

## AGENDA

### 1. Introductions

### 2. Purpose of Legislation

- "Level playing field" bill, result of years of work by Walter Jones & others
- Goal: Correct the impacts occurring to mitigation banks resulting from lax standards applied to in lieu fees and permittee/project mitigation

### 3. Key Points For Regulations

- Supersede and clean up multiple, outdated policies & guidance
- Eliminate on-site preference
- Apply equivalent standards for all forms of mitigation
  - Undo lax standards for in lieu fees and permittee/project mitigation
  - Require same performance and financial standards
- Timelines and procedures
  - Mitigation banks languish without time limits
  - Equivalent agency & interagency procedures
- Maximize credits and opportunities for banking
  - Legislation intended to encourage and support banking

### 4. Conclusion

- Move forward quickly
- streams and wetlands
- supplemental, after the fact projects.

## Summary of Salient Points

By letter to George Dunlop, Assistant Secretary of the Army, May 2004, NMBA requested that the mitigation regulations address the following matters:

- **Supersede outdated policies and guidance.** These regulations should be comprehensive, so they can update and supersede the 1990 MOA on Mitigation and other non-regulatory mitigation policies. The regulatory process should include an active review and revision of non-regulatory mitigation policies.
- **Eliminate On-site Mitigation Preference:** Siting of compensatory mitigation should be based on ecological criteria, not a pre-established preference for on-site locations.
- **Apply Equivalent Standards:** Require that all forms of mitigation, i.e. wetland banks, in-lieu fees, individual projects, and consolidated mitigation projects, follow equivalent standards and criteria for their use and establishment;
  - Standards include site selection, design criteria, ecological (vegetation, hydrology) performance standards, buffers, financial assurances, real estate assurances, monitoring and other similar matters.
  - Criteria for use include timing of mitigation performance in relation to credit release, project management and other conditions under which a mitigation project may be used.
  - Equivalent criteria for use also includes assuring that banks may be used for any permitted impacts, regardless of the size of the impact, to avoid the practices in some locations of declining to allow permittees with particular sized impacts from using a bank.
  - Equivalent criteria also requires considering whether privately provided mitigation meets inherently more stringent criteria and standards than government developed mitigation projects.
- **Timelines and Procedures Review:** Establish a simple, standard process for review and approval of all types of mitigation projects -- banks, in lieu fees and project-specific mitigation -- with mandatory timelines that are equivalent for all forms of mitigation. A single mitigation authorization, developed out of a uniform mitigation approval process, should be applied to all types of mitigation.
- **Maximize Available Credits and Opportunities for Banking:** To maximize available credits as directed by the provision, the regulations need to assure that mitigation projects (banks) receive full credit for all on-site functions and encourage use of private mitigation services.
- **Cover all Types of Mitigation.** The regulations need to cover all forms of mitigation performed by any parties. The regulations should not be limited to addressing "opportunities for Federal agency participation in mitigation banking".

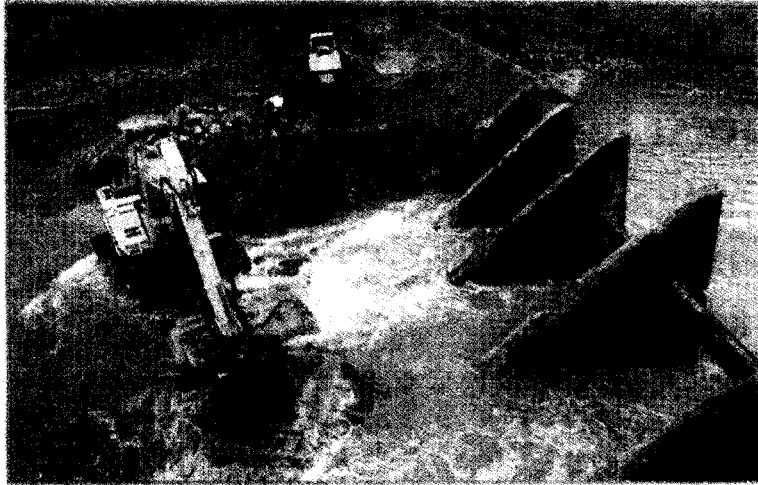
A-1 Front Display

# Star-News

STARNEWSONLINE.COM | WILMINGTON, N.C. | 50¢

THURSDAY, DECEMBER 8, 2005

## Clearing the CAPE FEAR



STAFF PHOTO | JEFFREYS, OTTO

Workers use heavy equipment to dismantle the Caribton Dam near Sanford on the Deep River, a headwater of the Cape Fear. Built decades or even centuries ago to harness the river for commercial traffic and as a source of power, dams continue to influence the river but have largely outlived their purpose.

### Dams coming down to restore flow of river

By Gareth McGrath  
Staff Writer

CARBINTON | Every tut-tut-tut of the hydraulic hammer into the remnants of the old hydroelectric dam brings the campaign to "Clear the Cape Fear" of man-made obstacles a small step — and chunk of concrete — closer to fruition.

Standing on the banks near the gaping hole that had been carved into the 270-foot-long concrete and earthen dam recently, George Howard pointed to the water gushing through the breach.

"We're returning this river to its colonial days," said Howard, vice president and cofounder of Restoration Systems, a Raleigh-based environmental mitigation firm.

A century ago, migratory fish such as shad, herring and sturgeon ran thick from the Atlantic all the way up past Fayetteville and into the headwaters of the Cape Fear to spawn.

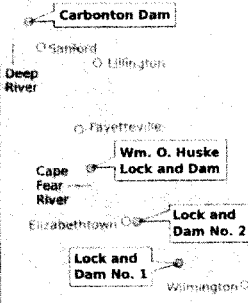
But today a half-dozen dams block their path.

Built decades or even centuries ago to harness the river for commercial

SEE DAM | 4A

#### REOPENING THE RIVER

A company removing the Caribton Dam on the Deep River would like to study removing the three corps-run lock and dams along the Lower Cape Fear River.



Sitting on the front porch of his small house a stone's throw from the now less-than-Deep River, John Humphrey reminisced about how his father brought him to the dam's impoundment to fish and how he did the same with his kids and grandkids. "It's sort of like losing something you've grown up with," he said.

#### DAM BUSTERS

Environmentalists largely support dam-removal projects as a way to return waterways to their natural state. But there also are some drawbacks to changing habitats to which man and Mother Nature have adapted over time. Here's a list of some of the possible benefits and problems resulting from the removal of the three lock and dams along the Cape Fear River.

#### POTENTIAL BENEFITS

Returning the Cape Fear to a fast-flowing river would allow endangered native species like mussels and the Cape Fear shiner, a freshwater minnow, to re-colonize former habitat. Allowing migratory fish to reach historic inland spawning grounds increases their numbers and provides food sources for other species. Habitat for invasive/exotic species like carp and several species of catfish would be decreased. Problems associated with slow-moving waterways, such as algal blooms, would be reduced.

#### POTENTIAL PROBLEMS

Several communities, including Wilmington and Fayetteville, have their primary water intakes on the Cape Fear behind the lock and dams. Removing the dams could force the relocation or rebuilding of public boat ramps. It also would reduce deep, slow-moving impoundment areas favored by many fishermen. Dams trap sand and silt that would normally flow downstream, and it's not known whether the buildup of material behind the Cape Fear dams would have to be removed.

# LENNON

CONTINUED FROM 1A

Lennon walking through the neighborhood with his son, Sean. "The Beatles were a big part of my life," Cullen said.

On the night of Dec. 8, 1980, Lynn was in the ER. Weiss was heading home from the newsroom. Cullen and Spiro were on the job — and Mark David Chapman was lurking outside Lennon's home.

The chubby man with the wire-rimmed glasses stood patiently in the dark outside the Dakota apartment house. He carried a copy of *The Catcher in the Rye*, the J.D. Salinger tale of disaffected youth, and a five-shot .38-caliber revolver.

Lennon, just two months past his 40th birthday, returned from a downtown Manhattan recording studio at 10:50 p.m. with wife Yoko Ono. The limousine stopped at the ornate 72nd Street gate; John and Yoko emerged. Chapman's voice, the same one that had beseeched the ex-Beatle for an autograph hours earlier, rang out: "Mr. Lennon!"

The handgun was leveled at the rock world's foremost pacifist. Four bullets pierced their famous target.

## THE OPS

Back in 1965, while still in the Police Academy, 23-year-old Pete Cullen's first real assignment was working security outside the Warwick Hotel on West 54th Street. Upstairs, safe from the insanity below, were the Beatles.

Fifteen years later, the officer was staring at a dying John Lennon within minutes after Chapman opened fire. Cullen and Spiro were first to answer the report of shots fired.

Cullen was struck by the lack of movement: the doorman, a building handyman and the killer, all standing as if frozen.

"Somebody just shot John Lennon!" the doorman finally shouted, pointing at Chapman.

"Where's Lennon?" Cullen asked. The rock star was crumpled inside a nearby vestibule, blood pouring from his chest. There were bullet holes in the glass; Cullen went to Lennon's side as Spiro cuffed the gunman.

Two other officers lugged Lennon's limp body to a waiting police car, which sped downtown to Roosevelt Hospital. The cuffed suspect directed Spiro to

his copy of *The Catcher in the Rye*, which was lying on the ground nearby with the inscription, "This is my statement." And then he spoke: "I acted alone," Chapman said.

In the midst of the chaos, Cullen spotted Yoko Ono. "Can I go, too?" she asked as her husband disappeared. A ride was quickly arranged. Cullen and Spiro then loaded Chapman into their car for a trip to the 20th Precinct.

"He was apologetic," Cullen recalled — but not for shooting Lennon. "I remember that he was apologizing for giving us a hard time."

## THE DOCTOR

Dr. Stephan Lynn walked to the end of the emergency room hall where Yoko Ono was waiting in an otherwise empty room. It was his job to deliver the word that John Lennon, her soulmate and spouse, was dead.

"She refused to accept or believe that," Lynn recalled. "For five minutes, she kept repeating, 'It's not true. I don't believe you. You're lying.'"

Lynn listened quietly. His 15-hour shift had ended at 10:30 p.m., with Lynn returning to his home in Lennon's neighborhood. His phone was soon ringing; could he come back to help out? A man with a gunshot to the chest was coming to Roosevelt.

The victim had no pulse, no blood pressure, no breathing. Lynn, joined by two other doctors, worked frantically. Gradually, they came to realize that they were trying to save the life of one of the world's most famous men.

Twenty minutes later, they gave up.

Back in the emergency room, Lynn arranged for the disposal of all medical supplies and equipment used on Lennon — a move to thwart ghoulish collectors.

It was almost 3 a.m. when he began walking home up Columbus Avenue. His wife and two daughters were there; one of them attended the same school as Lennon's son Sean. Many nights, the Lynns and the Lenons sat in the same restaurant eating sushi. Often, the famous family strolled down 72nd Street.

That world was gone along with Lennon.

"I never again saw Yoko and Sean walking the streets," the doctor said. "Going out in public? That ceased to take place."



STAFF PHOTO JEFFREYS OTTO

'We're returning this river to its colonial days,' said George Howard, vice president and cofounder of Restoration Systems, a Raleigh-based environmental mitigation firm.

## DAM

CONTINUED FROM 1A

traffic and as a source of power, the dams continue to influence the Cape Fear even as they have largely outlived their purpose.

The three locks run by the Army Corps of Engineers along the Lower Cape Fear, for example, are now opened only to provide passage to migratory fish. The commercial traffic they were built to serve dried up long ago, and recreational boats have slowed to a trickle.

Restoration Systems wants to change that by removing most of the structures — including possibly all three of the lock and dams.

The roughly \$8.2 million dam-removal project here along the Deep River, one of the river's headwaters, offers a blueprint as to how the company would approach the Cape Fear facilities.

Howard said the two upper lock and dams, both in Bladen County, were ranked among the five dams whose removal would be most beneficial to the environment by the N.C. Dam Removal Task Force. The group is a multi-agency group looking at dams that pose problems for the environment.

"There's been a tremendous amount of damage done to that river, and we see abundant restoration opportunities along the Cape Fear," he said.

Biologists agree. "I don't think there's any question that the dams are a tremendous break on the river's ability to produce fish," said Mike Wicker, a biologist with the U.S. Fish and Wildlife Service's Raleigh office. "Here we have a potentially very productive system that's being denied this productivity by these dams."

## An act of Congress

But there are plenty of rapids to navigate before heavy equipment could begin dismantling the structures. Regulatory and operational issues must be tackled. It would literally require an act of Congress.

Corps officials have said the agency can't just turn the proverbial keys to the locks over to the private sector — even though the agency has been pushing for years to get out of the Cape Fear dam business.

"The bottom line is they are an authorized project, and before we or anybody else can do anything to them they have to be de-authorized, and that requires an act of Congress," said corps biologist Frank Yeiverton. "And we can't go to Congress until we have a report."

The corps is reviewing its mitigation requirements for the ongoing Wilmington Harbor Deepening project, which could include a recommendation on the fate of the lock and dams.

Some eyebrows also have been raised about Restoration System's zeal to invest its time and money to remove the dams. The Carbondon project is the first dam removal in North Carolina primarily for mitigation purposes.

Howard doesn't deny that his company is in the dam-removal business to make a profit. The Carbondon project will generate mitigation credits for the N.C. Department of Transportation and Siler City.

But he said the concept makes development a driver — instead an enemy — of conservation.

"On the one hand, we're helping growth," Howard said. "On the other hand, we're re-growing resources that were lost a long time ago."

"We really do see it as a win-win proposition."

## Stagnant waters

The Carbondon Dam, tucked into this quiet corner of the hilly Sandhills equidistant from Raleigh, Fayetteville and Greensboro, wasn't in good shape before the heavy equipment moved in last week.

"It was basically an abandoned dam," Howard said, ticking off a slew of safety and structural problems.

The 17-foot-high dam, which was built in 1921, is the latest in a series of dams that has sought to harness this stretch of the

Deep River.

But man's push to control nature has remade nearly 11 miles of waterway above the dam.

From a free-flowing river, the Deep has turned into a slow-moving waterway that has lost many of its natural characteristics.

Instead of native mussels and a stable population of Cape Fear shiner, an endangered freshwater minnow, the largely stagnant stretch of river became home to catfish, carp and bass.

"There are a lot of fish species up there, but not what would be in there naturally," said Ryan Heise, a biologist with the N.C. Wildlife Resources Commission.

The dam also blocked the flow of material downstream, leaving a mass of material wedged against the structure.

"The downstream part of this river is sediment-starved, which would be the same case in the Cape Fear River," Howard said as a backhoe removed a picnic table-size chunk of concrete from the broken dam.

## A changed environment

But removing a dam isn't as simply as hauling heavy equipment into a river or using a few sticks of dynamite.

The areas above the Cape Fear's lock and dams, as above the Carbondon Dam, have adapted to the new environment.

They also have become recreational draws, providing important economic boosts to rural communities that don't have a lot else going for them.

The impoundment areas behind the dams also are home to the water intakes for several communities in the watershed, including Wilmington and Fayetteville.

Howard said his company is sensitive to the needs and concerns of the community and would work with all stakeholders to mitigate any problems caused by the dam removal.

"This would be a fairly complex arrangement, and one that could take a lot of work on both sides," he said. "But the essential proposal is fairly straightforward."

For instance, the company plans to give the N.C. Wildlife Resources Commission \$20,000 to replace or modify a boat ramp that's been left dry just above the Carbonton Dam as water levels have fallen. The old dam site also will be turned into a public park.

Howard also said that dam removal isn't a process that happens overnight. The Carbonton Dam removal is a 10-year project, with half of that dedicated to environmental monitoring after the dam is removed.

While any possible action on the corps' lock and dams is probably years off, the seed has been planted for their removal.

Howard said he's already broached the idea with officials in Washington and Raleigh and received positive feedback.

But he understands that not everyone will be happy to see the dams go.

Sitting on the front porch of his small house a stone's throw from the now less-than Deep River, John Humphrey reminisced about how his father brought him to the dam's impoundment to fish and how he did the same with his kids and grandkids.

"It's sort of like losing something you've grown up with," he said, the thump of the hydraulic hammer echoing through the tree-covered hills. "But if there's a reason for it, OK."

"But a lot of people around here are going to miss it."

## Editorial

---

# Finally running free

Small stream dams have been a part of the Eastern North Carolina scenery so long that even the old-timers can't remember what it was like before they were built. Some powered grist mills, others produced that new-fangled electricity to illuminate the homes, barns and lives of rural and small folks many decades ago. But for all the benefits they once provided, the dams' environmental impact was significant.

Now, with the roar of dynamite and the growl of heavy equipment, more and more of the old dams are being dismantled to recreate free-flowing streams across the region. It is a project that will benefit the streams, the aquatic life that calls them home and the human visitors who like to fish, paddle or simply loaf along their banks.

The impact of even one small dam can be far reaching. Last week, crews began

removing the Lowell Dam on the Little River in Johnston County. The demolition not only will return the Little River to its natural past, but Buffalo Creek, Little Buffalo Creek and Long Branch also will be opened to migrating fish for the first time in many generations.

And the fish are ready to come. One Johnston County farmer whose family once owned the Lowell Dam said thousands of shad had begun gathering each spring on the downstream side of the dam since the 1999 removal of the Rains Mill Dam further down-river near Princeton. Environmentalists say that removing Lowell Dam will open 39 miles of area streams to migratory fish.

Free-flowing water also helps flush away pollution. All in all, the result of opening these creeks and rivers will be a more natural and healthier environment. That's a plus for every living thing.

---

# THE NEWS & OBSERVER

A-1 Front Display

NEWS UPDATES AT WWW.NEWSOBSERVER.COM • WEST EDITION, 50 CENTS

FRIDAY, DECEMBER 30, 2005

©2005 THE NEWS AND OBSERVER PUBLISHING COMPANY • RALEIGH, N.C.

*'It's the first time since 1810 that [migratory] fish have been able to pass this far upstream into the Piedmont.'*

GEORGE HOWARD, CO-FOUNDER OF RESTORATION SYSTEMS

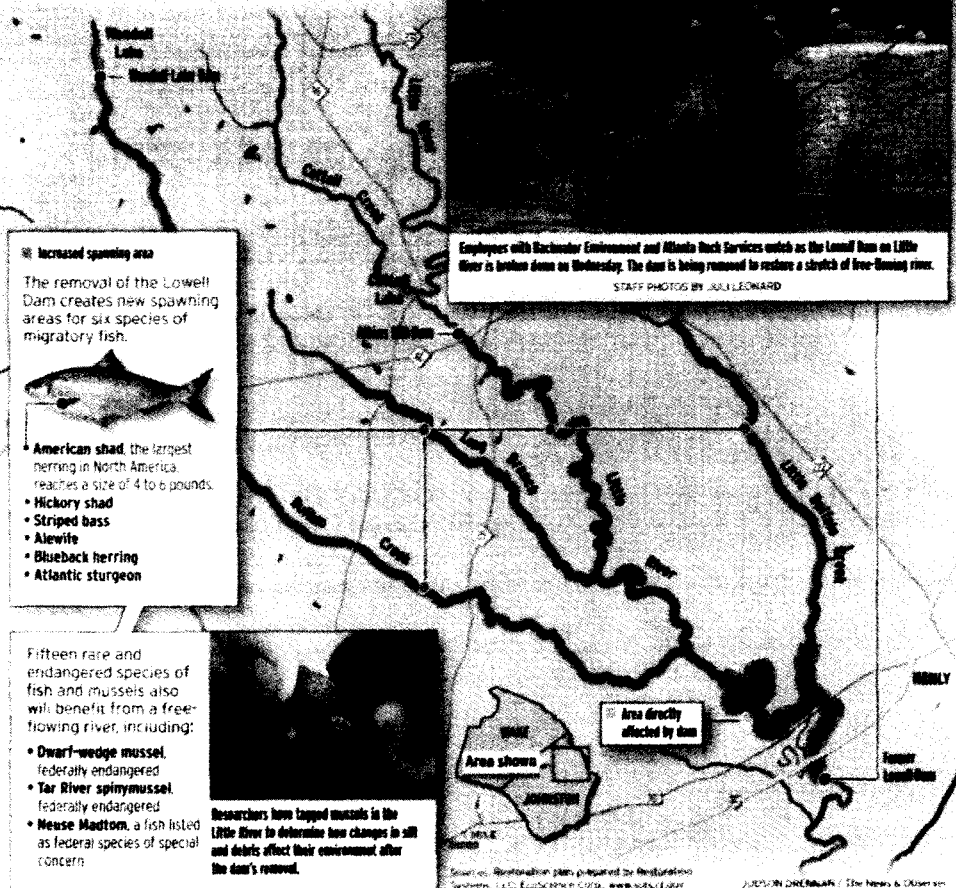
## TORPEDO THE DAMS!

The removal of the Lowell Dam will restore about 39 miles of the Little River and its tributaries to their natural free-flowing waters. That creates additional spawning area for fish such as the shad, herring and striped bass that migrate from the ocean to fresh waters to spawn. A public park is planned for a 17-acre area near the former dam site.



Employees with Backhoe Environment and Atlantic Back Services watch as the Lowell Dam on Little River is broken down on Wednesday. The dam is being removed to restore a stretch of free-flowing river.

STAFF PHOTOS BY JULIE LEONARD



### Expect waterways flush with migratory fish once outdated dams are dust

BY WADE RAWLINS  
STAFF WRITER

#### SOME OF THE STATE'S NEXT TARGETS

**KENLY** - Three blasts of dynamite turned the 10-foot-thick Lowell Dam into a crazed wall of concrete rubble that backhoes began scooping away this week.

Soon, the Little River will return to a shallow, rock-riffled waterway that feeds the Neuse. And by spring, migratory fish such as shad, herring and striped bass will have free passage from the Atlantic Ocean up the Little River and Buffalo Creek almost to Wake County.

The Lowell Dam, near Kenly in Johnston County, is the fourth dam on the Neuse and Little rivers to fall since 1998 in an effort to restore free-flowing waters in the river basin and reopen historic

A task force composed of representatives of federal and state agencies compiled a list of which dam removals in North Carolina would produce the most environmental benefits. Among them are:

- Lowell Dam on Little River in Johnston County
- Cape Fear River Lock and Dam #2, near Elizabethtown
- Cape Fear River Lock and Dam #3, southeast of Fayetteville
- Caribton Dam on Deep River in Lee County, near border with Chatham and Moore counties
- Buckhorn Dam on Cape Fear River, on Chatham/Lee county border, east of Sanford
- Rocky Mount Millpond on Tar River in Nash County
- Milburne Dam on Neuse River in Wake County
- Wiggins Millpond on Contentnea Creek in Wilson County

SOURCE: U.S. FISH & WILDLIFE SERVICE

spawning grounds.

For species such as herring, greater areas for spawning means a chance to reverse de-

clining populations.

More abundant fish means more opportunity for people who enjoy catching and eating

them and for commercial fishermen who depend on catches to make a living.

"It's the first time since 1810 that [migratory] fish have been able to pass this far upstream into the Piedmont," said George Howard, co-founder of Restoration Systems, a Raleigh company that specializes in environmental restoration and undertook the dam removal.

Nearby, at the border of Lee, Chatham and Moore counties, another outdated impoundment, the Caribton Dam, is coming down to restore habitat for the Cape Fear shiner, a small endangered minnow. The fish is found only in a few places in the Deep River and other tributaries

SEE DAM, PAGE 14A

# DAM

CONTINUED FROM PAGE 1A

of the Cape Fear River.

Dam removals restore habitat for aquatic species. In coming months, on the newly exposed mud flats behind Lowell Dam, restoration crews will roll out mats of coconut fiber seeded with rye grass and plant trees there to stabilize the river banks.

## New role in river's life

Gary Scott, 33, a Johnston County farmer whose family once owned the dam, stood on the bank watching the yellow backhoes scoop up chunks of concrete. Scott said the structure had served its purpose powering a mill to grind grain, and its removal was good for the environment.

"It will give the folks upstream a chance to catch some of these shad that we have been hogging," Scott said.

Scott said he had seen thousands of shad gathered at the Lowell Dam each spring — blocked by the structure from swimming further. The fish had made their way to the Lowell Dam only since 1999, when the Rains Mill Dam downstream near Princeton was removed.

"You can come down here in early spring, and people are just lined up here fishing," he said. "There are people trying to catch them by hand."

Historically, the Neuse River and its tributaries produced more American shad than any other river in the state. The dams have been a barrier to the spring spawning run of the species, which has declined dramatically in commercial catches. Large migrations of American shad are expected to occur next spring in the stretch of river above the Lowell Dam.

Tim Savidge, an aquatic biologist with the Catena Group, an environmental consulting company involved in the project, said removing the dam should provide more suitable habitat not only for fish, but for several species of endangered mussels. The dwarf-wedge mussel and Tar River spiny mussel are among those that will benefit. Some species of freshwater mussels attach themselves to fish gills to move about as part of their reproduction process.

Before the demolition, Savidge and several divers were tagging mussels buried in the river bottom near the dam. They'll sur-



Downstream from the Lowell Dam, Chris Sheats, left, and Tim Savidge tag mussels buried in the river bottom. The tags enable researchers to study how the mussels are affected by the dam's removal or by sediment moving downstream.

STAFF PHOTOS BY JULIE EDNARD

vey the mussels in months ahead to determine how the dam's removal has affected them and whether they've been choked by sediment moving downstream.

Since the removal of the Rains Mill Dam in 1999, Savidge said he had found species of mussels that had been found only below the dam beforehand, indicating they were expanding their presence in the river. He expects to observe a similar pattern after this dam removal.

"Just a simple thing like changing the speed at which a river flows changes the aquatic habitat," said Adam Riggsbee, a graduate student in environmental sciences at the University of North Carolina at Chapel Hill who is doing research on the dam removals.

Both the Lowell and Carbon-ton dams were on a list of small dams compiled by state and federal agencies in 2002 that would benefit the environment by being removed. Other high-priority removals are two dams on the Cape Fear.

"We're not trying to look at all dams and say they are bad," said Mike Wicker, a biologist with the U.S. Fish & Wildlife Service.



Smoke and dust rise as Lowell Dam, with its 10-foot-thick walls, is blown up to make that stretch of the river flow free again, providing a larger spawning area for fish.

"We do think there are a small number of dams in North Carolina that are extremely bad for the environment. We're trying to ferret out the ones that are atrocities for the environment and get rid of those."

Federal laws such as the Clean Water Act require a trade-off when development or highway construction harms the environ-

ment. The harm must be offset by an environmental good deed, such as a stream restoration or dam removal.

## Ecological 'credits'

But the state doesn't actually have to do the restoration work itself. Instead, it can purchase "credits" from someone else who

has done environmental restoration work.

Restoration Systems purchased the Lowell Dam, then won a \$4.3 million state contract to sell its conservation credits generated by the removal. It is also removing the Carabonton Dam.

The state will use the credits to compensate for disturbance caused by state highway projects such as Raleigh's Outer Loop. The number of credits is based on the length of the river that is restored by removing the dam.

"The Outer Loop is driving the removal of this dam and restoration of this river," Restoration's Howard said.

Restoration Systems also plans to donate 17 acres for a public park and provide \$140,000 as an endowment to maintain the park.

"The question is, what do we want our world to look like?" Howard said. "People have stated a strong preference to policy-makers that, 'We want our world to bear some resemblance to that which we once knew.' That includes fish and mussels."

Staff writer Wade Rawlins can be reached at 829-4528 or wrawlins@newsobserver.com.



Wednesday  
October 19, 2005

# The Fayetteville Observer

Home Edition

North Carolina's Oldest Newspaper -- Established 1816

50¢

VOL. CXC-No. 2



Staff photo by David Smith

**Biologist Mike Wicker** of the U.S. Fish and Wildlife Service measures oxygen and carbon dioxide in the Deep River below the Carbondon Dam. The water's stillness and depth near the dam make it susceptible to temperature variances and algal blooms that can lower oxygen levels and kill fish.

## Deep River will soon go with its flow

**By Nomee Landis**  
Staff writer

**CARBONTON** — The Deep River will begin falling this week behind the Carbondon Dam, the first step in removing the structure and freeing the river here.

Demolition of the dam is expected to be finished by late this year or early next year. A state task force in 2002 ranked it No. 4 on a list of impoundments that should be removed for environmental reasons.

The dam's removal will return the

Deep to its shallower, more natural flow patterns for more than nine miles. It will open 19 miles of the river to fisheries that were divided when the dam was built 84 years ago.

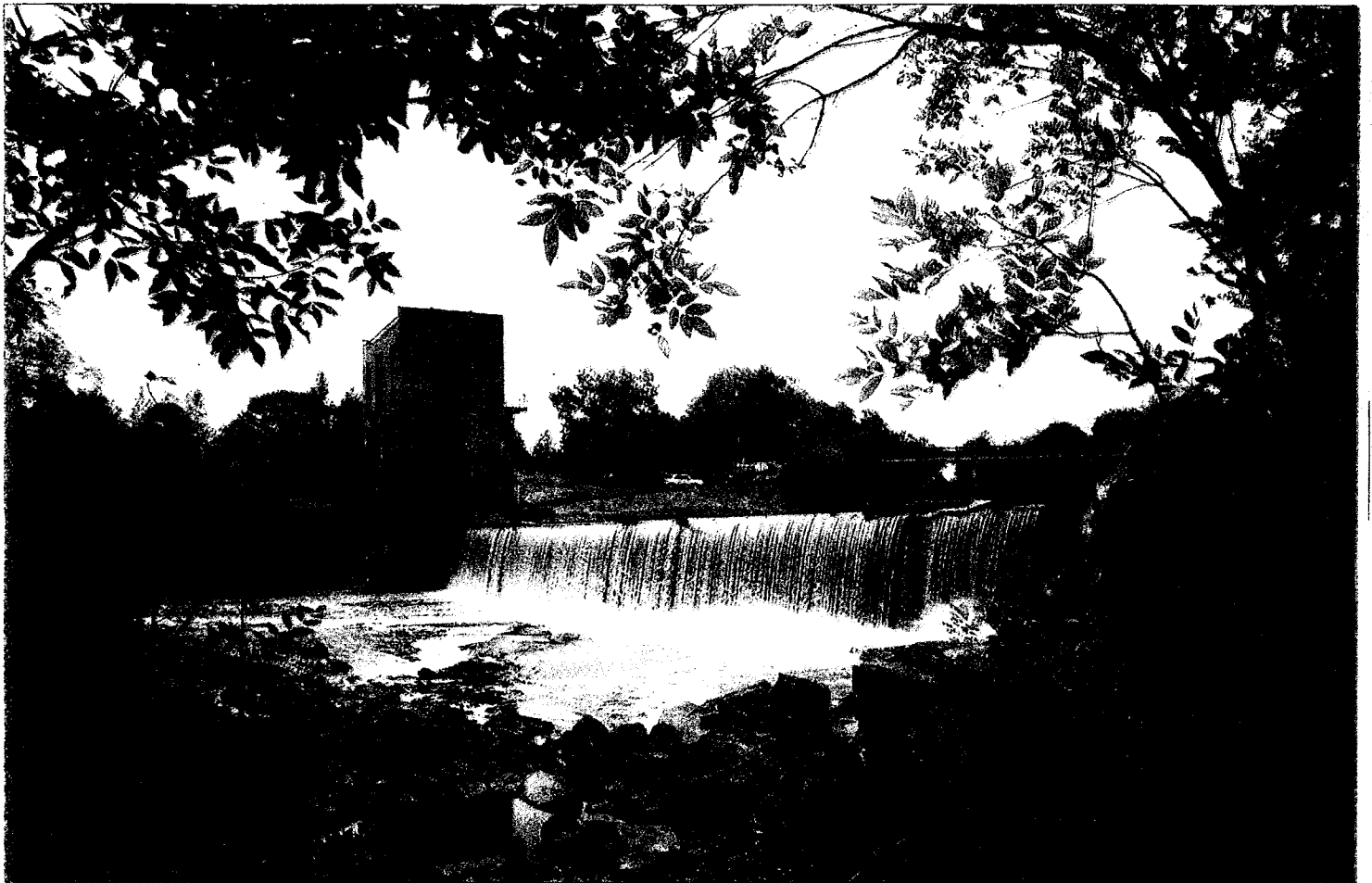
State wildlife and water quality staffers say dismantling the dam will significantly improve the health of the river and the wildlife it supports. Local anglers and those who live near the dam say they will lose something more than stone and brick when the structure falls.

It will take between one and two weeks to release enough water for en-

gineers to get a good look at the dam and the river bottom behind it, said George Howard of Restoration Systems, the Raleigh company that is removing the dam. Howard is the founder and vice president of the company.

When the water has fallen low enough, engineers will decide whether sediments and debris behind the dam should be removed or allowed to move downstream later with the river's currents. Howard said they also may discover the remnants of an old dam be-

See **DAM**, Page 4A



Staff photos by David Smith

**Water spills** over the Carbonton Dam, which was built 84 years ago. Removing it will return the Deep River to a shallower, more natural flow pattern.

# Dam: Environmentalists find rare species in section of river

From Page 1A

hind the existing one.

Once the dam is gone, Restoration Systems will build a park on the 5-acre site, on the south side of the river. The Triangle Land Conservancy will ultimately manage the park.

Restoration Systems does environmental mitigation. In this case, removing the dam will restore several miles of stream bank to its natural state. Such projects are used to compensate for the destruction of other, similar resources.

The town of Siler City plans to enlarge its dam on the Rocky River, a tributary of the Deep, to shore up drinking-water supplies. That project will destroy two miles of stream bank.

The Carbonton project is the "ideal mitigation for the loss of that resource," Howard said. "It is not the perfect solution, but it is the best that can be arranged."



**Howard**

The Carbonton project is the first of its kind, Howard said. Most stream-restoration projects involve returning channelized streams to their natural meandering states.

The demolition of the dam will lower the river level by between 13 and 16 feet, Howard said. That will make the N.C. Wildlife Resources Commission boat ramp that lies just upstream unusable.

Howard said Restoration Systems is working with the commission to find an alternative ramp site. If a site is not found within 10 miles of the existing ramp, the company will pay the commission \$20,000.

The park will offer a passive site where kayakers and canoeists can put their boats in the water, Howard said. Unless the water level is abnormally high, it will not be suitable for motor boats.

## Something missing

Anglers who fish upstream of the dam in the lake-like stillness it creates say they will miss boating on and fishing in that deep water. And those who live around the dam say they will miss their community's



**George Howard** of Restoration Systems looks at the Deep River near the dam. The Raleigh company will remove the dam and build a park on the 5-acre site.

historic icon.

Gail Borg of Fayetteville has been fishing upstream of the Carbonton Dam with her husband, Jim, for years. He fishes for bass. She goes after the bream or the bluegill.

"It is so beautiful," Gail Borg said. "The serenity is unbelievable. I will stop fishing just to look around, look at the wildlife."

The couple uses the wildlife commission boat ramp. The dam's demise will force them to go elsewhere, a prospect that gives them little pleasure.

"There are not many areas you can go and see what you can see and be able to fish and enjoy it," Gail Borg said.

The Deep is a heavily dammed river. More than a dozen small hydropower dams still exist on the Deep. Construction of the Randleman Dam on the river in Randolph County was completed last year at a cost of about \$85 million.

Bobby Diver grew up in the Carbonton area and raises chickens in Moore County, near the House in the Horseshoe. He does not want the dam demolished because it has been a part of the community for more than 80 years. He said a park will attract crime.

"I hate to see it taken out," Diver said. "All it's going to be is a little creek running through there — and a mess."

Diver's brother, Edward Diver, lives about a mile downstream of the dam. The river there is about 30 feet wide and knee-deep. He can still catch bass, catfish and bream in it, though.

## Potential problems

In 2002, representatives of nine state and federal agencies, from the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers to the N.C. Division of Water Quality and the Wildlife Resources Com-

mission, took part in the task force that ranked the dams according to their environmental effects.

Carbonton Dam was listed because of its adverse effects on water quality in the Deep River. Near the dam, the water's stillness and depth make it susceptible to temperature variance and algal blooms. That can lead to low oxygen levels in the water and fish kills.

Tim Savidge is an environmental supervisor with the Catena Group, a small environmental consulting firm in Hillsborough. The company performed an aquatic life survey in the river as part of the dam-removal process, in part to look for rare species.

They found them, too. They found the endangered Cape Fear shiner, a minnow that lives only in a few places in the Cape Fear River basin. That was not really a surprise, Savidge said, because it is known to live in the area of the Deep River.

Finding a granddaddy Roanoke slabshell mussel was a surprise, though.

Some mussels can survive for more than a century, Savidge said. This particular specimen, the scientists surmised, probably has been around since before the Carbonton Dam was built.

Savidge said it is believed that the Roanoke slabshell depends on an anadromous fish species for its survival. That is a fish that lives in salt water but swims up fresh-water streams to spawn.

Juvenile mussels have a parasitic relationship with their host fish species, attaching themselves to the gills of their hosts. In this way, mussels are transported throughout a river system.

The Carbonton Dam as well as other downstream dams have isolated some mussel populations, preventing their reproduction.

Removing the Carbonton Dam, Savidge said, may not be enough for the Roanoke slabshell, but about six other mussel species and more than 20 other fish species will have more room and more habitat once the dam is gone.

Staff writer Nomee Landis can be reached at [landisn@fayettevillenc.com](mailto:landisn@fayettevillenc.com) or 486-3595.

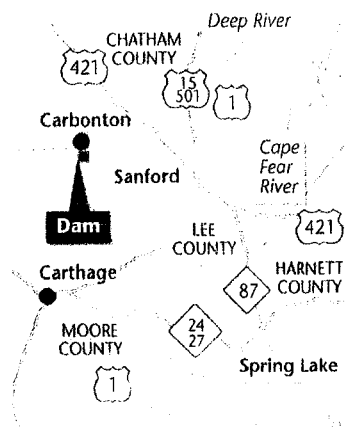
## CARBONTON DAM

■ **The dam** is on the Deep River in the Carbonton community at the Lee-Moore County line.

■ **It was built** in 1921 and is 216 feet long and 16 to 18 feet tall.

■ **The dam** affects 9.3 miles of the Deep River

■ **Removing the dam** will open 19 miles of habitat to downstream fisheries.



Staff graphic

# NEWS & RECORD <sup>AL-Front Display</sup>

Wednesday, January 4, 2006

*Greensboro, North Carolina*

**'WE CAN UNDO SOME OF THE DAMAGE THAT WE HAVE DONE'**



JEFFREY S. OTTO/The Associated Press

Environmental crews recently began tearing down the Carbonton Dam on the Deep River. The project, 30 miles downstream from the new Randleman Reservoir, will be a counterweight to environmental damage caused by other projects in the region.

## PROJECT TURNS THE RIVER WILD

# Carbonton Dam comes down to improve Deep River's health

BY TAFT WIREBACK  
Staff Writer

**CARBONTON** — It's Randleman Reservoir in reverse.

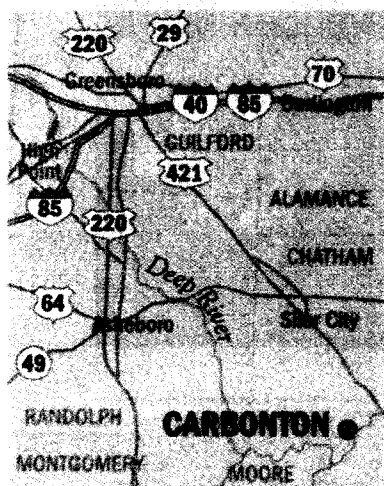
Thirty miles downstream from the new structure in northern Randolph County, another dam across the Deep River is coming down just as the Piedmont Triad's newest lake is about to take final shape.

Environmental crews recently began tearing down the Carbonton Dam, lowering what had been a lake 25 feet deep in spots and stretching back nearly 10 miles.

Soon, the river in that area will look similar to its appearance in the 19th century.

The \$8.25 million demolition — on the line between Chatham and Lee counties — is aimed at improving the river's overall environmental health.

The demolition also will be a counterweight to environmental damage caused by other projects in the region, enabling road and other construction projects to go forward



TIM RICKARD/News & Record

in line with federal environmental standards.

The driving force behind the Carbonton demolition is an environmental firm, Restoration Systems, with offices in Greensboro and Raleigh.

"We've been working on this proj-

ect for five years. It's been a real commitment for us," said Greensboro native George Howard, co-founder of the seven-year-old company.

"And we'll be following it up for the next five years, monitoring what happens at 53 different testing locations," said Howard, whose partner in the firm is fellow Greensboro native John Preyer.

The existing dam — or what's left of it — dates to 1921. But some type of dam has been at the site about two centuries.

Howard said a reasonable way to make room for new dams such as Randleman is to remove earlier projects, such as Carbonton, that have outlived their usefulness.

"Yes, it's disappointing that new dams and reservoirs have to be built," he said.

"But on the other hand, we can undo some of the damage that we have done" elsewhere.

See **Dam**, Page A4

# Dam

Continued from Page A1

## Getting back to nature

Dams are not popular with environmentalists because they disrupt a river's natural flow, changing the kinds of water plants and creatures that can thrive.

But they are needed as sources of drinking water and, in some cases, electrical power.

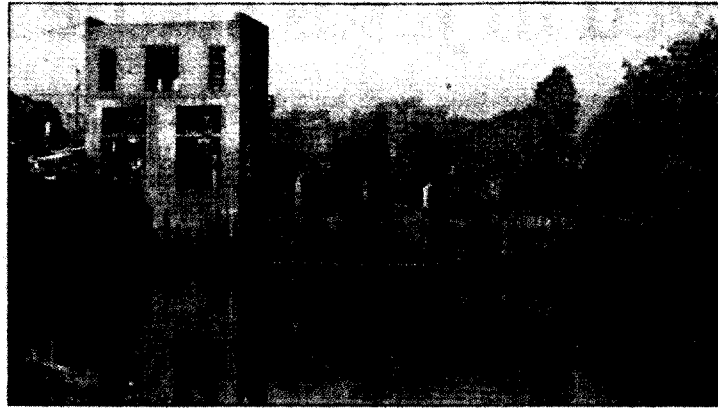
The demolition of Carbonton's former hydroelectric dam is being done to accumulate environmental "offsets," or credits, linked to successfully returning that section of the Deep to its natural, unobstructed composition.

Credits from the Carbonton project will go to the state Department of Transportation and to nearby Siler City, allowing the state to keep building or improving roads and the city to expand its existing reservoir.

Road building and reservoir expansion detract from existing streams by changing their most basic features. For example, a creek might be piped through a large culvert so a highway can be built across it.

Federal law requires public and private developers to offset such damage by protecting or restoring other streams in the same vicinity.

Howard's company is working with a state program, the N.C. Ecosystem Enhancement Program, which administers the resulting "stream mitiga-



Courtesy of Restoration Systems

The existing dam — or what's left of it — dates to 1921. But some type of dam has been at the site about two centuries.

tion" credits.

Just like the construction of Randleman Reservoir, the destruction of Carbonton Dam is not universally popular.

Residents of the crossroads community in southern Chatham County have grown accustomed to the lake and the recreation it provided, with depths great enough for motorboats.

"It's just been a big fishing hole for everybody, and they don't like losing it," said Crystal Phillips, cashier at Jim's Cash Mart, up the road from the former hydroelectric dam.

Removal will lower river levels by as much as 20 feet, turning that stretch into a stream suitable for canoes and kayaks but no longer deep enough for motorboats.

Fish and other aquatic life will also change, meaning such species as bass and catfish might not be as plentiful.

Project proponents say the

free-flowing river will bring other recreational benefits.

The project includes a 5.5-acre public park on the site, to be maintained by the nonprofit Triangle Land Conservancy.

The conservancy oversees several other sites on the Deep. It envisions boaters being able to put in at Carbonton and paddle to those other sites for such pursuits as hiking or picnicking, said conservancy director Kevin Brice.

"We see this as a 'blue way' as opposed to a greenway," Brice said of the newly emancipated river.

## The old and the new

The dam at Carbonton was operated for years by Carolina Power & Light and later by a small energy company based in Burlington. But the hydroelectric operation was shut down in June 2004.

The two dams' opposite

points on the life cycle aren't the only contrasts between Randleman Reservoir and the Carbonton project.

Experts said building a lake at Randleman will help the environment by requiring the cleanup of several polluted sites along the river.

It also will help by creating a large pool where urban and industrial pollutants can settle out or deteriorate in the slower flow, they said.

But in the rural, lower Deep River, environmental scientists said restoring the natural, faster current would make the water richer in oxygen.

That would allow a native fish — the endangered Cape Fear Shiner — to repopulate a stretch of river it hasn't been able to inhabit for a long time, scientists said.

The dam was partly torn down in late November, allowing the impounded water to drain slowly and return the river to its natural level.

In the coming weeks, Restoration Systems will remove the rest of dam and, eventually, begin work on the park.

Then will come years of monitoring long-range changes in the river both underwater and along its newly exposed banks.

Howard says such restoration projects as Carbonton Dam are the wave of the future because developers will continue to need environmental credits to make up for their impact on the landscape.

Contact Taft Wireback at 373-7100 or [twireback@news-record.com](mailto:twireback@news-record.com)