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Possibility of Predicting Spread of Man-made Pollution in Oceans

An oceanographer at the University of Miami, Florida, Dr H. Gote Ostlund, has reported that it is now possible to predict where and how fast man-made pollutants spread after they have entered the oceans from the atmosphere, as they follow the same course in the oceans as some of the fallout from atmospheric nuclear tests. Dr Ostlund is coordinator of the Geochemical Ocean Sections Study (GEOSECS), a programme of the National Science Foundation's International Decade of Ocean Exploration, and reports that GEOSECS has concluded that radioactive fallout from nuclear tests offers oceanographers a very useful tracer in their studies of ocean circulation.

A detailed understanding of the circulation processes in the deep sea, and of the exchanges of energy and material between deep and surface waters as well as between surface waters and the atmosphere, is important if Man is to exploit the oceans effectively and conserve them properly. 'The best tracer,' said Dr Ostlund, 'is the hydrogen isotope, tritium. This isotope [has] entered the ocean surface only in the last 10 to 20 years. No matter where it is found in the deep ocean today, that water had to have been surface water when the tritium left the atmosphere and entered the ocean.'

'Tritium produced by the atmospheric testing of hydrogen bombs in the northern hemisphere has mixed into the cold waters of the Atlantic Ocean north of Iceland. The

cold waters sink and flow south into the depths of the Atlantic. We found that, by 1972, tritium had reached deep water as far south as 40 degrees north—a travel of 1,200 miles [1,920 km] in 10 years.'

GEOSECS, started in 1972, includes the most extensive chemical sampling of ocean waters ever undertaken. Two research ships, *Melville*, based at the Scripps Institution of Oceanography in California, and her sister ship *Knorr*, from Woods Hole Oceanographic Institution in Massachusetts, have just finished gathering water samples from 400 stations in the Pacific, Atlantic, and Indian, Oceans ranging from the arctic to antarctic regions.

The samples, Dr Ostlund said, will suffice to keep laboratory workers busy for about two more years, while 'The information gleaned from these samples... will eventually be used in computerized models that will help estimate the rates of dispersal of the waste products of Man's activities that are added to the surface waters of the seas [including] all the pollutants carried from the land by rivers or washed out of the air by rain.'

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White House Scientific Adviser Joins World Wildlife Fund

Dr Lee M. Talbot, a White House scientific adviser and conservationist, has joined World Wildlife Fund International in the new post of Director of Conservation and Special Scientific Adviser. For a number of years, Dr Talbot has served in the White House as Assistant for International and Scientific Affairs to the Chairman of the President's Council on Environmental Quality. He has had a distinguished career on one hand as a field zoologist and ecologist, and on the other as an adviser on policy planning and development to the U.S. Government and various United Nations agencies. Thus he took an active part in negotiations leading to the adoption of several international conventions—including those on trade in endangered species, the World Heritage Trust, and 'ocean dumping'. He has also acted as adviser on environmental matters to various governments.

At the World Wildlife Fund's international headquarters in Switzerland, Dr Talbot will be responsible for advising on, and overseeing, all the organization's conservation activities—including programme planning and execution, financing of projects, and top-level interventions in favour of conservation. These interventions are apt to be with

governments, international and national agencies, and other authorities, as well as with business and industry.

Dr Talbot will ensure the closest possible collaboration between the World Wildlife Fund (WWF) and the International Union for Conservation of Nature and Natural Resources (IUCN), which provides its scientific advice and management services. He has had a long association with IUCN, having become their first Staff Ecologist in 1954. Later he directed the IUCN Southeast Asian Project on Wildlife Resources and Parks. He has served on the IUCN Survival Service, Ecology, and National Parks, Commissions, and has been a member of the IUCN Executive Board since 1969. Concurrently Dr Talbot will act as Special Scientific Adviser for Conservation and Natural Resources to the International Council of Scientific Unions (ICSU). The close collaboration envisaged between ICSU, IUCN, and WWF, is intended to focus the world's scientific resources on the major scientific problems which face mankind.

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