

Sewers & Shellfish

You can't easily have both. Build a centralized sewer system and watch the land it serves become crowded with people and the coastal waters around it too polluted to safely fish for oysters and clams. It's almost a given unless those building the sewer go to great lengths to control the poisoned runoff that the sewer will inevitably bring. Up until now, though, state and local governments have shown little stomach for real protective measures. As a result, oysters and the estuaries they live in are threatened.

The tide, though, could be turning if the state seriously enforces a new program to control runoff and if local governments heed this lesson recently learned in Brunswick County where the NC Coastal Federation joined environmentalists there to appeal a state permit for a regional sewer system: Politically motivated environmental decisions lead only to chaos and costly delays. Healthy oysters and clean water require more.

One of the first things the Federation did after it formed in 1982 was to comment at a public hearing sponsored by the US Environmental Protection Agency on its draft Environmental Impact Statement, or EIS, that evaluated options for providing sewage treatment on North Carolina's barrier islands.

The study's main conclusion – so obvious today – was that the density of development on land that is marginally suitable for development increases dramatically when centralized sewer systems are built. Land that was unsuitable for septic tanks can be developed once the sewer is available. This increases polluted stormwater runoff contaminating coastal waterways. Dirty runoff from roads, driveways, yards, and roofs overshadows the water-quality benefits from the new sewage-treatment plants.

Because of the EPA study, federal grants to help barrier islands build big new central sewage-treatment systems stopped, but the push to build sewers hardly slowed.

Atlantic Beach, North Topsail, Wrightsville Beach, Oak Island, Ocean Isle, and Sunset Beach continued to see sewers as pots of gold that would glitter into their development rainbow. And, intense interest in building sewers wasn't confined to barrier islands. A number of counties and mainland towns saw sewers as key to growth.

Development boomed. Consultants optimistically advised local governments that sewer systems could be paid for locally with bonds and low interest loans. While federal grants were no longer available, federal funds still flowed for the construction of sewer systems through the state revolving loan fund. A point system used by the state to rank loan applications by local governments favored coastal communities because of their proximity to sensitive, high quality surface waters.

State regulators adopted policies in basinwide water-quality plans supporting rationalization of sewage systems. Bigger was better – or so the state said.

Sewers and Water Pollution

New Hanover County's board of commissioners convinced themselves and voters to support a \$46 million bond referendum in 1984 to build the first "countywide" sewer system on the coast. The campaign for the bond was based on the dubious contention that the sewer was needed to clean up polluted shellfish beds.

Once the county started to provide sewer service, it became obvious the system was more about easing new development than cleaning up polluted waters. It was also obvious that initial cost estimates were grossly low. System costs increased to \$270 million by 1993.

A retrospective analysis in 1997 by William B. Farris, a former Wilmington city manager and now a planning consultant, documented the effects of the sewer on Howe Creek. At the time the sewer was built about 34 percent of its watershed was freshwater wetlands. The state classified the creek as Outstanding Resource Waters in 1989 because of exceptional water quality.

Ten years later only 16 percent of the entire watershed was still undeveloped. The dense development triggered increased stormwater runoff, and the creek is now too polluted for shellfishing.

Other large sewer systems sprung up – some even privately financed – on Topsail Island, Ocean Isle, and Yaupon Beach. Existing sewer systems servicing mainland cities snaked out to new development.



Voices in the Wilderness

South River is about as remote as you can get in Carteret County and still have electricity and telephones. It's not the type of place you'd expect a revolt against the sewers to begin. But in 1983 when Atlantic Beach announced plans to pump its treated sewage 30 miles to Open Grounds Farm, fishermen in South River got angry.

Commercial fishermen throughout Downeast Carteret County had seen severe declines in water quality when this 44,000-acre farm was cleared and drained in the early 1970s. They didn't think much of the sewage plans. The South River Civic Association worked with the NCCF to petition the state to prepare an EIS.

The request was first ignored, but the South River fishermen simply became more determined. Their lobbying eventually persuaded the state to require Atlantic Beach to prepare the study. The EIS would have forced the town to look at the secondary and cumulative effects, such as density of development and stormwater runoff, of the proposed system.

More than 1,000 outraged residents of eastern Carteret County packed the public hearing on the draft study at East Carteret High School. Public opposition so overwhelmed Atlantic Beach that it never finished its study.

Stormwater: The Big Issue

Forced to address stormwater pollution due to pending legal appeals, the state went through a six-year process of developing, adopting, and refining rules to control stormwater runoff in coastal counties. Early proposals by scientists such as Dr. Richard T. Barber of the Duke University Marine Lab, then a member of the NC Environmental Management Commission, had developers up in arms.

Barber recognized from the outset that overland surface runoff generally does not exist on vegetated, undisturbed coastal landscapes. When runoff is created by ditching or paving, it transports bacteria, nutrients, sediments and other pollutants into downstream waters. Treatment measures, commonly called best management practices don't remove enough pollution to assure downstream waters will be clean enough to allow for shellfishing and swimming.

Thus, the only way to keep pollution from entering the water is to develop property in a way that does not create runoff. That means limiting the amount of concrete, asphalt, roofs and other so-called “impervious surfaces” and leaving as much of the natural landscape intact as possible that could absorb runoff before it enters the water. To protect shellfish waters, state officials first told developers they would have to keep the density of development near such waters to less than 10 percent impervious surface or devise ways to allow about eleven inches of rainfall from a 24-hour storm to infiltrate into the ground.

Political pressure mounted. By the time the proposal reached formal rule-making proceedings in 1986 the state’s professional water quality staff was recommending a 12 percent built-upon area or the infiltration of 5 inches of rainfall from a 24-hour rain event.

More than 400 comments from citizens supporting the state’s proposals did not outweigh opposition to the rules mounted by a handful of politically connected developers. The commission weakened the proposal so that no controls were required if development stayed below 25 percent impervious cover. Projects exceeding the built-upon limit had to control a mere 1½ inches of rainfall.

With these weak rules in place, developers hoped stormwater issues would go away. The push for sewers intensified, and scientists busied themselves documenting further declines in coastal water quality.

The Battle is Joined

Brunswick County and the towns of Sunset Beach and Calabash formed the South Brunswick County Water and Sewer Authority in the early 1990s to provide sewer service within a 55-square-mile area just north of Myrtle Beach. Much of the proposed service area is already polluted by stormwater runoff.

The engineer hired to coordinate building the sewer system said the authority would not only provide sewer service but would also regulate stormwater to protect water quality. Concrete plans for preventing and controlling stormwater runoff remained elusive and grossly underfunded, however, despite requests for more details from the Federation and the Sunset Beach Taxpayers Association.

Remarkably, the NC Division of Water Quality signed off on the sewer plans in 1994 without requiring an EIS. The Taxpayers Association and NCCF appealed the decision, and won after a four-day hearing in 1996 before an administrative law judge. It became clear during testimony that the authority had not developed a workable strategy to control stormwater pollution.

The state, in the EIS, outlined an innovative approach for controlling stormwater. It limited the density of development on the barrier island of Sunset Beach to only what could be built anyway with septic tanks. Sewer service was prohibited on any land classified as wetlands. No sewer system

could be built until a federal wastewater stormwater discharge permit was applied for and issued for the entire service area.

Requiring the sewer system to obtain a permit meant stormwater from ditches and culverts would be classified as a point source of pollution – the same as wastewater discharged from an industrial factory or municipal sewage plant. This federal permit is enforceable by citizens. The Taxpayers Association and NCCF decided that these commitments might actually work, and the EIS became final in late 1998.

Two more years passed before the authority received its stormwater permit. Once again, the Taxpayers Association and the Coastal Federation found the state failed to require sufficient and meaningful measures to prevent stormwater pollution. Represented by the Southern Environmental Law Center, the groups appealed the permit in 2001 claiming that it was a prescription for pollution.

This permit appeal did not take place in a policy vacuum. The EPA, in December 1999, issued final rules for the second phase of its stormwater permit program, which requires every community where stormwater poses a threat to water quality to apply for a permit by March 2007. Programs need to be effective in preventing further degradation of water quality.

Because pollution of shellfish waters by stormwater runoff is so common, the sewer authority’s permit is an important precedent for establishing what coastal communities will do to comply with the new program. The permit appeal also came at a terrible time for the authority. Its decade-long struggle had left the authority so in debt that the State Local Government Commission would not allow bonds to be sold to finance the sewer until the permit appeal was resolved.

The parties agreed to try to settle differences. Several months of mediation resulted in a settlement agreement (see sidebar) that is a workable model to prevent further pollution of shellfish waters not only in Brunswick County, but also throughout the coast.

Ironically, many elements of the settlement are almost identical to what the state originally proposed for controlling stormwater pollution on the coast back in 1986. It’s likely that the authority could have built its sewer years ago if the state had just gone ahead and adopted adequate stormwater controls.

The perils of ignoring good science and caving into political pressures are now obvious. Regulatory gridlock pits frustrated neighbors against one another as they struggle with growth-management problems. The absence of environmental protection measures that really work have threatened the health of the oyster and the estuaries in which it lives. Adopting an effective stormwater program modeled after the authority’s permit is essential if oyster populations and the shellfish industry are to be restored on our coast. ■

Highlights of the settlement between the South Brunswick County Water and Sewer Authority and the NC Coastal Federation and Sunset Beach Taxpayers Association:

- Storm events will be monitored for fecal coliform bacteria at outfalls.
- Stormwater will be sampled before it is discharged so that problem waters can quickly be identified.
- In the event that water quality standards are not met, additional management will be implemented with the help of water-quality experts.
- For low-density areas of development a 30-foot wide vegetative buffer is required next to water bodies. For high-density areas excess runoff must pass through a 50-foot wide vegetative buffer.
- Existing sources of stormwater discharge within a half-mile of shellfish harvest waters or draining into tributaries of shellfish harvest areas may not be expanded, and current outflow must meet water quality standards.
- New development may not exceed 12% impervious unless infiltration systems capable of handling absorbing 5 inches of rainfall from a 24-hour storm event are possible.
- A map of storm drains will be created and continued mapping is to be done. Results will be made public.
- Best Management Practices will be enforced to ensure that water quality is in compliance with the requirements of the Clean Water Act.
- There will be no new points of direct stormwater discharge into shellfish harvest waters.

