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# The Oceans

Staff Report

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## THE OCEANS

*Prepared by the  
Editorial Staff*

### MALTA CONFERENCE — PACEM IN MARIBUS

Malta was the site of a conference on the ocean from June 28 to July 3, 1970. Some 200 scientists, educators, industrialists, and government leaders from 60 countries participated. Among them were several members of the Seabed Committee of the United Nations. All participants were there as private individuals, and not as representatives of their countries.

The conference was sponsored by the Center for the Study of Democratic Institutions in Santa Barbara, California (U.S.A.). The general purpose was to generate support for the establishment of a continuing body in Malta, independent of the Center, to guide the United Nations and others regarding ocean decisions.

There were four major study groups, one each dealing with political and legal problems, the extraction of non-living resources, the extraction of living resources, and science policy and ecology. The group discussing political and legal problems considered the U.S.-U.S.S.R. Draft Treaty on Prohibiting the Emplacement of Nuclear Weapons on the Seabed and Ocean Floor, the limits of national jurisdiction, and President Nixon's proposal for a seabed regime.

The group on the extraction of non-living resources discussed the jurisdiction of an ocean regime, the organization and function of such a regime, and policy considerations regarding exploitation. Many members of the group felt that a common heritage theory of ocean bed resources would be recognized by the international community. Some expressed preferences for coastal state jurisdiction extending to the continental margin, a seabed regime based on a corporate format, regional administrative bodies as an intermediate step to a unified seabed regime, and for corporations to deal directly with the regime's administrative organization rather than through nation-states.

Fisheries problems were discussed by the group on the extraction of living resources. Most participants felt that no new regime for high

seas fishery resources was needed. The concepts of free access, limited entry, maximum sustainable yield, and maximum economic yield were also considered. There was a general feeling that fishery research on a world-wide scale would be desirable, but that world-wide planning was not acceptable in that it implies regulation.

The fourth study group emphasized the need for conservation and rational use of ocean resources, and expressed concern about pollution of the oceans by oil and radioactive wastes. They urged the institution of an ocean-wide network of data stations, coupled with surveillance of present and potential oceanic problems and long range forecasting.

A special report on a preliminary conference held in preparation for the Malta Conference has been published by the Center and entitled *Pacem in Maribus*, Ocean Enterprises; A Summary of the Prospects and Hazards of Man's Impending Commercial Exploitation of the Under-seas. The Center will also prepare reports on the deliberations of the study groups at the Malta Conference.

#### TERRITORIAL SEA-CONTINENTAL SHELF

The nine Latin American countries which have extended their territorial sea to the 200 mile limit—Argentina, Brazil, Chile, Ecuador, Peru, Uruguay, Panama, El Salvador and Nicaragua—met in Montevideo May 4-8, 1970. The ensuing *Declaration of Montevideo* affirmed the right of coastal states to (1) control the natural resources of the sea and seabed adjacent to their coasts, (2) establish the limits of their maritime sovereignty and jurisdiction in accordance with the geographical and other characteristics related to the existence of their resources, and (3) explore, conserve and exploit the natural resources of the ocean floor and seabed of the continental shelf to the limits of exploitation. The participants also agreed—in principle—to convoke a Latin American conference on the law of the sea to meet later in the year in order to reach, if possible, a common policy on matters relating to the matters discussed in Montevideo.

On May 23, President Nixon proposed that all coastal nations renounce claims to the ocean seabed beyond a depth of 200 meters, reserving the region beyond as the "common heritage of mankind". In many cases, the 200 meter depth coincides with the seaward edge of the continental shelf to which coastal nations have a recognized interest under the Geneva Convention on the Continental Shelf of 1958. The President also proposed that an international regime be established for the orderly and peaceful exploitation of the seabed beyond the 200 meter

depth. The administration of the international seabed would be divided between coastal states and an international body. Each coastal state would administer, as trustee for the international community, that portion of the adjacent seabed beyond 200 meters and down to the continental margin. The remainder of the seabed beyond the continental margin would be administered by an international body. Royalties for the benefits of the international community would be collected from mineral exploitation of the international seabed, with each coastal state receiving a share of the revenues generated by the area over which it served as trustee. Although the President called for a renunciation of claims to the seabed beyond 200 meters, he also stated that exploration and exploitation beyond this depth should be continued until the establishment of a seabed regime is negotiated. He also suggested that permits to explore and exploit the seabed be issued subject to the regime agreed upon, and that a portion of the revenues derived from exploitation beyond 200 meters during the negotiation period be given to an international agency for assisting developing countries. It can be argued that this initiative to continue exploration and exploitation beyond 200 meters recognizes that, with or without an international seabed regime, most of the activity on the seabed will be conducted by those few nations with the necessary economic and technical capabilities.

The reaction by certain Latin American nations to President Nixon's proposal was negative. Some countries viewed the U. S. initiative as an intent by the developed countries to secure an economic foothold on seabed resources while relegating the developing nations to the role of passive participants in the use of ocean resources. Other countries were more vocal and stated that the U. S. proposal totally ignored the interests of states lacking a continental shelf as well as the right to exploit resources beyond 200 meters as set forth in the Geneva Convention on the Continental Shelf of 1958.

The U. S. proposal was subject to scrutiny not only in Latin America but also in the United States. Congressional opposition developed based on the contention that the draft convention would give away U. S. assets, i.e. valuable mineral resources, particularly petroleum rights. These congressional pressures forced the Nixon administration to temper somewhat the original proposal and to present — not a draft treaty — but a modified "working paper" to the United Nations Committee on the Peaceful Uses of the Seabed meeting at Geneva in August, 1970.

The above developments were taking place concurrently with two other related events. Specifically, the nations of the Western Hemisphere

were firming up positions on a communication from the Secretary General of the United Nations dated January 29, 1970 in which he sought the views of individual governments on the convocation of an international conference on the law of the sea. It should be recalled that Mr. U. Thant's communication was based on General Assembly Resolution 2574 dated December 15, 1969. The second event concerned the diplomatic initiatives of the United States and the Soviet Union relating to the proposed international conference. It is understood that both countries indicated the desirability of holding the conference in Geneva in the spring of 1971. Also, the United States and the Soviet Union allegedly would like to agenda (1) the limits of the territorial sea, (2) freedom of navigation in international straits, and (3) fisheries.

The above developments led the Latin American nations to convoke a conference in Lima on August 4, 1970, and it is significant that representatives from Africa and Asia were invited to attend the conference as observers.

The Lima Conference reached agreement on certain common principles and set them forth in a "Declaration of Latin American States on the Law of the Sea." Specifically the participants declared:

1. The inherent right of the coastal state to explore, conserve and exploit the natural resources of the coastal sea, and its seabed and subsoil, as well the natural resources of the Continental Shelf and its subsoil in order to promote the maximum development of the country's economy and to raise the standard of living of its people;
2. The right of the coastal state to establish the limits of its sovereignty or maritime jurisdiction in conformance with reasonable criteria, bearing in mind its geographical, geological and biological characteristics and the need to receive a reasonable benefit from its resources;
3. The right of the coastal state to adopt—in its zones of sovereignty or maritime jurisdiction—regulatory measures to achieve the above mentioned objectives, without prejudice to the freedom of navigation and overflight of craft and aircraft, regardless of the flag flown;
4. The right of the coastal state to prevent contamination of the waters, as well as other dangerous and harmful effects which may result from the use, exploration or exploitation of the resources adjacent to its coasts;

5. The right of the coastal state to authorize, watch over, and participate in all scientific investigations which may be carried on in maritime zones subject to its sovereignty or jurisdiction, as well as the right to receive the data obtained and the results of such investigations.

The voting on the Declaration was as follows: For — Argentina, Brazil, Colombia, Chile, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Republica Dominicana and Uruguay. Against: Bolivia, Paraguay and Venezuela. Abstention: Trinidad and Tobago. Not present at voting: Barbados and Jamaica. Observer: Costa Rica.

In addition to the Declaration, the participants passed the resolutions which, in general terms, are summarized below.

*Resolution 1* concerning the seabed beyond national jurisdiction recommended that the U. N. Committee on the Peaceful uses of the seabed should give priority to the task of preparing a declaration of principles to provide the framework for a permanent regime for the zone under consideration; that no interim regime be established pending establishment of the above framework under Resolutions 2467 (XXIII) and 2574 (XXIV); that the Latin American Governments seek a common position on the subject; that the general guidelines contained in Document No. A/AC. 138/SC I/L.2 of March 23, 1970 be followed without prejudice to the formulation of the principles mentioned above.

*Resolution 2* concerning a new international conference on the Law of the Sea recommended to answer affirmatively the communication from the Secretary General as long as the proposed conference deals with the topics included in Resolution 2574A (XXIV) and that there be a definition of the permanent international regime and the administrative organization applicable to the seabed beyond national jurisdiction; that the preliminaries to the conference show a reasonable expectation of success for the conference. It further recommended opposition to a conference with an agenda limited to selective aspects relating to the law of the sea.

*Resolution 3* concerning contamination of the seas recommended that States reaffirm their decision to adopt measures to prevent contamination and other dangerous and harmful

effects in the coastal sea; reiterated the opposition of the states to nuclear tests harmful to sea life and contamination of the waters; and the exchange of pertinent information on the subject.

*Resolution 4* concerning the banning of nuclear armaments and other weapons on the seabed recommended that in view of the UN draft treaty on the subject, the participating nations try to coordinate efforts to prevent violation of their sovereignties or the regional disarmament regime existing among the Latin American Nations;

*Resolution 5* concerning scientific investigations recommended that pertinent information on the subject be exchanged and that problems relating to the subject be dealt with in the United Nations. The resolution also affirmed that scientific investigations conducted within the maritime jurisdiction of a State be subject to prior authorization and to the conditions set by said State; that the coastal state has the right to participate in said investigations; to be a beneficiary of the data obtained; to own the test samples gathered with the right to release such samples to the party conducting the investigation; and that any scientific investigation designated as such should maintain its scientific character.

*Resolution 6* concerning a Latin American *ad hoc* committee on matters relating to the sea recommended that such a committee be established in New York to exchange ideas, points of view, positions, and to suggest common lines of action. Peru was designated to take the initiative re establishing the committee.

Indicative of the world-wide scope of the problem is a potential conflict between the United States and the Bahamas. With an eye toward independence from Britain in one to three years, the Bahamian government has begun establishing policy guidelines which indicate a possible disagreement with the United States over ocean rights. After talks with the United States, Bahamian officials contend that the United States failed to establish its claim of traditional fishing rights within the nine mile zone asserted by the Bahamas seaward of the territorial sea. The claim was made primarily in regard to Florida lobstermen who fish within the Bahamian zone. The Bahamian Premier has stated that an independent Bahamas will favor the archipelago method of drawing the base line for the territorial sea around each island. Under the archipelago

method, one base line is drawn around the outermost boundary of an island group, from which a single territorial sea is established. The United States does not consider the archipelago method a valid means of measuring the territorial sea because the method often results in the enclosure of waters more than three miles from land.

It is expected that the agonizing problems and conflicting positions on the law of the sea will come to a head at the next meeting of the General Assembly of the United Nations scheduled for September, 1970. The lines of battle are being drawn and the next few months will be a period of intense diplomatic activity as the nations of the world again seek the solution to the political, economic and security problems which could not be resolved at Geneva in 1958, nor in 1960.

#### COLOMBIA-VENEZUELA CONTINENTAL SHELF

In addition to the international problem pertaining to the continental shelf discussed in the preceding section, a bilateral problem of some magnitude relating to the same subject has arisen between Colombia and Venezuela. Delegations from both countries met in Bogota in March and again in Caracas in June, 1970 in search of a basis for a satisfactory understanding concerning the limits of the continental shelf in the Gulf of Venezuela. Considerable concern has been expressed in both countries about the potential ramifications of the controversy, and in keeping with the friendly relations existing between the two nations the matter is being handled with great reserve at the highest levels in the respective governments. Both Colombia and Venezuela have pledged their best efforts to find an amicable solution to the dispute, and it is significant that the position of both governments with regard to the 200 mile limit has been temporarily "frozen" pending resolution of the bilateral controversy over the continental shelf.

#### NUCLEAR WEAPONS ON SEABED AND OCEAN FLOOR

The United States and the Union of Soviet Socialist Republics submitted their second draft treaty on weapons emplacement on the seabed to the Conference of the Committee on Disarmament on April 23, 1970. The draft treaty provides that no "nuclear weapons or any other types of weapons of mass destruction as well as structures: launching installations or any other facilities specifically designed for storing, testing or using such weapons", be emplaced on the seabed, ocean floor, or in the subsoil thereof, except within the seabed zone. Under this exception, a coastal state may place such weapons on the seabed within a 12 mile



contiguous zone as defined in Part II of the Convention on the Territorial Sea and the Contiguous Zone (1958).

Article III of the draft treaty gives to each signatory the right to monitor the activities of the other parties beyond the seabed zone to ensure that the treaty is being complied with. Verification is to be done through observation, but is not to interfere with the activities being observed or "otherwise infringe rights recognized under international law, including the freedoms of the high seas."

A party having reasonable doubts about compliance by another party should attempt to resolve the problem in cooperation with the other party involved. If the difficulty is not resolved through consultation and cooperation, the matter may be referred to the U.N. Security Council, which may take action in accordance with the U.N. Charter.

It is worthy to note that this treaty would in no way inhibit the activities of the fleets of nuclear missile carrying submarines of the United States and the Soviet Union.

## POLLUTION

The waters in seventeen states in the United States are reported to contain potentially dangerous quantities of mercury, according to tests by the Food and Drug Administration. The source for most of this mercury is discharges from plants which use the highly toxic metal in manufacturing paper, sodium, chlorine, electrical wire, and plastics. Once in the water, the mercury becomes concentrated in the tissues of fish. When these fish are eaten, the mercury collects in the brain tissues with the possibility of brain damage, blindness, kidney disease, and death if the concentration is high enough. To date no human tolerance level for mercury has been determined.

The Los Angeles, California, Harbor Department has contracted for the development of a new weapon in the pollution battle — underwater television cameras. The cameras will be used to locate and evaluate debris on the harbor floor. So far, in several months of experiments, the camera has uncovered such diverse "pollutants" as metal containers and tanks, shopping baskets, piles of abalone shells, the carcasses of fish, including blue sharks up to 7 feet long, and several motorcycles.

California is also spying on water polluters by using infrared photographs taken by high-flying Air Force planes. Heat from pollutants shows up in the infrared photography, permitting identification of the source

and measurement of the amount of pollution. California also will install electrical sensors in rivers to measure temperature, flow and pollutants and will use computers to compile data. The state has \$100 million in anti-pollution funding.

## OIL POLLUTION

The Water Quality Improvement Act of 1970, Public Law 91-224, was signed into law by President Nixon on April 3, 1970. It contains significant provisions regarding the spillage of oil from vessels and onshore and offshore facilities.

The Act prohibits discharges of "oil into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone in harmful quantities as determined by the President." However, regarding discharges "into or upon the contiguous zone, only those which threaten the fishery resources of the contiguous zone or which threaten to pollute or contribute to the pollution of the territory or territorial sea of the United States may be determined to be harmful." The Act does not prohibit discharges into the contiguous zone which are permitted under Article IV of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended.

Discharges in violation of the Act must be reported to the appropriate U.S. Government agency by the person in charge of the offending vessel, or of the onshore or offshore facility. Failure to report may result in a \$10,000 fine and/or one year imprisonment. An offender who knowingly discharges oil in violation of the Act will be subject to a \$10,000 civil penalty for each violation; such civil penalty is subject to compromise.

On June 2, 1970, as required by the Act, President Nixon initiated the first phase of a National Contingency Plan for the removal of discharged oil from the sea. Under this plan, a specially trained unit is being organized under the Coast Guard to handle the cleanup of oil discharges.

The owner, or operator of the vessel or facility from which oil is illegally discharged will be liable to the United States Government for the actual costs of the cleanup. However, such liability is limited. Vessels will be liable up to an amount not exceeding \$100 per gross ton of such vessel or \$14 million, whichever is less. The owner or operator of an onshore or offshore facility will be liable for cleanup costs up to

\$8 million. The limited liability provisions do not apply where the "Discharge was the result of willful negligence or willful misconduct within the privity and knowledge of the owner," in which case liability will be for the full amount of cleanup costs. Liability can be avoided by proof that the discharge was caused solely by an act of God, an act of war, negligence on the part of the United States Government, or an act or omission of a third party.

The Act requires that vessels over 300 gross tons which use "any port or place in the United States or the navigable waters of the United States for any purpose shall establish and maintain under regulations to be prescribed from time to time by the President, evidence of financial responsibility of \$100 per gross ton, or \$14 million, whichever is the lesser, to meet the liability to the United States to which such vessel could be subjected . . ." under the Act. Where an owner or operator has more than one vessel subject to this requirement, "financial responsibility need only be established to meet the maximum liability to which the largest of such vessels could be subjected."

The President is given the authority to prescribe regulations "establishing procedures, methods, and requirements for equipment to prevent discharges of oil from vessels and from onshore facilities and offshore facilities." If this authority is vigorously pursued by the President, it could have a dramatic economic and operating impact on world shipping.

The United States Coast Guard has announced plans for aerial patrols of sea lanes in an attempt to prevent the wilful dumping of oil, and to detect oil spills.

President Nixon has requested Congress to establish a marine sanctuary off Santa Barbara, California, the site of the nation's worst off-shore oil spill. Oil drilling leases in the area would be cancelled. While twenty leases would be affected, fifty-one others in the Santa Barbara Channel would not.

The United States Coast Guard has successfully tested an inflatable receptacle to be used for the removal of oil from ships in distress. Developed by Ocean Science and Engineering, Inc., the Aid Delivered Antipollution Transfer System (ADAPTS) utilizes rubber-coated nylon bladders which inflate to a length of 135 feet, a width of 35 feet, and a depth of 8 feet. Each bladder has a carrying capacity of 140,000 gallons of crude oil and can function in winds of 45 miles per hour, and seas of 8 to 12 feet. The bladders can be packed in a relatively compact space and flown to the troubled ship, and then dropped by parachute

along with pump and hoses. When filled with oil, the bladders can then be towed to port.

The Cabot Corporation of Boston, Massachusetts, has developed a method of burning oil spilled at sea. The process uses a silica powder to draw oil to the surface a little at a time where it can be burned at a controlled rate while separated from the colder oil below. The Cabot Corporation reports that its process burns off 98 percent of the oil. The remaining 2 per cent forms a hard crust which can be removed from the water. The company says the silica has no toxic effect on marine life or birds. The method has been successfully used in the cold waters off Sweden by the Swedish Coast Guard.

Another oil clean-up method has been tested by the Shell Oil Company in cooperation with the Netherlands Ministry of Traffic and Public Works. It consists of coating sand with an amine solution. The amine causes oil to adhere to individual grains of sand which then sink to the bottom. In the test, treated sand was sprayed on the oil slick from two 60 foot long booms, each with 20 nozzles. It was reported that 100 tons of Kuwait crude oil were removed from the surface of the North Sea in less than 45 minutes, with 95 per cent effectiveness. Shell says that the small quantities of amine used to coat the sand will not harm marine life.

Upon completing a voyage of over 3200 miles from Morocco to Barbados, in the papyrus craft Ra 2, Thor Heyerdahl decried the presence of oil pollution throughout the entire trip across the Atlantic.

## GAS POLLUTION

A great deal of public discussion erupted over the decision of the United States Army to dump into the Atlantic Ocean 418 sealed concrete vaults of old M55 rockets armed with nerve gas. The vaults were sunk at a depth of 16,000 feet, 282 miles off Cape Kennedy, Florida. Contradictory opinions have been presented concerning the effect of the nerve gas on marine life should the gas escape from the concrete containers. Some scientists fear that a considerable number of marine organisms could be killed. Others contend that the gas would be rapidly diluted by the seawater, causing little, if any, damage.

The decision to dispose the nerve gas in the ocean has been brought about by the highly deteriorated state of the rocket propellant in the bombs. The propellant and deteriorating explosives are too volatile to permit the bombs to be detoxified. Apparently the best method of disposal

would be to detonate them in an underground nuclear explosion. However, there is not enough time to prepare for such an explosion.

In addition to concern for the safety of the people in the states and towns through which the vaults will be shipped, the governments of Bermuda and the Bahamas have objected to the bombs being disposed of so close to their territories. And, in London the Foreign Office announced that a British team accompanied by observers from the Bahamas and Bermuda would fly to the United States to review the dumping arrangements. Further, the Secretary General of the United Nations stated that the U. S. plan was in violation of international agreements and urged that an international panel of scientists study methods to destroy such weapons in the future.

With the growing concern for the environment and the move toward the recognition of an international community interest in the seabed, the unregulated use of the ocean by nations for disposal purposes seems to be contrary to prevalent views concerning the uses of the seas.

## SHIPPING

A recent United Nations study prepared by the Economic Commission for Latin America confirmed that Latin America loses several hundred millions of dollars a year in foreign exchange as a result of freight charges. Of a 120 shipping lines serving Latin America, only seventeen are domestic lines.

The Inter-American Center for the Promotion of Exports has called for a more unified stand by Latin Americans as a means of overcoming their lack of bargaining power in the setting of freight rates.

Japan's Transport Minister has instituted a study of the technological feasibility of constructing a 1,000,000 deadweight-ton oil tanker.

## RESEARCH AND EXPLORATION

Under the coordination of the United States Department of Interior, a seven month study of marine life was commenced on April 4, 1970, in 50 feet of water off St. John Island in the Virgin Islands. Studies are being performed on marine animal behavior, particularly the predator-prey relationship, sea-water chemistry, reef ecology, and human behavior during confinement under the sea.

One experiment will involve the testing of a 60 pound re-breathing apparatus, which will enable a swimmer to remain outside an additional

six hours. The device makes no sound and does not emit the usual bubbles which often frighten fish away, making close observation difficult.

The research vessel, (Tektite 2), consists of two steel cylinders, 18 feet high, 12½ feet wide, with a connecting tunnel 4½ feet in diameter. It is supplied with electricity, breathing gasses, and communications by tubes and cables from the surface.

A total of 62 scientists, engineers and doctors will live and work in Tektite 2 in alternating teams of four or five persons. One of the teams is composed of five women scientists. Most of the aquanauts who have lived in Tektite 2 express feelings of detachment, remoteness, and serenity.

One analysis already made by the aquanauts shows that there is about 30 per cent more oxygen in sea water than previously determined.

During a three months research trip ranging from Iceland to the Faeroe Islands, north of Scotland, the German research ship *METEOR* produced test results indicating that carbon monoxide concentrations at a depth from one to two fathoms were ten to thirty times greater than the normal content of the gas in the earth's atmosphere.

A nuclear probe device designed to operate either from a surface ship or a submerged vessel to spot valuable minerals in the sea has been developed by the U. S. Atomic Energy Commission. The system emits ultra-low level and rapid neutrons which are absorbed by the minerals being measured and returned in form of gamma rays, which are picked up by the detector. Amounts of an element in a mineral are proportional to the number of gamma rays emitted. The working prototype of the instrument can be used for mapping minerals at depths of 1,000 feet.

The U. S. Naval Oceanographic Office has presented photographic evidence to show that marine life will flourish almost anywhere—even in near freezing conditions on the bottom of Arctic waters. To prove the point, a camera system was lowered about 1,000 feet through the water to a point about 6 feet from the bottom. The cameras showed marine animals living on a smooth, tranquil bottom in water temperatures approximating the freezing point.

A joint project between West Germany and Thailand foresees the cultivation and processing of protein-rich algae as food on a large scale. Initial experiments by the Carhobiological Research Station in Dortmund, Germany, show that single cell algae can be collected, dried and

reduced to a powder that provides a basis for soups, crackers and puddings. Under an agreement with Thailand, West Germany is to provide in excess of \$300,000 in technical aid for algae-food experiments in Southeast Asia.

The U. S. National Aeronautics and Space Administration has used a ship-satellite technique to measure a depression in the sea surface over the Atlantic Ocean's deepest hole. The depression, dipping as much as 80 feet below normal sea level, is directly above the Puerto Rico Trench. The combined operation employed the Apollo tracking ship Vanguard which sailed back and forth above the Trench making accurate navigational and gravity measurements. While making the surface measurements, Vanguard's radar tracked NASA's geodetic earth orbiting satellite, GEOS No. 2. The ship-satellite combination was used because knowledge of the exact position, when taking satellite range measurements, makes it possible to measure directly the depression as reflected in the varying distance between the ship and the satellite in a known orbit. A further purpose of the mission was to perfect a base standard for orbiting altimeters, the first of which will be installed on a geodetic satellite which NASA hopes to launch in 1972.

The Scripps Institute of Oceanography has announced the formation of a Center for Marine Affairs at La Jolla, California. The new Center will provide a small interdisciplinary unit functioning at a post-doctoral level and will involve the internship of individuals from the law, economic and related fields as well as from industry, universities, and government. Its main function will be to serve as a training stage for non-technical specialists who have come from or eventually will go to government and other public service. The Center, like the Scripps Institution, will be under the aegis of the University of California at San Diego. The Ford Foundation has granted \$226,000 for the support of the Center for a period of three years.

An official of the Canadian Fisheries Department has predicted that satellites stationed in space above heavily fished areas can provide direct pictures of the sea-surface temperature, fishing fleets on station and schools of fish. The satellites could also use spectrometers to locate schools of fish by finding fish-oil slicks. The official also stated that laser sensors in the satellites could detect fish in the upper layers of sea water, and that at lower levels command submarines or remote controlled torpedoes could survey fishing prospects.

## FISHERIES

The government of Trinidad and Tobago has met with little success in its attempts to stimulate fishing cooperatives. Of sixty cooperatives started only two continue to function actively. The main difficulty is that the fishermen seem to feel no need for an organized economic approach to fishing since apparently most fishermen are satisfied with earning enough to meet their short-term needs. This non-profit oriented goal can be met easily by selling their catch on the beach without a cooperative effort. It is recognized, however, that the success of any organized effort to increase efficiency, catch and income in the fishing industry ultimately hinges on the development of markets capable of absorbing the increased catch.

Continuing its policy of nationalization, the Peruvian military government announced that foreign owned fish companies operating in Peru will eventually have to transfer fifty-one percent of their interest to Peruvians. The Government has said that the transfer will take place gradually.

A committee report to the International Whaling Commission has warned of depletion among some whale stocks, particularly in the Southern Hemisphere, and brought forth a recommendation that the catch quotas be lowered. In addition to catch quotas, the Whaling Commission again discussed proposals for international observer teams to insure that the assigned quotas be observed. The inability to obtain agreement on enforcement procedures has been a major deterrent to the Commission's effectiveness.

On June 5, 1970, Mexico seized two United States tuna boats for entering her territorial waters around the islands of Las Tres Marias. This was the first seizure of American tuna boats by Mexico. The American Tunaboat Association claims that the two boats accidentally drifted within the 12 mile limit while attempting to right an overturned skiff. The twenty-four crewmen and their boats were released from detention in Mazatlan on July 26, 1970. The owners left \$17,500 for each boat and a \$6,000 bond with Mexican authorities, who will review the incident. If no violation of territorial waters is found, the money may be returned.

An organization of California fisherman, American Waters for American Fishermen, has offered a \$250 reward for the capture of Russian fishing trawlers within the United States 12 mile fishing zone. The fishermen claim that the Russians are depleting fish stocks off Northern



California by using small mesh nets. The California Fish and Game Department disputes this contention, saying that the Russians are only taking hake, which the Department contends is considered a "junk fish". The United States Coast Guard has warned that any private seizures of Russian trawlers would be a violation of federal laws.

The threat of mercury pollution to the fish consumer is resulting in some U. S. Fishing restrictions in the waters affected, at least until the mercury has been reduced to a safe level, 0.5 parts per million. Prohibitory action has already been taken in Lake St. Clair, which is bordered on one side by the Canadian province of Ontario and on the other side by the State of Michigan. The Canadian government has instituted a ban on sport and commercial fishing in the lake for a period of at least a year. The Governor of Michigan has instituted a similar ban. Reportedly, hundreds of fishermen have been put out of business. Fishing in Lake Erie, into which Lake St. Clair flows, is being conducted on a restricted basis. All commercial catches from Lake Erie must be tested by the state where they are landed before being released to markets.

Acting upon the request of the Secretary of the Interior, the United States Department of Justice filed suit against eight companies for mercury pollution. The suits will be for injunctive relief under the Refuse Act of 1899.

In April 1970, Canada and the United States signed a two-year reciprocal fishing agreement which formalizes arrangements that have been in effect for six years. The agreement covers both East and West coasts, and involves all species included in the commercial fisheries of both countries.

#### ATLANTIC-PACIFIC CANAL

The Atlantic-Pacific Inter-Oceanic Canal Commission is preparing a report on the need for a sea-level canal to replace the Panama Canal. The report will be presented to President Nixon in December of 1970. Meanwhile, scientists continue their warnings that a sea-level canal would pose a serious threat to the marine life in both the Atlantic and Pacific Oceans. As stated in the June, 1970 issue of the *Lawyer of the Americas*, the fear is that such a canal would permit the passage of marine animals from one ocean to the other, thereby upsetting the environmental balance in each ocean. The marine organisms in one ocean might not be able to cope with the introduction of new predator species from the other, with the result that certain organisms might become extinct. The Panama

Canal frustrates such inter-ocean exchange of marine animals by its series of locks and the presence of a fresh water barrier in Lake Gatun.

#### U. S. ENVIRONMENTAL REORGANIZATION

On July 9, 1970, President Nixon proposed a reorganization of the ocean, atmospheric and pollution activities of the Federal Government's Executive Departments. The reorganization is an attempt to consolidate these activities for a more coordinated attack on environmental problems. According to the proposal, two new governmental bodies would be formed. The National Oceanic and Atmospheric Administration (NOAA) would be created as a branch of the Commerce Department, and would supervise research and development programs affecting the oceans and atmosphere. The other new organization would be the Environmental Protection Agency, an independent office under the President, and would assume responsibility for the issuing and enforcement of air, water, and land pollution regulations. •