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To make men at home on the seabottom, as well as to advance knowledge, is a goal of policies being formulated.

A National Effort Takes Shape

A spate of reports points to a year of critical stock-taking in oceanography

With delivery to Congress of the first report of the National Council on Marine Resources and Engineering Development, the Federal Government has entered a new era of ocean-oriented policies and programs.

The 157-page report briefly sums up the present state of marine science and engineering in this country and recommends areas in which, it states, priority attention is needed.

And foremost among these, according to Vice President Hubert Humphrey, Council chairman, is development of fish protein concentrate as the principal weapon in the international war on hunger (SN: 2/11). Next in importance are international agreements on peaceful use of the sea and the Sea Grant College Program Congress enacted last year.

FPC, Humphrey explains, will be the basis of demonstration projects to be undertaken in three less developed countries by the Agency for International Development. The projects will

seek to develop the nation's entire fishing industries, from location of fish through production of the concentrate to studies of how it can best be marketed and used.

Two pilot plants for FPC production will also be built in the United States where a large market for the concentrate apparently already exists. One of these million-dollar plants will be in the Pacific Northwest; the contest for the other is hot.

Money for all the priority items has already been requested from Congress in the President's proposed \$462.3 million oceanographic budget for fiscal year 1968. Most of the recommended programs are already in progress; the Council's report merely points out those which deserve increased Federal Government backing.

It is, in fact, an interim report prepared quickly at President Johnson's suggestion so that funds for carrying out its recommendations could be included in the 1968 budget which was

submitted to the Congress in January.

The Council report draws on earlier reports by the Interagency Committee on Oceanography, President's Science Advisory Committee and National Academy of Sciences-National Research Council, all less than a year old.

The latest of these, the NAS-NRC report, came off the presses just two days before the Council report though presumably the Council had earlier access to the NAS-NRC committee's findings.

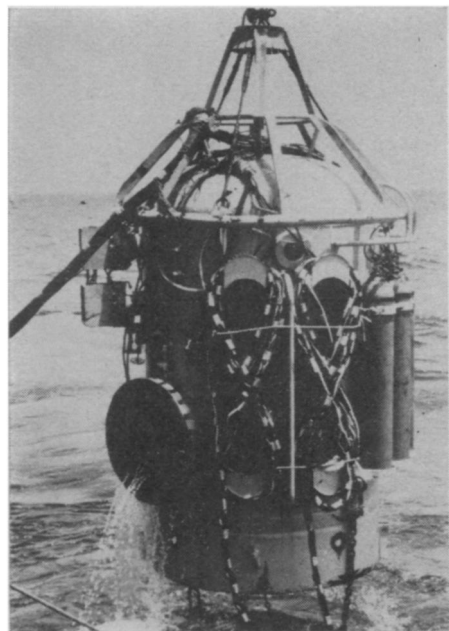
Unfortunately for the NAS-NRC, the basis for implementation of two of its three major recommendations was already established by the time its report was published, removing much of the impact it might have had. It had recommended formation of a national ocean policy and coordination of existing ocean science programs now scattered among 24 bureaus in 11 Federal departments and agencies.

This, a note accompanying the NAS-NRC report observes, is essentially what the Marine Resources Council and

its Commission on Marine Science, Engineering and Resources are now doing.

In its first report, besides international cooperation, FPC and Sea Grant Colleges, the Council gave priority to:

- A study of ways to collect and disseminate the vast quantities of oceanographic data that are beginning to pour



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Pressurized "elevator" brings men up.

in. The Navy's National Oceanographic Data Center is now partially fulfilling this function, the Council notes. Further studies would explore ways of expanding the operation.

- Studies of pollution in estuaries, beginning with a Corps of Engineers survey of Chesapeake Bay that is pres-

ently underway. The Engineers are building a hydraulic model of the bay to study water flow and other phenomena affecting it.

- Surveys of mineral resources on and under the continental shelves surrounding the country. The International Convention on the Continental Shelf, which went into effect in 1964, added more than a million square miles to the public lands of the United States in the form of sea floor out to a depth of 200 meters. Petroleum and mining companies, in addition to Federal agencies, have begun near-shore mineral surveys.

- Establishment of ocean observation networks (SN: 1/14) using buoys, satellites and ships for improvement of weather and ocean state predictions.

- Strengthening the Navy's Deep Submergence program to provide vehicles and techniques for working beneath the sea. The Navy is already working on a nuclear powered research submarine as well as smaller subs to be used for rescue work. Sealab III, scheduled for next fall, will extend man's operating depth to 400 feet if it is successful.

- Outfitting a Coast Guard ship, originally intended to be a replacement for a ship now in the International Ice Patrol in the North Atlantic, as an oceanographic research vessel for sub-polar studies. Construction on the new ship is to begin in fiscal year 1968.

Finally, the Marine Council report notes, "This year Congress has not been asked to enact new marine science legislation. . . . In marine science affairs, this year marks an opportunity to develop policies to blend political, economic, and cultural interests. . . ."

In short, it will be a year of stock-taking and reorganization.

could be built in to the system to make it more secure than a file of papers in a cabinet.

The computer, he said, could be so programmed that anyone searching its data would "leave a trail" by which he would be exposed—as opposed to someone who might simply remove a physical file and copy it. (His view was given added weight by the fact that, just down the hall another hearing was underway. This concerned the financial affairs of Senator Thomas J. Dodd (D-Conn.), whose files were rifled in exactly that way.)

Dr. Kaysen headed a task force which studied the possibilities of a data center. An economist, he said such a concentration of data is needed to give decision makers in the White House and on Capitol Hill enough insight into the probable results of their actions to make intelligent choices.

Charles J. Swick, assistant director of the Budget Bureau, said some such work is already done but more is needed. For example, the bureau has already computerized a cross-section of taxpayers (using their supposedly secret tax returns). When new proposals—such as President Johnson's six percent surcharge—are made, the Bureau can run the idea through the computer and see how it would affect different classes of taxpayers, and how much revenue it might produce.

Zwick promised that no data center would be set up without Congressional approval, and urged that the Congress insist on tight controls on any such operation. He was unable to say if the Bureau might submit its plans to the Congress this session.

Although he did not oppose the establishment of the center, Arthur R. Miller, professor of law at the University of Michigan, drew a horrifying picture of a privacy-less future. He insisted that "a range of controls, standards of care, and security of techniques must be developed before the center is established. Science has destroyed our bastions of privacy," Miller said, mentioning the tools of eavesdropping and wiretapping now in use, and suggesting new ones for the future.

The combination of computers with other advanced techniques in the immediate future bothered both men. Miller suggested that "mail covers" (under which the Post Office Department observes the mail of suspected offenders) could be immensely speeded and broadened by optical scanners that could read the address and return address rapidly and store the information. Then someone who innocently sent a thief a Christmas card could be marked down in some government memory bank as an "associate of known criminals."

Data Center Safeguards Promised

If the controversial National Data Center being proposed by the Federal Bureau of the Budget is ever set up to computerize individual facts about the lives of American citizens, it will be sheathed in legislative safeguards for the privacy of individuals.

This became apparent last week as witnesses testified before a Senate Subcommittee headed by Edward V. Long (D-Mo.).

Both the center's strongest proponents, and its strongest critics, agreed there are grave dangers to personal privacy unless the center is under strict control as to what facts it takes in and what facts it gives out.

Budget Bureau witnesses stressed the efficiency of combining, in one machine, records from the Internal Revenue Service, the Census, the Bureau of Labor Statistics, the Department of Agriculture and the other 17 Federal agencies

that are now collecting statistical data.

"But," interjected Senator Long, "the inefficiency of the government in this field is all that has preserved for us what privacy we still have."

Senator Long's point is that Americans are documented, somewhere, from cradle to grave, but putting all the information together is time-consuming and expensive. Once entered in a centralized data bank, he feels, one's whole life history would "fall out on the table at the push of a button."

Told by witnesses that the law setting up the center would forbid release of information about individuals, Senator Long pointed out that law also forbids wiretapping—without noticeable success.

Dr. Carl Kaysen, director of the Institute for Advanced Study in Princeton, N.J., backed the creation of the center and said he thought safeguards