

Water Quality

WATER QUALITY IN MOBILE BAY?

One of the most commonly asked questions the Mobile Bay NEP faces is, "How clean is the water in the Mobile Bay estuary?" Unfortunately, such a simple question is difficult to answer.

A recently released National Coastal Condition Report assessed the overall condition of Gulf of Mexico estuaries as between fair and poor based on seven indicators: water clarity, dissolved oxygen, wetland loss, nutrient enrichment, sediment and fish tissue contamination, and diversity of bottom communities. In 1998, a report by the Alabama Department of Environmental Management (ADEM) rated the overall water quality in Mobile Bay as good to fair. Assessing water quality is complex and dependent on the standards used. It may also be affected by season among other factors. Water condition is impacted not only by regulated industrial discharges (point sources) but by harder to control nonpoint sources (see sidebar) Today, ADEM has identified 30 separate stream segments in Mobile and Baldwin Counties that are impaired; chiefly due to low oxygen, pathogens and mercury. However Weeks Bay is listed as an Outstanding National Resource Water and portions of the Tensaw River are classed as an Outstanding Alabama Water. The picture is indeed a mixed bag.

Historically, water quality was relatively unimpaired during early European settlement. An account from a British traveler to the area late in the 19th century described Mobile Bay's "neighboring shores as abounding with immensely large oysters," which, out of the shell, were "quite commonly as long as a man's hand!" Because oysters are good indicators of a healthy environment, we assume the bay's water quality was still very good.

The first "point source pollution" probably emerged with the first paper mill located on Three Mile Creek in 1856. Mobile's abundant water supply was recognized then as an acceptable way of disposing of industrial waste. By the 1940s, pathogen contamination, presumably from sewage, was on the rise. As late as the 1970s, fish kills were common throughout the State but declined to one-half of those values by the 1990s. The vast majority of those kills were almost certainly attributed to low dissolved oxygen in the water as opposed to chemical toxicity. There is seldom an adequate understanding of the fact that there is simply not very much oxygen in water – ever! The "jubilees" of the eastern shore are a naturally occurring manifestation of oxygen depletion.

Dramatic improvements have been made in water quality since the passage of the Clean Water Act in 1970. Initial federal efforts were aimed at point source dischargers on America's waterways and creating financial incentives to municipalities to assist cleaning up domestic sewage and industrial waste. Since the requirement to permit point sources, the number of permittees in Mobile County has risen to over 400, while the level of discharges has decreased substantially. These efforts have been so successful that today the primary threat to water quality is nonpoint source pollution. Land and water use practices, natural processes, coastal population increases, and other human uses can contribute impacts larger than those regulated by discharge permits. We can safely say our water quality is not as good as it was when European settlement began but it is much better than it was in the 1970's. We can also safely say that there are areas of particular concern.



Randy Sims



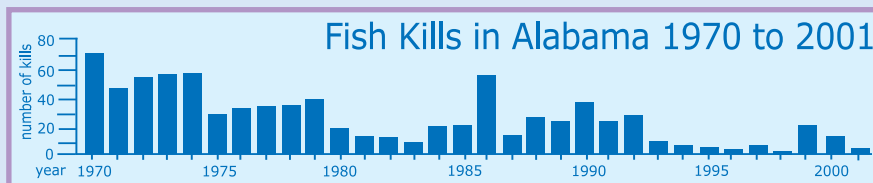
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Mobile Bay NEP



Our challenge in the 21st century is to learn how to control the difficult issues of human activity and habitat alteration directly influencing Mobile Bay water quality.

FAST FACTS

- 1589 – Water closet invented by Sir John Harrington in England but the invention was ignored until 1778
- 1868 – Mobile's first sewer installed in Conti Street
- 1885 – British scientist discovered slow filtration through sand reduces bacteria in drinking water by 98 percent
- 1952 – Alabama State legislature enacted "The Enabling Act" empowering municipalities to create entities that could acquire, purchase, maintain and operate water systems or any part thereof. As a result the Mobile Board of Water and Sewer Commissioners was created
- 1968 – The Mobile Area Water and Sewer System was established as we know it today
- 1977 – Clean Water Act Amendments
- 2002 – Improvements and capital investment in sanitary sewer systems in Mobile, Daphne and Fairhope help reduce introduction of bacteria and pathogens in area waterways. Agreement between the Mobile Area Water and Sewer System and Mobile BayWatch resulted in a \$60 million dollar upgrade by MAWSS over the next five years