much of a spring freshet compared to years past, so the water wasn't moving too swiftly or overloaded with debris which fouls the net and is a daily chore to clean. By the end of the month, however, we had some bad rainstorms which resulted in rapid water and much debris, so our quiet, clean water situation was short-lived.

The State of Connecticut Department of Environmental Protection reported that over 300,000 shad were lifted over the Holyoke Dam, in Massachusetts, which makes it a decent year. There are fish elevators at Holyoke Dam and Turners Falls in Vermont to lift the shad to upriver spawning grounds. They can't get up fish ladders as well as salmon. The State has a goal of 600,000 shad per year, so we still have a ways to go.

This year the Department of Environmental Protection also transferred many shad from the Connecticut River to some of the other rivers in the state. These rivers used to hold shad, but dams and pollution curtailed their migrations. Now that these problems have lessened, the State is trying to bring them back.

This year was a good learning year for me. I had a bigger boat which made maneuvering much easier, and all the nets I made myself over the winter. They actually

caught fish! I still could only make one drift per night because even though I am retired [from dentistry], I couldn't find anyone to go out with me all night.

There are many striped bass in the river. I caught several in my net but fortunately they didn't do any damage. The stripers are decimating the alewife and blueback herring populations in the Connecticut River according to Department of Environmental Protection reports. They are also eating severely into the bunker [menhaden] population which is reducing the food supply for the bluefish. I hope the State will reduce the size of a keeper striper, which is now 28 inches [71 centimeters]; this should help reduce their numbers and allow their food supply to survive.

The number of licensed shad fishermen has not increased. There are only about 27 in the state. There is another shad fisherman on my "reach." By chance he is a patient in my old dental office, and he was going to help me make a video on boning shad. I did see him on the river one night. His boat was loaded down to the gunnels with people taking pictures. The following week there was a newspaper article about him and a great picture of my boat on the river.

The evening temperatures were cool which kept most non-fishing craft at home so my net remained intact except for some hang-ups during very low tides. Summing things up, the season was pretty good; I caught some fish, kept my nets intact, and even learned a few things--except how to bone the fish. Next year.

## The Shad Museum

Last year we had just finished organizing our shad museum when the season ended. Our only opening was when I had a classroom of 5th graders over for a

"show and tell."

This year my associate, George Bernard, and I opened our museum every Sunday from 10 a.m. to 5 p.m. and slowly we got more and more visitors. Not a lot, but those that did come not only enjoyed what we presented, but helped add facts and exhibits to our museum.

One gentleman, who used to fish shad (a netter), came in with his wife. He gave us some wooden netting needles and an old one made of plastic with the name of a local netting company which no longer exists.

I am somewhat ashamed to tell this part of the story, but included with the netting needles were three little pieces of material that looked like the soles of a toddler's moccasins. I had no idea what they were. Later that day I showed them to another visitor who told me that they were used like thimbles to protect one's fingers from

## Christopher Letts' Pickled Shad

Fillet and skin one or two shad. Cut into bite-sized pieces. Soak the shad in ice water for 15 minutes. Drain well. Prepare pickling brine: 1/2 gallon distilled white vinegar, 1 1/4 cups of salt, 1 cup sugar. Heat to dissolve sugar. Place cooled brine in a stainless steel or non-metallic container. Add shad in a loose pack. Agitate gently every few hours for the first day so that all sides of all pieces of fish contact the brine. After third day, drain and rinse cold water. Bones will have dissolved and shad is edible. Store the fish in a packing solution made of: 3 pints water, 1/2 pint distilled white vinegar, 1/2 cup salt, 1/2 cup sugar, 2 tablespoons of pickling spices, 2 bay leaves, 4 cloves. Cover and simmer for 15 minutes. Cool before adding shad. Keep refrigerated.

## Shad Fishing on the Connecticut River 100 Years Ago

From the Penny Press, Middletown, Connecticut, June 12, 1895.

“Forty years ago shad fishing on the Connecticut River was a great industry. Thousands of people were directly or indirectly interested in it. Connecticut River shad always brought the highest prices in the New York and Boston markets. People along the river made a regular business of shad fishing in the spring of the year. Everything else was neglected, as the season was short and the best fishing lasted only about four weeks. There was no other business that was sure, as this was, to bring big pay. For more than a century after Middlesex County was settled, little effort was made by the early settlers to catch them and then only in a very primitive way.

“Less than 100 years ago, it was considered disreputable to eat them: nobody could tell why there was such a general prejudice against the use of these most common and important fish. It makes one smile nowadays to think of it, when now they are a costly luxury, a four-pound shad costing 50 and 75 cents in the first of the season; later on, 30 to 40 cents. Forty years ago there were 75 to 100 places on the river where shad were caught and several hundred gill nets [were employed]. The catch in some seasons would amount to more than a million of shad. In 1851 there was caught by four places, between Ferry Point and the mouth of the river, a distance of two miles, 125,000 and the clear profits to the owners were immense. Suire Kirtland, of Saybrook, bought an one-eighth interest in a shad fishery just above the Point for \$500, in 1849, and it paid him 25 percent for five years clear of all expenses.

“Shad during the war fetched the biggest prices than ever was paid for them; 18 cents for seined shad for the season was the highest, and 25 cents for gill netted shad—this was wholesale. In the seventies, shad were down to 10 cents with no buyers, thousands had to be dressed and salted. In the sixties salt shad were \$25 to \$30 per barrel. For the past 20 years there has been but few shad salted for market.”

the net. Oh shame!

Another fellow came in with his assortment of “willow leafs” (a type of lure) and some “shad darts” used to catch shad on rod and reel. He made them himself and was very proud of his accomplishments. He was very articulate and we will have him back so we can videotape the procedure. I am learning that I must always have my camera and a tape recorder at the museum at all times.

Probably our greatest find this year was when an old friend of mine whom I

hadn't seen in years came in with several cans of old 8-millimeter home movie films. It seemed he had a hobby of buying them at tag sales. It turned out that these films were shot in the late '30s. They featured Bill Maynard (who owned the shad shack which is the home for our museum) haul seining for shad right where I put in my boat to fish! Even stranger was the land where he fished was next to a boat yard which belonged to my friend's grandfather.

George had the film restored and copied on videotape. He is still editing it, but it is very good. It shows Maynard's netting technique and a few old engines from 60 or more years ago. So far I resolved one puzzle from the video. Someone donated some small round netting floats which puzzled me. They looked like cork lifesavers about four inches [10 centimeters] in diameter. They were the floats used on a haul seine! George says that every time he reruns the film he sees something new.

One Saturday in May, George called me up and said that I had to open the museum that day be-

cause someone from New York was coming down and he wanted to see it. Essex, Connecticut was having its annual Shad Bake and he was going to attend. He wanted to see the museum because he used to be a commercial shad fisherman on the Hudson River in New York State and he was interested in opening a museum of his own. His name was Christopher Letts. He was a very enthusiastic, interesting man.

We learned a lot from him and sadly I didn't have my tape recorder handy, but he is coming back this summer. He gave me and George one item which is paramount to the appreciation of shad in this country! Has any reader ever eaten pickled shad?

His recipe was great although George felt it needed a lot more onions and a little more liquid. [See side-bar, “Christopher Letts' Pickled Shad.”] Why do I feel that this pickled shad is so important? I still cringe over my visit to the West Coast on learning that the people out there regard the tasty shad as good only for cat food and sturgeon bait. When people out there become educated and develop a taste for boned shad, smoked shad, pickled shad, and shad roe they will forget about salmon and become true Americans!

George and I are constantly trying to improve our museum. We have videotaped a sample tour so that we can develop a style to make the visit interesting. We have received two good newspaper write-ups which have helped increase our exposure. We open the museum every Sunday from 10 a.m. to 5 p.m. during April, May, and mid-June but after that by appointment only because it is time to start fishing for fluke, bluefish, and striped bass in Long Island Sound.

### *The Author*

JOSEPH ZAIENTZ is a retired dentist and a commercial fisherman on the Connecticut River. He is a frequent contributor to the SHAD JOURNAL. Interested readers are invited to donate appropriate materials to the Shad Museum, and to please drop by and visit the museum, and learn about the importance of shad and shad fishing importance to our history. For further information, contact the author at 212 Saybrook Rd., Higganum, Connecticut 06441, USA, or by e-mail at u16576@snet.net.

COURTESY OF THE HADDAM SHAD MUSEUM



**GEORGE BERNARD, curator of the Haddam Shad Museum, shows off a display on the history of shad fishing history in Haddam, Connecticut.**

## Shad Bites

### Shad Cookbook Features Tasty Recipes and Shad Facts

The Nanticoke Watershed Alliance published a cookbook for the third annual Nanticoke River Shad Festival. Here is what Lisa Jo Frech, director, had to say about the book:

"This unique little shad cookbook was the idea of imaginative and dedicated volunteers who helped create this fun and educational shad festival on the banks of the Nanticoke River in Vienna, Maryland. Many thanks to those who took the idea and ran with it: Joe Hopwood, Elise & Harvey Altergott, and Gretchen Altergott Rankin. At the time the idea was first mentioned, we thought we would be lucky if we found two dozen shad recipes. Little did we know that we'd have the hard task of choosing from over 60 recipes found.

"Long ago, shad festivals were held on the river banks of the Chesapeake. [They were] social affairs for people who had few other opportunities to see each other. These gatherings celebrated the arrival of spring, old friendships, and the hopes and dreams of the new year. Our Nanticoke River Shad Festival continues this tradition while alerting the public to the importance of restoring the nearly extinct shad to our river."

Besides the recipes, the book contains other tasty bits: shad facts and an article on fishing from shad barges written by Tom Horton.

To order the shad cookbook, please contact the Nanticoke Watershed Alliance, P.O. Box 79, Tyaskin, Maryland 21865-0079. (410)873-2102.

### Amendment I to the Shad & River Herring Approved

The Atlantic States Marine Fisheries Commission approved Amendment I to the Shad and River Herring Fishery Management Plan (FMP) on October 22, 1998. This Amendment replaces the 1985 version of the plan, which provided general recommendations but no specific means for protecting stocks of American shad, hickory shad, and river herring. Most affected are the ocean fishermen, who must find other fish targets within the next five years.

The three main requirements of the Amendment include: (1) a five-year phase-out of the ocean intercept fishery; (2) the management of in-river fisheries at levels not to exceed F30 for assessed stocks, establishment of Commission-approved recovery plans for all stocks, and the maintenance of existing or more conservative regulations for river herring and hickory shad fisheries; and (3) a 10-fish daily creel limit in recreational fisheries for American shad and hickory shad combined, with all jurisdictions maintaining existing or more conservative recreational regulations for river herring. The Amendment also establishes monitoring programs for the collection of data for all species.

The most significant component of the

Amendment is the five-year phaseout of the ocean intercept fishery, with the provision that states must achieve a 40 percent reduction in ocean intercept effort in the first three years of implementation, which begins in the year 2000.

For in-river fisheries, the Amendment allows states to manage certain stocks which show no signs of overfishing at levels not to exceed a set rate (F30). For American shad stocks targeted for recovery, states must establish Commission-approved fishing plans. States will be required to maintain existing or more conservative commercial regulations for river herring and hickory shad.

All jurisdictions will be held to a 10-fish daily creel limit for American shad and hickory shad combined, but for stocks targeted for restoration, states must adopt recreational creel limits consistent with restoration targets. Recreational fisheries for river herring shall be limited to existing or more conservative regulations.

States must require reporting of catch and fishing effort from all commercial *Alosid* fisheries and continue monitoring programs. States that open ocean fisheries for American shad must participate in a coast-wide tagging study for the next several years to determine their impacts on shad populations.

*This article was adapted from an Atlantic States Marine Fisheries Commission press release. For more information, please contact: John Field, Anadromous Species Coordinator, at (202) 289-6400, ext. 301.*

### Submissions

Contributions should be double-spaced. Submissions via e-mail or on disk are encouraged. Direct your contributions to Editor-In-Chief, SHAD JOURNAL, P.O. Box 21748, Seattle, WA 98111-3748 or to the e-mail address: hinrich@accessone.com.

*Letters to the Editor and Articles.* The Journal publishes letters, commentaries, histories, scientific articles, interviews, reviews, and philosophical and methodological items related to shad the world over. There are no page limits but authors are asked to edit their submissions for clarity and precision. Previously published items from other sources can be republished in the Journal if the contributor obtains permission of the author and the copyright holder, and identifies the original publication.

Please do not include footnotes or references in the text. Choose four or five of the most relevant references for inclusion at the end

of the article. References may include a World Wide Web address. Write a brief biographical statement which includes your interest in shad, and current work. Please include your e-mail address, fax number, phone number, and postal address.

*News Briefings (Shad Bites).* Submit news articles on developments relating to shad. For upcoming meetings, submit a brief description, including title, a short paragraph on objectives and content, dates, location, registration requirements, and the meeting contact person's name, street address, and phone/FAX/e-mail address.

*Obituaries.* The Foundation will honor the memory of members and friends through obituaries. The obituary should describe the person's history (date and place of birth, professional address and title) and his/her involvement with shad.