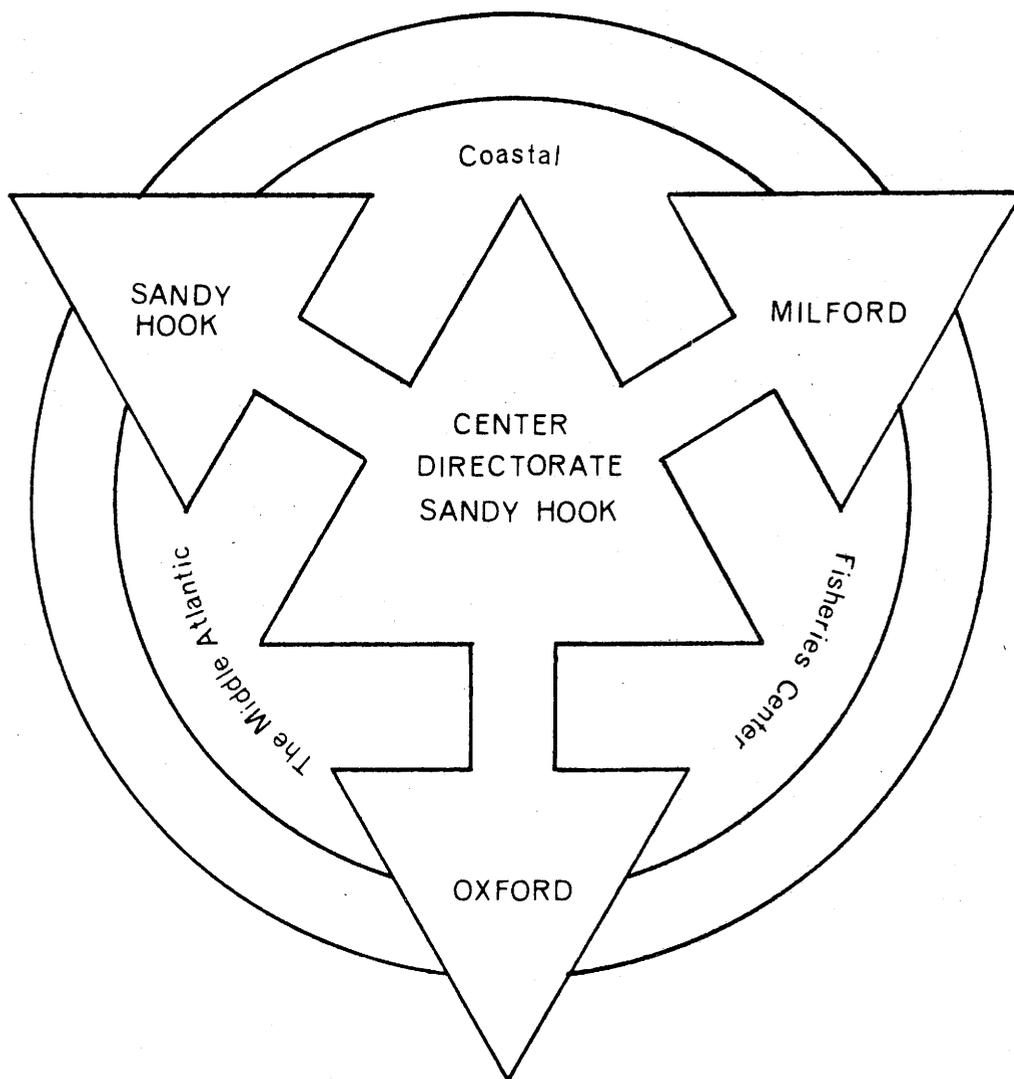


Pre-proposal -- The Consequence of Energy-related Activities -
Thermal Additions, Ozone, Chlorine - on Marine
Fish and Shellfish



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Region

MIDDLE ATLANTIC COASTAL FISHERIES CENTER



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The Consequence of Energy-related Activities - Thermal Additions, Ozone, Chlorine - on Marine Fish and Shellfish

Objective:

Heated effluents from power generating stations can be used for aquaculture purposes. Unfortunately, chemicals used to control fouling are present in the effluents and could preclude use of thermal discharges. We plan to determine the impacts of heated effluents and oxidants (chlorine, ozone) or other chemical and irradiation discharges on fish and shellfish inhabiting sites adjacent to estuarine and offshore power plants.

Plan of Action:

Fish and shellfish held in cages or trays will be exposed to power plant effluents bimonthly. Histopathological examination of fixed tissues will be made to determine pathological changes induced by the environment. Control animals exposed in adjacent, unaltered areas will also be examined. Free living fish and shellfish and thermally impacted and unimpacted areas will be sampled monthly to determine temperature-related disease incidence.

End Product:

Documentation of the toxic effects (or lack thereof) of oxidants used as anti-fouling agents in the marine environment. Documentation of the effects of heated effluents on the incidence of diseases in fish and shellfish.

Benefit:

The data generated would be of benefit to those concerned with making decisions on power plant siting and choice of alternative biocides in existing and proposed plants.

Schedule:

The experimental phase would take two years and compilation of results an additional year.

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	<u>1st Year</u>	<u>2nd Year</u>	<u>3rd Year</u>	<u>4th Year</u>	<u>5th Year</u>
Personal Service	32	33	34	-	-
Contracts	30	35	35	-	-
Supplies	20	20	23	-	-
Equipment	10	10	10	-	-
Other	5	5	5	-	-
Travel	3	3	3	-	-
	<u>100</u>	<u>106</u>	<u>110</u>		

1st Year	3 People	\$100.0K
2nd Year	3 People	\$106.0K
3rd Year	3 People	\$110.0K
4th Year	-	-
5th Year	-	-