EVENING STAR (Washington, D. C.) indicated initial editorial support for the NOAA proposal. Upon further study and reflection, however, the STAR has reversed its initial position. Now, in an August 8 editorial captioned *Environmental Blunder*, the paper wisely urges Congress to "scuttle NOAA." The editorial challenged the rationale for placing NOAA within the Department of Commerce: "It is an administrative decision somewhat akin to appointing the undertaker as lifeguard at the beach . . . there must be no assumption of a conflict of interest . . . ."

There is strong indication that opposition to NOAA within Commerce (Reorganization Plan No. 4) is gathering many adherents within the conservation community. As matters stand, the proposed reorganization will become law within 60 Congressional-session days—now estimated to terminate in Senate and House on October 3, 1970, unless rejected by adoption of Senate Resolution 433 (Nelson), or a corresponding House Resolution, expected to be introduced soon. Either would be expected to carry only if opposition expressed to the Congress is sufficiently strong to generate the needed majority vote.

The very reason stated by the STAR editorial, that tends to make a mockery of the proposal for NOAA within Commerce, is the same one expressed in a July 12 NEW YORK TIMES editorial, which stated (in part): "no agency entrusted with promoting the development of an area's natural resources—minerals, seafood, water power—should be entrusted at the same time with protecting the environment against the consequences of that development. The two objectives often conflict, and it is almost invariably the organized exploiters who win, the unorganized public that loses."

Thus, it courts disaster to assign the responsibility for conserving marine fisheries resources within the Department of Commerce, which is traditionally devoted to development and exploitation of resources rather than their protection from the consequences of such exploitation. This is the basic reason why responsible conservationists are now transmitting their views on this matter, by letter and telegram, to their Congressional representation generally, and the House and Senate Committees on Government Operations in particular. Unless Congress votes to reject it in either branch by about the end of September, Reorganization Plan No. 4 (NOAA in Commerce) will otherwise automatically take effect.

POLYCHLORINATED BIPHENYLS

A group of chemicals known collectively as polychlorinated biphenyls (PCBs) are widely employed by various industries in plastic-based paints and varnishes, lubricants, hydraulic fluids, insulators, etc. They have suddenly begun to show up in quantity as toxic pollutants in waterways, partly because they are being employed in increasing quantity, partly because they have only recently become identified in water analyses. The reason for delayed recognition of these pollutants in the aquatic environment is their analytical similarity in standard gas chromatography studies to the ubiquitous DDT.

As a result, there has been a substantial masking of the presence of PCBs by DDT dominance in the study samples. Some troublesome abnormalities in the DDT analyses in Lake Michigan coho mortality studies, in 1968, at Michigan State University (supported in part by the Sport Fishery Research Foundation in cooperation with the William R. Angell Foundation), led to recognition of the significant presence of PCBs. Similar abnormalities in DDT analyses of Chesapeake Bay water samples were also first noted in 1968 by scientists at the Virginia Institute of Marine Sciences (VIMS), again noted in 1969. More detailed studies led to recognition of the PCBs in Virginia estuarine waters.

According to VIMS' Dr. Morris Brehmer, toxicity of the PCBs approaches that of DDT and their chemical and biological characteristics are similar. They are strongly adsorbed on particles; they concentrate in animal fat; and they are transferred through the food chain. He said, moreover:

> PCBs in very low concentrations cause deaths in fish, crab and oyster populations. Dr. T. W. Duke and his colleagues at the Bureau of Commercial Fisheries Laboratory in Florida report that one part per billion (or less than one pint of one PCB in 300 acres of water a foot deep) will affect the growth of oysters. Effects of PCBs on plants and animals lower in the food chain have not been determined.

Studies are now under way at VIMS to determine the levels of PCBs in blue crabs, oysters, and in estuarine sediment. Also, attempts are being made to determine the chemicals' sources. It is evident that PCBs should be easier for regulatory agencies to control since the source will be from an industrial pipe, a point source or sources rather than from thousands of square miles of farm lands, forests and cities, as with DDT. Brehmer said:

> PCBs are extremely useful, with many applications, but like fire, nuclear energy, and other dangerous but desirable phenomena, they must be carefully controlled. Industries using PCBs should dispose of them according to approved methods, never by pouring them down a drain where they can damage the aquatic environment, and the marine and freshwater life therein.

THERMAL-SHOCK ADVERSITY

An interesting study by Dr. Charles C. Coutant, under an AEC Contract with the Battelle Memorial Institute (Pacific Northwest Laboratory, Richland, Washington 99352), demonstrated "relative vulnerability of thermally shocked juvenile salmonids to predation." As summarized by Coutant, thermally shocked juvenile rainbow trout and chinook salmon were found to be selectively preyed upon by larger fishes under controlled laboratory conditions when both shocked and control fish were offered simultaneously. Relative vulnerability to predation increased with time of sublethal exposure to lethal temperatures. Significant increases in predation rates were found at thermal doses above 10 per cent (chinook) and 20 per cent (rainbow) of the doses causing equilibrium loss visible to the investigator. The effects are partly reversible. Quantitative description of observed differences allows their use in designing safe thermal releases to the aquatic environment.

For example, the median equilibrium loss dose (ELD) for rainbows was determined to be 15½ minutes at a shock temperature of about 87°F. (30.5°C.). For chinooks it was found to be 22½ minutes at a shock temperature of about 82°F. (28°C.). Both these temperatures are within the range of lethal temperatures for the test species, as well as being in the range of discharge temperatures expected from thermal-electric plants on the Columbia River.