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REMARKS BY DR. STANLEY A. CAIN, ASSISTANT SECRETARY OF THE INTERIOR FOR FISH AND WILDLIFE AND PARKS, AT DEDICATION OF BUREAU OF COMMERCIAL FISHERIES TROPICAL ATLANTIC BIOLOGICAL LABORATORY, NOVEMBER 20, 1965 IN MIAMI, FLORIDA

I am always pleased to participate in the dedication of new research facilities, particularly those which reflect our awareness of the ever-increasing necessity for expanding our knowledge of the oceans.

Today's ceremonies are unique. We are recognizing the completion of both the new Bureau of Commercial Fisheries Tropical Atlantic Biological Laboratory and the new physical sciences wing to the main building of the Institute of Marine Science. We are, at the same time, paying tribute to those who, during the past two decades under the leadership of Dr. F. G. Walton Smith, have developed the Institute into an internationally recognized center for oceanographic research.

This joint dedication ceremony, this physical closeness between facilities of the University and a Federal Bureau, are testimony to the mutual advantages. Such physical proximity makes easier the intellectual cross-fertilization that is important for research, whether the mission-oriented programs of a public agency or the basic ones of an academic institution. Frankly, the distinction between pure and applied research is generally more in the saying than in the fact. The men of the Institute of Marine Science and those of the Commercial Fisheries Laboratory are all seeking the same thing: more knowledge and understanding of the physical and biological features of the ocean.

President Johnson has designated 1965 as International Cooperation Year. His proclamation "rededicates the United States Government to the principle of international cooperation" and "directs the Executive Branch to examine and to consider further steps towards international cooperation." Oceanography and marine fisheries are both fertile areas for international cooperation. It is appropriate that these dedication ceremonies were scheduled during the period of the International

Conference on Tropical Oceanography, and that distinguished marine scientists from so many different nations are here today.

## TROPICAL ATLANTIC BIOLOGICAL LABORATORY

The Tropical Atlantic Biological Laboratory is the newest member of the Virginia Key Marine Science Complex. Its research programs in oceanography fisheries and marine biology had their genesis in a proposal by Director Donald McKernan of the Bureau of Commercial Fisheries made in 1960, for an international, cooperative study of the oceanography and the fishery resources of the eastern tropical Atlantic Ocean, which Admiral O. D. Waters has referred to.

Director McKernan proposed that scientists and technicians aboard Bureau vessels cooperate with those from the Commission for Technical Cooperation in Africa south of the Sahara. He envisioned a multiple-vessel survey in the pelagic and continental shelf waters off West Africa from the latitude of the Congo River north to the Cape Verde Islands.

The proposal was accepted and, within a few months, was expanded into an international oceanographic program sponsored and coordinated by the then newly organized UNESCO International Oceanographic Commission. In 1963, 14 vessels from seven nations participated in two surveys of the entire tropical Atlantic Ocean -- a program formally designated as the International Cooperative Investigations of the Tropical Atlantic. The results of these surveys provided the equivalent of two seasonal "photographs" of the horizontal and vertical distribution of chemical and biological properties of the waters of the tropical Atlantic in an area between the coasts of South America and Africa and from the Tropic of Cancer south to the Tropic of Capricorn.

It is interesting to note that during the second survey, scientists on the Bureau's research vessel Geronimo (presently docked a few miles from here at Dodge Island) discovered a new subsurface current, the Guinea Undercurrent. Bureau scientists on the Geronimo, along with those on the University of Miami's research vessel Pillsbury, have, during subsequent cruises, worked closely together measuring the speed and direction of this and other currents in the area.

Primarily on the basis of the information thus available, the staff of the newly formed Bureau of Commercial Fisheries Tropical Atlantic Fishery Program planned survey and research operations in the general

area of the Gulf of Guinea. Three cruises have been completed during which the distribution, abundance, and character of the surface schooling tunas in the Gulf of Guinea were studied. The work from the vessels included not only studies of the physical and chemical oceanography of the area, but also of the "biological environment," including measurements of the rates of primary productivity, of the zooplankton biomass, and of the food of the tunas.

A cooperative program has been organized with the assistance of scientists in Senegal, Sierra Leone, Ghana, Nigeria, Republic of the Ivory Coast and the Republic of the Congo (Brazzaville). This includes the collection of samples for studies of spawning and feeding habits of the tuna and the collection of catch data on stock composition and growth which will permit assessment of the fish resources. Plans are being made for studies of migration and growth by tagging tunas on board commercial vessels operating in the eastern tropical Atlantic.

Last summer, the staff of this new Bureau Laboratory joined forces with Bureau of Commercial Fisheries Exploratory Fishing Activities located here in the Southeast sector of the United States in an expanded study of the surface school tuna resources, and of their environment, in the western tropical Atlantic, Gulf of Mexico, and Caribbean. Leaving Washington, D.C. in July, meteorologists, oceanographers, and biologists returned to Miami last week from a three-month survey in these western Atlantic waters. Both of the Tropical Atlantic Biological Laboratory vessels, the Geronimo and Undaunted, are scheduled to work in the same area during the early months of 1966.

The objectives of the research programs of the Tropical Atlantic Biological Laboratory, broadly stated, are to accumulate and provide knowledge that will effect an increase of the total yield, at reduced costs, to the United States commercial fishermen; to assist, through cooperative efforts, the newly developing nations bordering the tropical Atlantic in increasing the yield of marine protein food resources from their adjacent oceanic areas; and to provide the knowledge necessary for the development and application of sound conservation policies.

It may seem inconsistent to speak of utilizing a specific spectrum of knowledge to effect an increase in the total yield to commercial fishermen -- to assist them in harvesting more fish -- and, in practically the same breath, to propose that the same fund of knowledge be used for developing sound measures for conservation of the living resources of the sea. Such is not the case. With modern knowledge,

conservation and exploitation are not incompatible. The modern concept of conservation includes resource use, but without depletive exploitation that reduces the productivity of renewable natural resources.

Population of fishes, and of other marine food resources, are capable of renewing themselves; they tend to remain in balance with their total -- physical, chemical, biological -- environment, including predation by man. However, this balance may be upset, and has been for selected fisheries (such as the blue whale), where man, as a predator, reduces the stock below the maximum sustainable yield. Once any resource is depleted to a certain point -- a point of smaller returns -- nature's compensatory actions no longer can be effective. The danger point is often extremely subtle and cannot be predicted by a novice or by one whose perspective is warped. In fishing, when the pressure on a particular stock exceeds the level of maximum sustained yield, the result can only be a continued decline in abundance, an attendant decrease in the supply of protein resources, and, of course, a smaller return to the commercial fisherman. Modern fisheries research can help the fisherman catch the maximum possible, while at the same time not prejudicing future yields. This is, in effect, the harvesting of a crop. To be able to do so wisely, that is cautiously, requires knowledge in depth that can only be based on research.

The staff of the Bureau Laboratory we are dedicating today, along with those of several other Bureau of Commercial Fisheries Laboratories and Exploratory Fishing Bases, is engaged in research and exploratory activities directed towards increasing the total yield of tunas to the United States commercial industry. These highly migratory fishes, throughout the sub-tropical and tropical areas of the world's oceans, are within reach of the large, modern United States tuna vessels, just as they are easily accessible to the fishing vessels of several other nations. Marine scientists in each of these nations are hard at work in research directed toward increasing the total yield of tunas to their fishermen. Significantly also, the different countries involved are compiling -- and to a major extent,exchanging -- the data necessary to the ultimate formulation of cooperative, international conservation policies.

The opening of the new Bureau Laboratory here on Virginia Key reflects, in part, the growing interest in the Atlantic tunas. The total catch has more than tripled in less than one decade -- from 80,000 tons to 253,000 tons. At least 18 nations are involved in harvesting this Atlantic high seas resource. Plans are underway to assure its conservation. Two conferences, under auspices of the Food and

Agriculture Organization of the United Nations, have been held to consider an international conservation treaty. A conference of plenipotentiaries is scheduled early next year to consider adoption of the treaty. Here I would like to quote from the introductory paragraph to the proposed treaty:

> "The governments whose duly authorized representatives have subscribed hereto, considering their mutual interest in the population of tunas...found in the Atlantic Ocean, and desiring to cooperate in gathering and interpreting information which will facilitate maintaining the populations of these fishes at levels which will permit the maximum sustainable catch..."

I wish to leave with you my best wishes for continued advancements in the dual program of extending the resources of the sea while simultaneously assuring their optimum utilization for the greatest good. In so doing no one group, no one series of groups, can accomplish as much as all concerned groups working together in the United States and throughout the world. The seas are international resources serving many countries, many tastes. They are not, however, unlimited resources. This fact becomes more apparent day by day, for the seas increasingly will become a great food source for growing populations.

Earlier in my remarks I referred to President Johnson's designation of 1965 as International Cooperation Year. In closing, I will call attention to his recent proclamation of November 1965 as Water Conservation Month.

In response to House Joint Resolution 671 of the first session of the Eighty-ninth Congress, President Lyndon B. Johnson proclaimed this as Water Conservation Month and directed "the Secretary of the Interior, the Secretary of Health, Education, and Welfare, the Secretary of Agriculture, and the Secretary of the Army to cooperate with other national, State, and private agencies and organizations in suitable observances...". He emphasized that we must be farsighted and bold in managing and using our water, and he stressed that we must reverse the trends of waste and man-made pollution and contamination which have assumed massive and lethal proportions.

I would say that the Institute of Marine Science and the new Federal Laboratory are doubly on the track for research on pollution

was among the first investigations undertaken by the Institute and both facilities are broadly committed to international cooperation. Not only are these two institutions on the right track, they are headed in the right direction. I feel assured of their success. And I wish them luck as well as the successes of their hard work.

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