

Neuse Pollution - The Rest of The Story

by Jim H Starr, JN - Cape Lookout Sail & Power Squadron

At our November dinner meeting, we heard a presentation by Nora Deamer, the NC Department of Water Quality (DWQ) Basin Planner for the Neuse and Cape Fear Rivers. Nora talked about the history of pollution and impaired waters in the Neuse River basin, with particular attention to the Neuse River estuary - the section from New Bern to the mouth of the river. Nora left some of our audience with the impression that the state is doing everything that's reasonable to fix problems in the estuary. That's not true. Here's the rest of the story.

(Full disclosure. As many of you know, I'm the president of the Neuse RIVERKEEPER® Foundation (NRF), a non-profit organization that works to protect water quality in the Neuse River basin.)

What's wrong with our estuary?

Our estuary suffers from eutrophication, the over-fertilization of the river with nitrogen (mostly) and phosphorus that causes unnatural growth of algae and phytoplankton. This growth hampers the normal functioning of the estuary's ecosystem. It causes oxygen levels too low to support fish and shellfish, cloudy water, dying aquatic plant life, and occasional health risks for humans. These impacts were first reported in the 1970s. As Nora reported, the impaired area of the Neuse estuary now extends from New Bern to Oriental, and is growing.

Where does the excess nitrogen come from?

Nora talked about the nitrogen in the river, but not so much about how it gets there. While it is true that there is nitrogen in the river from the natural process of decay in wetlands, grasslands, and forests, it is indisputable that the increase in nitrogen in the river in the last four decades is a result of human activities throughout the river basin. Sources include:

- Surface water runoff - nitrogen being carried into the river from sewage treatment plants, septic systems, farms, lawns, and confined animal feeding operations (CAFOs).
- Polluted ground water flowing into the river from the same sources as above.
- Atmospheric deposition (25% of the total!!) - vehicle emissions of nitrous oxide and CAFO emissions of ammonia into the air.

What is being done about the estuary's problems?

The federal Clean Water Act of 1972 (CWA) is the most important of a large number of laws governing water quality in the United States. Under the provisions of the CWA, the federal government can delegate enforcement to the states. This has been done in North Carolina, where the state legislature, with the support of the NC Department of Environmental and Natural Resources (which includes DWQ), administers federal water quality provisions.

In the mid-90s, there were a series of massive fish kills in the Neuse estuary. Nora described state efforts to create a TMDL (total maximum daily load) limit for the Neuse that would reduce nitrogen pollution to

levels 30% below those present in 1995 and let the estuary heal. What she didn't say was that those efforts went nowhere until the NRF sued the EPA for failing to require NC to take measures to clean up the Neuse. The settlement of that lawsuit led to the TMDL provisions now in place that reduce the nitrogen inputs to the Neuse.

All TMDL provisions were implemented by 2003. Seven years later, what's happened? As Norah said in her presentation, nitrogen levels in the estuary are at or above 1995 levels and growing. The targeted 30% reduction has not been achieved. While the TMDL has certainly had an impact in slowing the effects of population growth in the Neuse basin, the estuary still has problems, as demonstrated by 2009's massive fish kill.

So why wasn't the TMDL plan successful? Nora, in Chapter 24 of the July 2009 Neuse River Basinwide Water Quality Plan (available on line) points out that the fundamental problem is that not all the nitrogen inputs to the Neuse were accounted for when the plan was constructed. Missing were inputs we now know to be significant, including surface water runoff from CAFOs, surface water runoff from previously developed areas, groundwater inputs, and nitrogen getting into the river through air deposition.

Unfortunately, the present DWQ plan for the Neuse seems to be to do nothing further and hope that the estuary heals itself. There are no current state activities directly aimed at fixing the TMDL's shortcomings and restoring the estuary.

What are the prospects for getting things fixed?

To change this situation, there needs to be a public outcry about the state of the river. That's the only thing that will motivate the DWQ to create tougher pollution rules, and motivate the legislature to adopt them. There are very effective lobbyists representing the interests of those who don't want anything done to toughen the state's pollution rules.

So write your state legislators and the governor. Join and support organizations working to improve water quality in the state. Write letters to the editor. Get committed to changing things and tell your friends what you're doing.

As boaters, we need a healthy, thriving Neuse estuary. And the Clean Water Act, the law of the land, says we're entitled to one. Let's make this happen!