

The Coastal Plains Center for Marine Development Services*

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I count it a real privilege to have been invited to talk to you today about the Center and its activities. We have frequently had the opportunity to introduce our Center to civic groups such as the Lions, Rotary, etc., and to various academic groups where the individuals listening have diverse backgrounds and orientation. But, in speaking to you, there is much we share in common as fellow workers in the information services field.

Before moving into a presentation of the Center itself, I thought it would be proper to examine some of the particular problems of the environmentalist and place in perspective the situation as it exists in the field which we expect to serve.

About 30 years ago, at the beginning of World War II, marine science activities were not very well organized or advanced in this country by today's standards. At that time, the Woods Hole Oceanographic Institution had been in operation about 10 or 12 years; the book "The Oceans" by Sverdrup, Johnson, and Fleming, which is now recognized worldwide as the handbook, (or Bible), for marine scientists was not yet off the press; and the Ph.D.'s working in oceanography in this country could easily be counted on your hands. In those

war years, when the submarine and other threats at sea were facing the nation, this double handful of marine scientists were called on to solve a rather different set of problems. Marine science activities up until 1940 were concerned with mainly fishery investigations, exploratory surveys and basic research; the new problems created a new field of research, military oceanography. The record will show that marine scientists performed effectively and successfully for their nation. How were they able to do this? If one will go back and examine the procedures used, they will discover that this group of individuals was particularly effective in obtaining results because their information system operated thoroughly and effectively. Of course, it did not involve the sophisticated light-flashing computerized systems we know today; it was far less complex. Perhaps an examination of their work can provide clues to better ways of pulling together the multi-faceted marine science information system we have. There are many weaknesses in our present systems and we should ever be alert to experiment with techniques that might provide a more effective service and operation.

It is a well established fact that the environmental sciences are a multi-discipline field. Professionals from all of the basic sciences have found opportunities for research in environmental work regardless

*This paper presented originally at the fall meeting of the North Carolina Special Libraries Association held at Wrightsville Beach in September, 1972.

of whether it concerns the water, the atmosphere, or the land. It is therefore entirely appropriate for specialists in each particular field to develop his own set of personal communication channels and contacts, with associates who share his professional interests. This type of person-to-person communication, whether oral or by correspondence, is perhaps one of the most frequently used techniques for information transfer. Many individuals have indicated that they rely almost totally on this one type of information system. Indeed, it may be satisfactory for some individuals, especially when there are only a few individuals engaged in similar highly specialized work, but by-and-large I have reservations on the thoroughness, adequacy, and total reliance on the "personal communication information system" in this day and age.

Written papers, technical reports, books, and other types of documentation can be identified and another type of informational system. I am sure that each of you is intimately familiar with the variety of published documents that are distributed today. For convenience these might be sub-divided into three categories: 1) Technical papers that contain the results of original and new research; 2) Handbooks, monographs, and reference or encyclopedic type documents which summarize original material and; 3) Bibliographies, indexes, and catalogs, many of which also provide brief annotations and abstracts on the cited document.

With the scientific information explosion, which for the marine sciences, began in the 1950's, the two traditional information systems of 1) personal communication, and 2) publication soon became inadequate. In an effort to provide for the organization and processing of the flood of new data that began to appear in the environmental sciences, the first data centers were established. By and large, these organizations were responsible for the collection, processing, and storage of quantities of numeric information. Most of the centers were assigned national and/or international functions and responsibilities.

Some centers had very simple operating procedures amounting to little more than identifying, indexing, and archiving the survey materials received. Other data centers were responsible for reduction of data, for instrument calibration, for analytical checks, and for the conduct of other quality evaluations before incorporating new data into their holdings. Most of these centers, however, seemed to give priority attention to servicing information requests from their collection.

A fourth type of information system (or facility) might be identified as the "archive." The primary obligation of such a facility would include the collection, the identification, the cataloging, and the storing of specimens, usually biological and geological. Various types of charted information and film also have been organized and assembled into archive type collections; these are often operated by governmental agencies.

To review, I have identified four information systems currently available and in use today by the environmentalist:

- 1) That which involves direct personal communication with associates and peers;
- 2) That which consists of technical documentation (usually held in library collections);
- 3) That which consists of systematic collection, processing, indexing, and storage of numeric data (usually held in data centers);
- 4) That which consists of organized collections of specimens, samples, film, charts, etc. (usually held in specialized archives).

These same systems were in use in the early 1940's; the difference then was that the environmentalists of that day had a very limited collection of publications, of data, and of specimens, therefore exchanges of information could be easily and effectively conducted by using the personal communication information-transfer technique.

In the quarter of a century since, and particularly over the last decade, improved instrumentation, and the increased availability of platforms on which to place instruments have increased field surveys and activity 10-fold or more. Now we not only place instrumentation on ships, but also on huge buoys, airplanes, satellites, scuba divers, and even porpoises as platforms. The result has been a tremendous and ever increasing inflow in the volume of information received. Since 1960, there has been increasing national and international attention focused on environmental research as well. Beginning with the International Geophysical Year (1957) and extending through the 1960's, research projects covering an entire ocean were undertaken by fleets of international oceanographic ships. The data results and other informational products of these expeditions are still being processed today by newly created national centers. In the past 3 or 4 years, the research emphasis has shifted to the coastal zone. Information from these areas is now beginning to accumulate from various projects and is finding its way to the various repositories.

Initially repositories, data centers, and archives seemed to offer the ultimate solution to the growing information problem for the environmentalist. Now, however, there has appeared on the scene a proliferation of specialized data and information centers; some have an international and/or national responsibility and scope, and others which are operated by educational, non-profit institutions and/or state and local government agencies may have more limited use functions or may be project or research oriented.

All of this leads the individual wanting certain environmental information to a state of confusion and frustration. He may

well be justified in asking the question "Do you call this help? Now to which repository, archive, or center do I go for the information I want?" And it seems that the scientist is no better off than the student and anyone else who wants specific environmental information. The business man is probably the most discouraged and befuddled of all when, with his limited time he gropes through a maze of public agencies seeking help to obtain the environmental information he needs.

To make my point quite specific, the National Oceanic and Atmospheric Agency in Rockville, Maryland, has within its organization at least a half dozen information-data centers, one archive, and two operational organizational components! Elsewhere in federal government agencies of the Washington, D. C., area, there are at least another ten or a dozen environmental repositories and libraries. I will identify a few: the Smithsonian has 3; the Geological Survey has 3; the Naval Oceanographic Office has 2; the Army Corps of Engineers has at least 3; and NASA has 1. In addition, there is the Federal Clearinghouse now called National Technical Information Services facility in Springfield, Va., and a new Earth Resources Observation System film depository that has just become operational in South Dakota. These are just a few of the federal facilities that immediately come to mind.

And this brings me to the subject of our organization; the official name is Coastal Plains Center for Marine Development Services, though I often refer to it as just the Coastal Plains Marine Center. Now, I would not be the least bit surprised if someone asked "what is the purpose of yet another information facility?" The answer can be found in the last word of our organization's name — "Services." Services

are the basic purpose and mission of our activity. We are not another depository, data center, or library covering the coastal zone. There are enough of those in existence now. Our mission is simply to assemble from the array of archives, depositories, libraries, data centers, and other sources, material which is needed by individuals and activities concerned with coastal environmental problems.

The main thrust of our work involves providing customized informational services in response to requests. (Perhaps a good analogy would be to identify such work as similar to that of a reference librarian). We do other things too. Mr. McCabe our present Director, recently set down in rather succinct fashion the 3 basic tasks that the Center should continually perform. These are rather straight forward and should not require explanation. They are:

- 1) To assemble information;
- 2) To analyze information; and
- 3) To disseminate information.

Some individuals may include among our obligations the responsibility to serve as a clearinghouse and referral activity and we do perform these duties. Also, the staff works continually at improving communications between organizations which have coastal environmental interests and involvements. As the technical arm of the Coastal Plains Regional Commission, the staff is always available to the Commission for professional advice and expertise on matters concerned with the marine and coastal environment.

Perhaps a little historical background is appropriate at this point:

The Coastal Plains Regional Commission was established under the Public Works and Economic Development Act of

1965 to encourage and induce systematic, accelerated economic growth in the Coastal Plains Regions of Georgia, North Carolina, and South Carolina. In an effort to close the per capita income gap between the Region and that of the rest of the United States, the Commission selected six target areas for intensified work which would produce economic growth. One of these areas was marine resources.

The Commission decided to provide a form of technical assistance to the public agencies, academic institutions, and private enterprises engaged in developing the marine resources of the Coastal Plains Region by establishing the Coastal Plains Center for Marine Development Services. The Center was established in December 1968 through Resolution by the Commission. In June 1969, the Commission negotiated a contract providing for a Director of the Center and giving him the necessary funds to staff, equip, and operate the Center in Washington, D. C., until a permanent location was established within the Coastal Plains Region. Staffing of the Center began in November 1969 with additional members being added in early 1970. This professional staff of four provided the Center with a broad technical coverage of the basic marine and coastal sciences as well as surveying and data processing expertise.

In April 1971, the Center moved to Wilmington and has been temporarily located on the UNC-W campus. As of October 1, the Center will be located at Harbor Square on South 17th Street across from the New Hanover Memorial Hospital. The staff now numbers 10 of which 6 may be classified as professional.

Briefly, let me identify for you some of our work and accomplishments of the past 3 years of the Center's existence.

Probably, best known is our *Marine Newsletter*, a bimonthly publication which was first issued in January 1970. In it, we strive to present information "on, and of interest, to those concerned with coastal activities in the Carolinas and Georgia".

Over the past two years, the Center has sponsored 6 seminars or workshops, with proceedings issued for each. Other publications include directories of personnel and facilities of the Region; a catalog of marine related projects and three comprehensive bibliographies on marine topics with economic relevance. The latter items have been in such demand, not only in the Region but from other states and countries, that each publication was out of print within a few months after its release was announced. A second printing of each has now been issued.

A product now in press which may be of interest to this group is the catalog of serial publications covering marine and coastal literature available in South Carolina libraries. I believe most of you are aware of the fact that the Center has contracted with the UNC-W library to prepare a similar type of document covering the state of North Carolina. I am informed by Miss Hagan and her staff that the North Carolina product will have a far more extensive coverage of titles than are included in the South Carolina list. Based on our present schedule, this item should be available next spring. Later, we expect to produce the same type of catalog for Georgia.

Finally, we have several items now in press that are the initial products of a series which is titled *An Environmental Inventory for the Coastal Plains and Adjacent Atlantic Waters of the Southeastern States*. Part III, the *Index to Hydrographic*

Surveys for Coastal and Inshore Waters of the Carolinas and Georgia has just been released. Other titles in this series will include an *Index to Marine Observations: Stations of the Region*; and separate *Bibliographies of Literature on the Coastal Environment of North Carolina, South Carolina, and Georgia*.

In closing, I offer to you any and all our publications and would invite each of you to call upon the Center and its staff whenever you feel we might be of help or can otherwise serve you.

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