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Discussions of the fishery problems in the Chesapeake Bay have gone on since the early 1900's. Maryland and Virginia developed laws governing the taking of striped bass, oysters, and bluecrabs during the period 1910-1920. These laws have been appended and modified over the years, but have remained essentially the same in scope.

Resources are managed as fisheries, by fisheries agencies, both at the state and Federal level. Virginia's MRC manages the fisheries by controlling fishing effort through time, size of target species, and gear restrictions. It manages by controlling the harvester. It also, through a permiting process, manages the wetlands and subaqueous bottom. So does Maryland. Habitat management, through management of the quality of the water column is vested in another agency. In Virginia, the State Water Control Board and/or Department of Health. Their primary mission is to protect human health, not fishes.

Fisheries management plans, developed by Regional Councils, Interstate Compacts, and individual states focus their management efforts on control of the harvester. In estuarine systems this is inadequate. When the VMRC, in 1982 passed the striped bass ISFMP in Virginia, the SWCB was invited to participate. They declined to assist in management of the striped bass saying they would wait for the results of the EPA Bay Study.

Today, Virginia has a draft state striped bass management plan, the need for habitat management is discussed in the plan, but SWCB has not implimented a striped bass habitat management plan. Water fit for spawning may not be fit to drink, more signifcantly, water fit to drink may not be fit for spawning.

Our first problem then is the dichotomy of resource and habitat management.

The second problem deals with the ability of the resource management agencies to deal with fluctuating environment and stocks when the annually meeting General Assemblies must often make the decisions. Virginia and Maryland have taken great strides in this area as they develop management plans for each Bay species. Proper management, whether people or resources is predicated on delegation of authority. The General Assemblies have

delegated the responsibility, but not the authority to go with it. Fortunately, this is changing.

A third area of concern, not a problem perhaps, and one that was highlighted by the 1983 Bay Governors' Conference, is the need for a Fisheries Policy in each state. Virginia has one. A tough question however remains, how does one, the resource agency, allocate the catch? This is a social (political) problem. Does one open an area to patent tonging, at the expense of the handtonger? How is the rockfish catch divided between the sport and commercial fisherman?

What can North Carolina learn for the EPA Chesapeake Bay experience?

Fisheries was, by design, excluded from the study. Of the some 10 or 12 study areas discussed in 1978, "Fisheries Modification" was eliminated as a Chesapeake Bay Program project. This was fair enough, EPA is a water quality agency. Fisheries scientists and managers stood to gain from the studies on toxics, subaquatic vegetation, nutrient loads, and changes in dissolved oxygen. Indeed, the results have been beneficial towards developing an understanding of the impacts of these environmental changes. But....during the eleventh hour, fisheries scientists in Maryland and Virginia were inundated with EPA staffers, and researchers wanting fisheries data.

By inlarge however, we didn't have what they wanted, juvenile indices and commercial catch per unit effort (CPUE). Dependent variables for their regression analyses. Find a cause....and effect....they were under a lot of political pressure. The program had spent $27,000,000 over a five year period, and now people wanted to know the bottom line, what were the impacts on the living marine resources.

Now, what can we learn from the Chesapeake Bay Program experience? First, provide money for Pamlico Sound fisheries data management development. Don't collect new data. Get the data that are "squirreled away" in hundreds of researchers desks and notebooks into a central computer. Focus on recruitment data, those that represent young-of-the-year measurements, and if possible, fishery independent adult stock estimates. New inititives are good, but data for the last 20-30 years will be more beneficial.

Don't leave fisheries research (cause and effects) out. Before we can understand how pollutants affect a stock or its recruitment we need to understand how the natural environment causes fluctuations. Research on the effects of climate scale variability on recruitment mechanisms should come first. After we begin to understand the natural sequence of events we can begin to look at man's impact. Toxicological studies will go a long way in developing an understanding of the underlying causes and impacts of environmental degredation. The impacts of pollutants on the immunological response systems in marine organisms, and the resultant susceptibility of the organisms to disease and parasite infestation has now been documented in the Chesapeake Bay.

The Chesapeake Bay study focused attention on the problems of long-term degredation of an estuarine system. It came up short however, of filling in the bottom line, the impact on the living marine resources. The Albemarle-Pamlico Estuarine Study (APES) has an opportunity, if addressed from the start, to develop a program that will.