NEWS FROM THE DELAWARE CENTER FOR THE INLAND BAYS Fall | Winter 2010

Inland Bays Journal

The nitty-gritty of the clam study—Mike Bott, the DNREC environmental scientist leading the study and colleague, Gene Shaner sort through bottom sediment looking for shellfish.

Scientists Take First Look at Clam Population in 25 Years

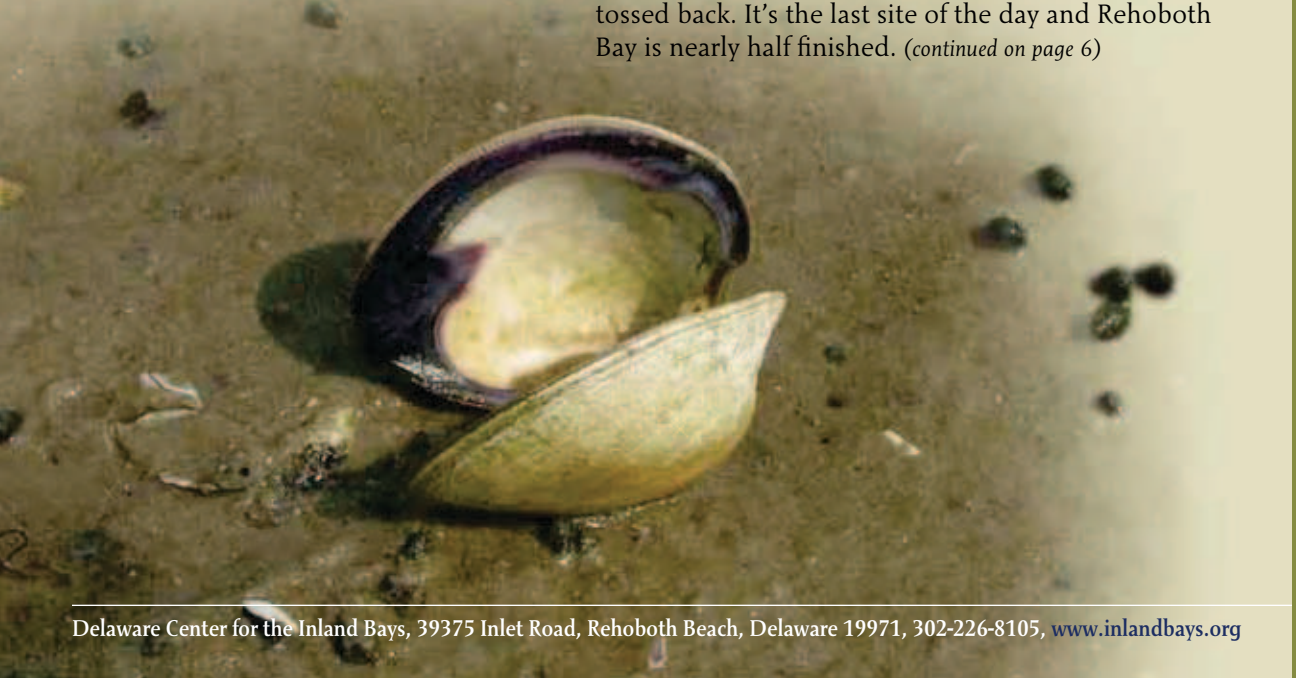
By Chris Bason, Deputy Director

A burst of bubbles breaks the calm surface. The man on deck waits, keeping an eye on a dark cloud to the west and any boat traffic that might get too close. He flicks the eight horsepower pump off as the diver surfaces; the only sound now, lapping water and crying gulls.

"How'd you do?" "Bunch of 'em," shouts the diver, spitting the regulator out of his mouth.

Paddling back toward the boat he is lugging a specially made suction dredge that looks like a cross between a tuba and a leaf blower. Attached to the back end of the dredge is a heavy-duty mesh bag full of grey bottom sediment and clams, lots of big clams.

He is helped onto the boat, and the two sort through the bag finding hard clams, razor clams, and other bivalves that reside in the first few inches of bottom sediment. The shellfish are counted, measured, and tossed back. It's the last site of the day and Rehoboth Bay is nearly half finished. *(continued on page 6)*



What's Inside

The Inland Bays Journal is a publication of the Delaware Center for the Inland Bays. The CIB is a nonprofit organization and a National Estuary Program. The purpose of the Inland Bays Journal is to educate and inform citizens and visitors to the Inland Bays watershed about this "estuary of national significance."

For more information or inquiries, contact our offices at 302-226-8105, or visit www.inlandbays.org. Email letters to the editor to outreach@inlandbays.org.

From the Executive Director

When I was a kid, I spent my summer days running my small V-hull boat around the Inland Bays. I can recall one time when I watched the Coast Guard pull a boat and its occupants off a sandbar in Indian River Bay. From the looks of the situation, the vessel had run aground so hard that the propeller was sheared right off the shaft (I don't think private towing services were in operation back in those days).

I share this story because shoaling in our Inland Bays still makes them somewhat challenging to navigate. That combined with the fact that we have even more recreational boating traffic on our local waterways these days can lead to some significant safety hazards, not to mention severe impacts on Inland Bays' habitats.

Thankfully, a group of concerned stakeholders has been working for over a decade to identify, plan for, and address user impacts on the Inland Bays. The Water Use Plan Implementation Committee, or WUPIC, is charged with minimizing environmental impacts, avoiding user conflicts, and improving conditions related to water-use activities in Delaware's Inland Bays. The WUPIC is a committee of the CIB Board of Directors.

Led by current chairman, Ron Krajewski from Dewey Beach, the committee also includes Capt. Bill Baker, Bill Zolper, Capt. Aaron Hurd, Ariane Nichols, Capt. Buzz Henifin, Chuck Williams, Clark Evans, Doug Long, Hank Glowiak, Ken Arni, Pat Wright, Casey Zolper, Dale Cook, Cassandra Peterson, and Steve Denver along with CIB staff members E.J. Chalabala and Eric Buehl.

Some of this committee's successes include increasing funding for additional marine enforcement officers on our Inland Bays, organizing an annual Inland Bays clean-up event, expanding "No Wake" zones in areas prone to boating accidents, publication of a popular Inland Bays boater's guide, and installation of educational signs at numerous access points around the Inland Bays.

Most recently, the committee has been working with CIB staff and DNREC's Division of Soil & Water Conservation to establish a by-pass channel between Indian River Bay and Rehoboth Bay to relieve some of the boat congestion that occurs in Massey's Ditch. This fall, a CIB-funded contractor will install 18 new navigation markers to identify this channel, giving boaters a safe alternative to Massey's Ditch.

We thank the members of WUPIC for their years of dedication and for all their good works. This is just another wonderful example of how concerned citizens have worked with the CIB and our partners for better, healthier Inland Bays for all of us!

Ed Lewandowski, Executive Director

Children Flock to the Bethany Beach Nature Center for Outdoor Fun

Every Saturday morning, children arrive at the Bethany Beach Nature Center for a morning of stories and outdoor adventure—one of the programs created through a partnership between the Town of Bethany Beach and the Delaware Center for the Inland Bays. CIB teacher, Karen Knight works with BBNC Director Lisa Daisey and CIB volunteers to bring nature experiences and watershed education to children and their families. The CIB welcomed this opportunity to work with the town to introduce residents and visitors to the unique habitats of the Inland Bays through nature experiences and education.

Halloween marks the one year anniversary of the Bethany Beach Nature Center Saturday morning children's program offered year around from 10:30 to noon. Stories and activities have included learning about monarch butterflies, horseshoe crabs, Diamondback terrapins, bats and cow nose rays. Last winter, the children decorated the trees for the birds and this summer grew a garden to attract native butterflies and birds. There is no charge for the Saturday program, but children must be accompanied by an adult.

Inside the nature center, visitors can explore interactive exhibits, including "Our Inland Bays...A Delicate Balance," which allows visitors to 'virtually' explore the Inland Bays watershed from the headwater streams, through the maritime forests, across the salt marshes to the bays using a state-of-the-art presentation called an I-Wall.

Nearly 75 people showed up for the first Kayak Field Trip at James Farm, a special event for the weekly Saturday morning children's program held year around at the Bethany Beach Nature Center. BBNC Director Lisa Daisey said, "Instead of learning about the bays and all they have to offer at the Center, they will get to see it first-hand." She led the trip with assistance from CIB Instructor Karen Knight and CIB volunteer and Coastal Kayak employee Bob Collins.

Outside, visitors can make a similar exploration through forest and marsh along a handicap-accessible boardwalk with has been built to lead you through each habitat with educational signage to keep you informed along the way. The 26-acre conservation area includes three acres of forested uplands, nine acres of freshwater wetlands, and fourteen acres of tidal wetlands.

The Bethany Beach Nature Center trail is open daily from dawn until dusk. For winter hours at the Nature Center or to schedule a tour for your organization, call the BBNC at 537-7680. Located at 807 Garfield Parkway (Rt. 26) about a mile west of Route 1 on the right next to Grotto's Pizza.

Birds Lose When Boaters Use Islands for Playgrounds

Islands on the Bays

Eric Buehl, Habitat Coordinator

Last fall, the Delaware Division of Fish and Wildlife ask the staff at the Center for the Inland Bays to assist with a bird nesting study in the Inland Bays. The goal: to identify where American oystercatchers (*Haematopus palliatus*) were nesting and to band both juveniles and adults. Our focus area: the islands in the Indian River and Rehoboth Bays.

The islands on the Bays are important habitat for a number of our native birds including oystercatchers, gulls, and terns; they are favored by the birds because they are generally free from predators such as fox and raccoon, and because they are close to sources of food.

With a little patience and a good pair of binoculars, it didn't take the research crew very long to find several locations where oystercatchers had set up nests. We made weekly visits to island nesting sites and soon determined when it would be best to tag the juveniles. But as we worked through the nesting season, we made another observation. The Bays' islands are as popular with people as they are with birds.

What we observed shed light on why birds were no longer nesting on some of the islands. Despite that fact that almost all of the islands in the Inland Bays are private property, we saw dogs running loose, frisbees flying, and cabanas set up in the dunes. We had wondered why the birds had abandoned some of these islands as nesting sites. Now we understood.

We doubt that most of the people playing on the islands realize that their presence has caused the birds to leave, and that the places they have gone to nest may not be as safe for them from predators (other than humans). We would like to urge boaters to respect that most of these islands are private property and leave these islands for the birds.

If you do venture onto the islands in the Bays, here are a few suggestions that will help protect our nesting bird population.

- **Best practice for protecting bird nesting habitat—do not go beyond the high tide mark.**
- **Use caution as you walk. These birds are ground nesters and often nest close to the shoreline. The eggs are difficult to see as the colors are meant to blend into the environment to escape the notice of predators**
- **Keep pets on a leash or, better yet, on the boat. Even the presence of dogs on the island will spook the birds. Although many hatchlings can move shortly after they are born, it can be quite some time before they can fly. Unfortunately, they stand very little chance of surviving an encounter with even the nicest of dogs.**
- **Stay off the islands in early to late spring as that is the most critical time for most of the ground-nesting birds on the Bays' islands.**

Want to know more? Search

Watch a video of an American oystercatcher tending her nest
www.youtube.com/watch?v=yaT1lQDpaYM&feature=related

Watch a video on how birds are banded
www.youtube.com/watch?v=CmoPK6SeP8c

How to report a banded bird if you see one
www.pwrc.usgs.gov/bbl/homepage/call800.htm

Reporting banded shore birds
www.fw.delaware.gov/Shorebirds/Documents/FW-Shorebird%20Resighting%20and%20reporting.pdf

Why Band Birds?

By Matthew Bailey, Wildlife Biologist
DE Natural Heritage and Endangered Species Program

The answer to that question is simple: we band so that we can identify individual birds within a population and track their movements and their life histories.

In the spring and summer of 2010 the Delaware Division of Fish and Wildlife's Natural Heritage and Endangered Species Program, in conjunction with the Center for the Inland Bays, started a pilot program to band American oystercatchers to help us answer some of the questions that can only be resolved through repeated identification and study of individual birds.

In the Case of American oystercatchers

Their movements take them from their over-wintering grounds (New Jersey south to Florida), to their breeding grounds (Massachusetts to Florida). As anyone with a sense of geography will note, there is a lot of overlap between wintering and breeding ground for the American oystercatcher. One might ask (and many did) "do the American oystercatchers that winter in Virginia also breed there?"

Since all American oystercatchers look pretty much the same, (at least to humans) how can we answer that question? If an individual American oystercatcher has been banded, and therefore has a unique marker on it, then every time it is sighted, we get another little piece of the puzzle in understanding how the species behaves.

If we monitor the nesting habits and success of banded birds, we can begin to make some inferences about what the species needs to maintain, or increase its population.

Matthew Bailey, Wildlife Biologist

For example, American oystercatchers in Delaware nest on open ocean beaches or on the marsh shorelines around the bays. If we monitor banded individuals we can determine not only which nests are successful, but also how nest success affects the probability that the individual will return to the same nesting grounds in subsequent years. Then, if we band the chicks that hatch from a monitored nest, we can determine what the odds are of a first-year chick making it through its first winter and eventually producing chicks of its own. The American oystercatcher takes up to four years to reach breeding age. *(continued on page 6)*

(Banding continued from page 5)

We can also observe where banded American oystercatcher forage and over-winter, and begin to correlate that back to nest success. For example, if foraging areas are too distant or not rich enough in prey, then the adults might not be able to provide their chicks enough protein to develop sufficiently to migrate and fend for themselves.

Sighting banded birds over the years also gives us an idea of how long individuals of a species can live. It can tell us not only how long it takes them to mature, but also at what ages they are most likely to nest successfully and also how age might play into nest site selection and feeding hierarchies. As it turns out, in many species the older individuals tend to raise more young, get the better nest sites, and acquire the most food.

What do we do with the information?

The information we get from observing banded birds can inform our actions in planning the most effective ways to protect a species.

In the case of American oystercatcher, their habit of nesting in very low-lying habitats makes them vulnerable to flooding associated with storms and high tides. With the specter of sea level rise and increased storm activity due to warming seas, it can be expected that American oystercatcher nests will be increasingly subject to being washed away before they have a chance to hatch. In fact, some of the marshy islands in the Inland Bays where American oystercatchers nest are so small that they can be completely flooded by a storm and even the already hatched chicks can drown.

If we can learn what types of habitat provide the best chance for American oystercatcher to nest successfully in repeated years, we have a powerful tool to help us identify sites most in need of protection and preservation.

And, if we can determine the attributes of the best feeding grounds for American oystercatcher (as their name suggests, American oystercatcher feed primarily on oysters, mussels and other shelled creatures that flourish in shallow-water tidal habitats), then we can focus our protection efforts on not only the nesting sites that have best topographical and vegetation characteristics but also the best proximity to foraging sites.

(Clams continued from page 1)

This is a typical day on the Inland Bays for a Delaware Department of Natural Resources and Environmental Control & CIB crew conducting a population study of hard clams. The last time the hard clam population was surveyed on the Inland Bays was in the 1970's and 80's. This summer, a team led by Mike Bott, an environmental scientist with DNREC is sampling the bays on the same 500 yard grid used in the last studies of the clam population nearly three decades ago. This year, there were an average of 2 clams per square meter and results suggest the population may be in a slight decline.

"Hard clams are one of the most important resources in the Inland Bays, for both commercial and recreational harvesters. Comprehensive population estimates, like the survey currently being conducted, are essential to understanding current trends of hard clam populations and the intricate role molluscan shellfish play in the health of our Inland Bays ecosystems," says Mike Bott.

The survey will also determine the size distribution and age of clams which can help to predict population change. Clams are aged by counting the tiny ridges that ring its shell. These ridges help the clam to stay anchored in the bottom sediment. Each ring represents a year of growth.

Data from the study will be used in computer models to determine the sustainability of current harvest levels and to develop better management practices for the resource. The Center and DNREC are partnering to fund this study of one of the Bays most important resources during 2010 and 2011.

Check online for a short video about the study,
www.youtube.com/watch?v=ONv0o8Fbfas

THE HARD CLAM STORY

A hard clam is a simple but amazing creature. Round with a thick and attractive blue/grey shell, they live under the sediment sucking algae through a siphon that protrudes up from the bay floor like a hungry periscope.

An adult clam may filter 10 gallons of bay water a day, transferring half of the filtered energy from the water column into its own growth and half into the sediments where it is used by other organisms.

A clam can begin to reproduce as early as one year of age and can live to 40 years of age—assuming no person, or seagull, or cow-nose ray eats them first.

Abundant in the sheltered bays and coves of the Atlantic seaboard, hard clams can be found from Florida, north to the Gulf of St. Lawrence.

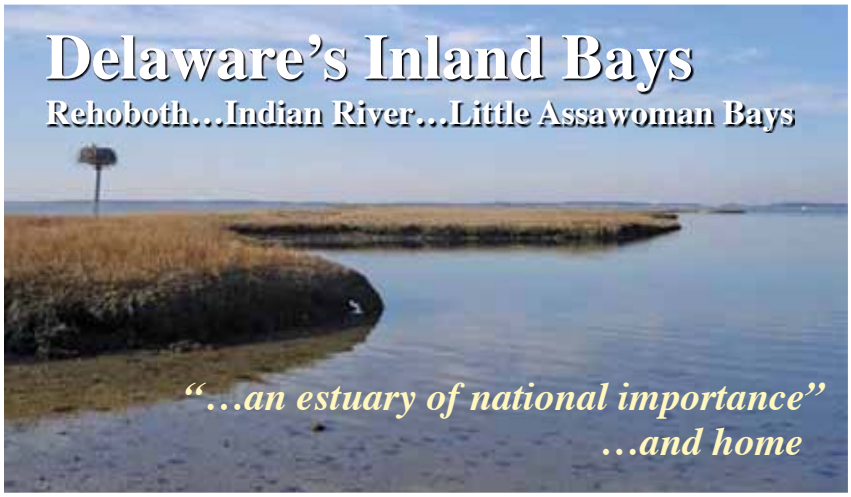
Citizens Advisory Committee

Speakers Bureau on the Way to 1000

For many members of the Citizens Advisory Committee, improving water quality in the Inland Bays has become a passion. That intensity of purpose combined with a willingness to take the Inland Bays message to their fellow citizens, is raising awareness about the Center for the Inland Bays and its mission, and winning new 'friends of the bays.'

It was just a little over a year ago that the CAC Outreach Committee decided to create a Speakers Bureau to send citizens out to talk to other citizens about the Inland Bays. It has turned out to be a winning formula; neighbors talking to neighbors.

CAC Outreach Chair, Doug Parham, led the way with CAC Chair, Ron Wuslich, and working with CIB Executive Director, Ed Lewandowski and Education and Outreach Coordinator, Sally Boswell, a PowerPoint presentation was created, speakers were recruited and trained, and speaking engagements were scheduled.



Since their first speaking engagement in December 2009, they have presented to nearly 600 people including the South Coastal AARP, the League of Women Voters, Lions Clubs throughout Sussex County, homeowners associations, anglers groups, Kiwanis Clubs, Red Hats, church groups and veteran's organizations. By the close of the year, they will be well on their way to achieving their ambitious first year goal of reaching 1,000 people.

But this is not just a head count; many of these organizations have signed up and become "Friends of the Bays" and many who have heard their message have attended CAC meetings and gotten involved.

The Center for the Inland Bays is a stakeholder organization working with many partners on projects to advance the mission, and bringing together the ideas and concerns of all those who have a stake in the future of our Inland Bays. It is the work of the many, not the few, and the CAC Speakers Bureau is extending our reach into every community in the watershed and inviting people in to join in the work of improving water quality in our Bays.

If you would like to join the CAC Speakers Bureau, the Speakers Bureau would like to speak to you. Speakers and helpers are needed. If you would like to have someone come to speak with your group, contact Sally Boswell at outreach@inlandbays.org or call 226-8105.

A 7th grader from Selbyville Middle School eye to eye with a garter snake, somewhere on the path at the James Farm Ecological Preserve. This is the 11th year that the CIB has partnered with the Indian River School District to bring the 7th and 8th grade students to James Farm to learn about wetlands and watersheds, doing activities that are curriculum-aligned to reinforce concepts they are studying in the classroom.

Please lend a hand!

The Bays need friends. Become a Friend of the Bays today!

- ☐ Individual $30
- ☐ Family $50
- ☐ Sustaining $100
- ☐ Supporting $250
- ☐ Sponsor $500
- ☐ Patron $1,000+
- ☐ Other _____
- ☐ Yes! I'd like to Volunteer.

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Please consider including the Center for the Inland Bays in your estate planning. Contact Jenn Jones at development@inlandbays.org

Make checks payable to: *Center for the Inland Bays*, 39375 Inlet Road, Rehoboth, DE 19971

You can now donate online at www.inlandbays.org

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