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POLLUTION SYMPOSIUM
By John D. Costlow, Jr.
21 November 1967

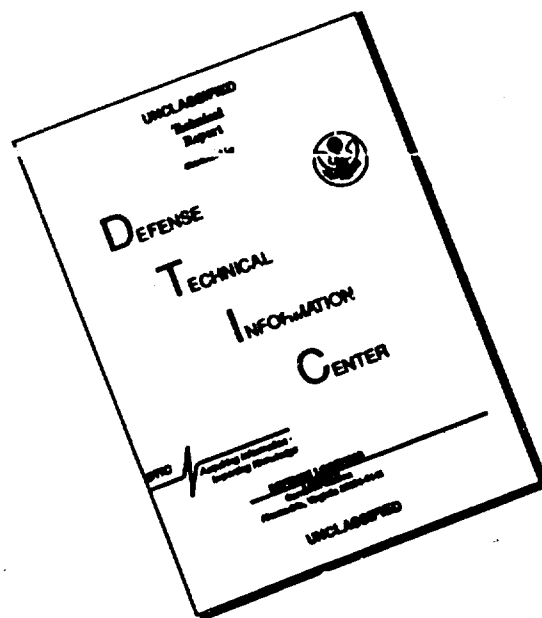
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POLLUTION SYMPOSIUM

In view of the recent interest in pollution in the marine environment, as well as the immediate and long-term problems associated with the discharge of oil and detergents in the English Channel, the International Symposium which was held at Helgoland may be especially appropriate. The occasion, Sept. 19-21, 1967, was the 75th anniversary of the Biologische Anstalt, Helgoland, and the three-day symposium scheduled a number of papers considering the general topic "Biological and Hydrographic Problems of Water Pollution in the North Sea." For the purpose of the Symposium marine pollution was defined as follows, after the SCOR-ACMRR Working Group on Marine Pollution, Paris, December 1966: "Introduction by man of substances into the marine environment resulting in such deleterious effects as harm to living resources, hazards to human health, hindrance to maritime activities including fishing, and reduction of amenities."

Prof. Dr. Otto Kinne (Director of the Anstalt) had attempted to organize the conference with particular reference to the four following sub-topics: (1) Major Sources of Pollution; (2) Biological and Hydrographical Processes Determining the Fate of Pollutants; (3) Biological and Hydrographical Consequences of Pollution; and (4) Local Aspects.

Although it was not possible for me to attend this Symposium, Kinne was kind enough to send the program and abstracts of the papers. From the abstracts it would appear that under the subject of "Major Sources of Pollution," consideration was given to industrial waste products discharged into the North Sea, i.e., heavy metals, chemicals and petrol chemicals including oil, pulp and paper waste, pesticides, detergents, radioactive materials, heat, as well as solid objects. The second major source of pollution considered was domestic waste products, including waste from food processing. Under the second sub-topic, emphasis appears to have been placed on the biological processes of dispersion, accumulation and removal, and the hydrographical counterparts which contribute to distribution and the fate of pollutants, as well as the physical-chemical interactions between toxic substances. Within the third general sub-topic, Biological and Hydrographical Consequences of Pollution, most of the emphasis seemed to have been placed on the biological consequences. This included a consideration of the response of single species as well as the response of ecosystems and communities, including competition, food chains, species composition within an ecosystem and the stability of a particular ecosystem. The hydrographical consequences dealt largely with changes in the water quality itself. Within the sub-title of "Local Aspects" some consideration was given to the role of large rivers and coastal areas in polluting the North Sea, as well as more detailed studies on specific geographically restricted localities which

permitted a comparison with areas outside the North Sea. A total of 40 papers were presented, with simultaneous translation into English, French and German which has made previous meetings at Helgoland so informative.

The London Daily Telegraph carried several articles on the Symposium which would suggest that there were periods of rather heated discussion. Evidence was presented by K.H. Schumann (Biologische Anstalt Helgoland) which indicated that chemical waste dumped by one of the major West German chemical firms would kill fish larvae. Beginning in 1969, the firm intends to dump 880 tons of diluted sulphuric acid each day seven miles north of Helgoland. A representative of the firm who was also attending the Symposium is reported to have replied, "We chemists see these results differently." The company contends that the sea currents will dissipate the acid.

There was one immediate result from the Symposium which should be of interest to American scientists. An international commission was established to draw up a list of noxious chemicals whose dumping into the rivers flowing into the North Sea should be forbidden immediately. Kinne, commenting on the fact that efforts should be made to see that the North Sea does not become the laboratory of Europe, indicated that the North Sea is shallow with an average depth of 60 ft. There is little exchange of water between the North Sea and the Atlantic Ocean and the cleanliness of the water was vital not only to the fisheries but also to those millions who spend holidays in the area.

Approximately a month later, the International Oceanographic Council completed its 55th assembly in Hamburg by setting up a special committee to study the problem of pollution in the North Sea.

The papers should be published within the next year in the Helgoland Journal and would presumably be available by writing to Prof. Dr. Otto Kinne, Biologische Anstalt Helgoland, 2 Hamburg 50, Palmaille 9, Germany.

APPENDIX

"Changes since the turn of the century in the fish fauna and the fisheries of the Oslofjord," J.T. Rudd, Universitetet i Oslo, Institut for Marine Biologi A, Frederiksgate 3, Oslo 1, Norway.

"Biochemical and dynamic circulation of nutrients in the Oslofjord," E. Fjyn, Universitetet i Oslo, Institut for Marine Biologi A, Frederiksgate 3, Oslo 1, Norway

"Die Bedeutung des Elbe-stuars fur die Abwasserbelastung der Sudlichen Nordsee in bakteriologischer Sicht," G. Rheinheimer, Kiel, Germany.

"Die Trift von Verschmutzungen an der Oberflche der Nordsee," H. Neumann, Deutsches Hydrographisches Institut, Bernhard-Nocht-Strasse 78, Hamburg 4, Germany

"The control of radioactive pollution in a North Sea osyter fishery," A. Preston, Fisheries Laboratory, Lowestoft, Suffolk, UK.

"Changes of the sea by wastes and introduction of five classes for the disposal of wastes in the sea," G. Weichart, Deutsches Hydrographisches Institut, Bernhard-Nocht-Strasse 78, Hamburg 4, Germany.

"Progress report on a programme of insecticide analysis and toxicity-testing in relation to the marine environment," J.E. Portmann, Burnham-on-Crouch, UK.

"Various suggestions for increasing knowledge of the circulation of the North Sea waters to serve pollutant-drift studies," J.N. Carruthers, National Institute of Oceanography, Wormley, Godalming, Surrey, UK.

"Biological consequences of marine pollution, with special reference to the North Sea fisheries" P. Korringa, Rijksinst. v. Fisserijonderzoek, Haringkade 1, Ijmuiden, The Netherlands.

"The hydrography of the North Sea, a review of our knowledge in relation to pollution problems," A. Lee and J. Ramster, Fisheries Laboratory, Lowestoft, Suffolk, UK.

"Zooplankton, zoobenthos, and bottom sediments as related to pollution and water exchange in the Oslofjord," F. Beyer, Universitetet i Oslo, Institut for Marine Biologi A, Frederiksgate 3, Oslo 1, Norway.

"Pollution in the harbour of Ostend (Belgium), biological and hydrographical consequences," G. Persoone (Ghent, Belgium) and N. De Pauw (Antwerp, Belgium).

"Toxicological investigations in an artificial ecosystem. A progress report on copper toxicity towards algae and daphniae," H.J. Hueck and D.M.M. Adema, Delft, The Netherlands.

"Fission-product radionuclides in sediments from the North-East Irish Sea," D.F. Jefferies, Fisheries Laboratory, Lowestoft, Suffolk, UK.

"Toxicity to fish of waste from a parathion industry at the Danish North Sea coast," J. Boëtius, Danmarks Fiskeri- og Havundersøgelses, Charlottenlund Slot, Charlottenlund, Denmark.

"Some hydrographic observations on salt brine pollution in the Kiel Fjord," J.M. Gieskes, Kiel, Germany.

"Biologisches Auswirkungen von gereinigten Abwässern einer Öl-Raffinerie in einem Vorlandgebiet an der Nordsee," D. König, Landesamt für Wasserwirtschaft, Düsternbrooker Weg 104-108, Kiel, Germany.

"Deichsicherung mit Verhüttungsrückständen," M. Haucke, Dortmund, Germany.

"The influence on the fishery in the lower regions of the river Elbe owing to civilization," H. Mann, Bundesforschungsanstalt für Fischerei, Institut für Küsten- und Binnenfischerei, Palmallee 9, Hamburg-Altona 1, Germany.

"Versuch einer Klassifikation industrieller Abfallprodukte in bezug auf die Möglichkeit einer Versenkung auf See," G. Tomczak, Deutsches Hydrographisches Institut, Bernhard-Nocht-Strasse 78, Hamburg 4, Germany.

"Ermittlung von Bewegungsvorgängen im Meere und in Flussmündungen zur Untersuchung des Transportes von Verunreinigungen," H.G. Ramming, Institut für Meereskunde, Universität Hamburg, Heimhuderstrasse 71, Hamburg 13, Germany.

"Physiologische Untersuchungsmethoden zur Bestimmung des Schädlichkeitsgrades von Abwasserfugten in Süß-, Brack- und Salzwasser," E. Halsband, Bundesforschungsanstalt für Fischerei, Institut für Küsten- und Binnenfischerei, Palmallee 9, Hamburg-Altona 1, Germany.

"Die Küstenfischerei in der Unter- und Aussenweser und die Abwasserbedrohung," W. Nolte, Bremerhaven, Germany.

"Der Einfluss menschlicher Einwirkungen auf Fortflanzung und Laichen litoraler mariner Bodenevertebraten," S.A. Mileikovsky, Institute of Oceanology, Academy of Sciences USSR, 1, Sadovaya, Moscow J-387, USSR.

"Verunreinigung des Meeres durch Kohlenwasserstoffe und ihr Einfluss auf marine Organismen," O.G. Mironov, Sevastopol, USSR.

"Die Wirkungen der Ölverschmutzung des Meeres auf die Populationen von See- und Küstenvögeln," F. Goethe, Institut für Vogelforschung, "Vogelwarte Helgoland," Wilhelmshaven, Germany.

"Untersuchungen zur Verträglichkeit von Meer- und Brackwasser für Ciliaten des Saprobiensystems der Wassergütebeurteilung," H. Bick, Bonn, Germany.

"Some effects of heated effluents on marine phytoplankton," P.D.V. Savage, Southampton, UK.

"Hauptquellen häuslicher Abwässer und deren Bedeutung für die Wasserverunreinigung der Nordsee," H. Kayser, Biologische Anstalt Helgoland, Helgoland, Germany.

"Über die hydrographische Struktur der Deutschen Bucht im Hinblick auf die Verschmutzung in der Konvergenzzone," E. Goedecke, Deutsches Hydrographisches Institut, Bernhard-Nocht-Strasse 78, Hamburg 4, Germany.

"Biologische Konsequenzen sulfathaltiger Industrieabwässer," O. Kinne and E.-H. Schumann, Biologische Anstalt Helgoland, Helgoland, Germany.

"Horizontal and vertical exchanges and diffusion in the water masses of the Oslofjord," H.G. Gade, Bergen, Norway.

"Management of the national estuarine resource of the United States," T.A. Wastler, Washington, D.C.

"Die Wirkung der Wasserverunreinigungen auf das Benthos ausserhalb Gøteborgs," P. Tulkki, Zoological Institute, University of Turku, Turku, Finland.

"Introduction to the studies of pollution in the Oslofjord," J.T. Rudd, Universitetet i Oslo, Institut for Marine Biologi A, Frederiksgate 3, Oslo 1, Norway.

"The fauna of a polluted shore in the Firth of Forth," J.C. Smith, Paisley, UK.

"Vergleichende Untersuchungen über Hydrochemie und Plankton deutscher Flussmündungen," H. Köhl, Bundesforschungsanstalt für Fischerei, Institut für Küsten- und Binnenfischerei, Labor Cuxhaven, Bei der Alten Liebe 1, Cuxhaven, Germany.

"Some effects of pollution on the bottom of the Gullmarfjord,"
E. Leppäkoski, Fiskelbäckskil, Norway.

"Verschmutzung der Gewässer durch Aussenbordmotore und die Wirkung
auf Fauna und Flora," D. Lüdemann, Berlin, Germany.

"Surface pollution and light extinction in the Oslofjord," G. Munthe-Kaas,
Norsk institutt for vannforskning, Gaustadalleen 25, Oslo, Norway.

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<p>An account is given of the three-day symposium "Biological and Hydrographic Problems of Water Pollution in the North Sea" held at Helgoland, Germany in September 1967. The forty papers which were presented considered various aspects of the major sources of pollution, the biological and hydrographical processes determining the fate of pollutants, the biological and hydrographical consequences of pollution, and general and local aspects of pollution.</p>		

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