

# Milner Baily Schaefer Biography

Deborah Day, Scripps Institution of Oceanography Archives, 1997



Milner Baily ("Benny") Schaefer was born in Cheyenne, Wyoming, the son of Heinrich Gottlieb Schaefer and Kate Ross Baily Schaefer. He received his Bachelor of Science degree in Fisheries at the University of Washington in 1935 and his doctorate in Fisheries at the same University in 1950.

Schaefer began his career as a biologist at the Washington State Fisheries Department in Seattle after completing his bachelor's degree. From 1937 to 1942, he served as a scientist for the International Pacific Salmon Fisheries Commission in Westminister, British Columbia, Canada.

After serving in the Navy during the war, Schaefer joined the U.S. Fish and Wildlife Service in 1946. He held various posts as a biologist, first at the Fishery Biology Headquarters at Stanford University, and then at the Pacific Oceanic Fisheries Investigations Laboratory in Honolulu. He left government service in 1950.

After completing his doctorate, Schaefer became Director of Investigations, Inter-American Tropical Tuna Commission (IATTC), in 1951. The IATTC is an international fisheries commission which established its first headquarters at the Scripps Institution of Oceanography. During his decade at the IATTC, Schaefer worked extensively on theory of fishery dynamics and developed a fishery population model which became known as the Schaefer Model. As Schaefer's colleague, Gerald J. Paulik stated in 1968:

"In spite of the growing sophistication of theoretical biology and, in particular, mathematical modeling in fisheries, Schaefer's equilibrium yield model is probably the single most important conceptual tool available to anyone concerned with the dynamics of an exploited natural population."

During the 1950's, Schaefer became increasingly active on a number of committees, panels, and organizations concerned with marine resources, particularly fisheries and all aspects of oceanography. Among these were the American Society of Limnology and Oceanography, the National Academy of Sciences, the National Research Council, the United Nations Food and Agriculture Organization, the United Nations Special Fund, the Marine Technology Society, the American Fisheries Society and the American Society of Ichthyologists and Herpetologists.

Schaefer's association with the Scripps Institution of Oceanography began while he was with the IATTC. From February 1, 1951 to June 30, 1961, Schaefer held an appointment as Research Associate at Scripps. It was during this period that Schaefer taught courses in population dynamics, the dynamics of exploited fish populations, and fishery dynamics. He also contributed to the planning for the biology program at Scripps, and participated in the planning for several SIO expeditions partially funded by the IATTC. These include Eastropac, Scope, and Scott. During the year 1954-1955, Schaefer joined John Isaacs and other Scripps scientists attached to the Navy for U.S. Operation Wigwam, the Pacific nuclear tests.

In 1961, Schaefer was appointed Research Associate/Lecturer at Scripps. He was promoted the following year to Professor of Oceanography. In 1962, he resigned his position as Director of Investigations at the IATTC to become the second director of the University of California Institute of Marine Resources (IMR), headquartered at SIO. Schaefer continued to serve the IATTC as a Scientific Consultant. IMR grew significantly during Schaefer's directorship. In 1963, Schaefer invited John Douglas H. Strickland to join IMR and form the Food Chain Research Group (FCRG). FCRG studied the formation of organic matter in the sea and paths and processes whereby it is transferred up the food chain and recycled. FCRG investigations involved marine chemistry, phytoplankton taxonomy and physiology, bacteriology and zooplankton ecology and physiology. During the same year, the Scripps Tuna Oceanography Research Group (STOR) was administratively placed under IMR. STOR had begun in 1957 with the support of the U.S. Bureau of Commercial Fisheries. Its purpose was to determine the distribution and abundance of tunas that contributed to San Diego fisheries, and it studied the effects of temperature on tuna, distribution of zooplankton and a number of other topics.

Schaefer's extensive publications on all aspects of marine resources, his dedication to public service demonstrated by his service to U.S. and international organizations, and his activities as a member of many professional organizations, earned him an international reputation as an expert on fisheries, marine resources, population dynamics, and oceanography. From the 1950's until his death in 1970, Schaefer traveled extensively to lecture, attend symposia, and to observe and report on fisheries and oceanography throughout the world.

In 1965, Schaefer participated in the IMR Planning Committee which authored the influential report, California and the Use of the Ocean for the California State Office of Planning. During the same year, he served as the Chairman of the California Governor's Advisory Committee on Ocean Resources. From August, 1967 to

February, 1969, Schaefer was on a leave of absence from the IMR to serve as the Science Advisor to the Secretary of the United States Department of the Interior. While there, Schaefer advised Secretary Stewart Udall on scientific matters from ecology to the supersonic transport.

Schaefer had long suffered with a cardiac condition. He became ill in 1970 after returning to the IMR, while conducting fishery research and attending a conference in Peru. He died at the age of 57 on July 26, 1970, in San Diego.

### **Milner Baily Schaefer Chronology**

- 1912 December 14: Born in Cheyenne, Wyoming, son of Kate Ross Baily and Heinrich Gottlieb Schaefer.
- 1934-35 Field and Laboratory Assistant, International Fisheries Commission, Seattle, Washington.
- 1935 B. Sc., magna cum laude, University of Washington.
- 1935-37 Assistant Biologist, Washington State Fisheries Department, Seattle.
- 1937-39 Biologist, Washington State Fisheries Department, Seattle.
- 1939-40 President, Pacific Fishery Biologists.
- 1939-42 Scientist, International Pacific Salmon Fisheries Commission, New Westminster, B.C.
- 1942-46 Officer, U.S. Navy.
- 1946 Instructor, University of Washington, School of Fisheries.
- 1946 August 13- August, 1948: Aquatic Biologist, U.S. Fish and Wildlife Service, Fishery Biology Headquarters, Stanford University.
- 1948 August 8- 1950: Chief, Section of Biology and Oceanography (Fishery Research Supervisor), Pacific Oceanic Fishery Laboratory, Honolulu.
- 1949 May 4: Married Isabella Long.
- 1950 Ph.D., University of Washington.
- 1951 February 1- June 30, 1961: Research Associate, University of California, Scripps Institution of Oceanography, La Jolla, CA.
- 1951-62 Director of Investigations, Inter-American Tropical Tuna Commission.
- 1954-55 Member, Scripps Institution of Oceanography scientific party, Operation Wigwam.
- 1955 Expert on Fisheries, Secretariat of International Conference on Conservation of Living Resources, Rome.

- 1956 Founding fellow, American Institute of Fishery Research Biologists.
- 1956-57 President, American Society of Limnology and Oceanography, Western Division.
- 1956-63 Member, National Academy of Sciences/National Research Council Committee on Effects of Atomic Radiation in Oceanography and Fisheries.
- 1957-68 Member, National Academy of Sciences/National Research Council Committee on Oceanography.
- 1958 Expert, Secretariat of the United Nations Conference on the Law of the Sea, Geneva.
- 1959 Member, United States Delegation to International Scientific Conference on Disposal of Radioactive Wastes, Monaco.
- 1959-60 Consultant, Special Committee of the American Society of Limnology and Oceanography on Education and Manpower.
- 1960 Official Observer, Second International Conference on Law of the Sea, Geneva.
- 1960-63 Representative of the National Academy of Sciences on the Advisory Board of the National Oceanographic Data Center.
- 1960-65 Consultant, Special Fund of the United Nations.
- 1961 Member, Latin American Working Group on Earth Sciences of the President's Science Advisory Committee.
- 1961 July 1-  
August 1, 1962: Research Associate/Lecturer, University of California, Scripps Institution of Oceanography.
- 1962 August 1-  
1970: Professor of Oceanography, University of California, Scripps Institution of Oceanography.
- 1962 September-  
1966: Chairman, Standing Committee on Marine Sciences of the Pacific Science Association.
- 1962 September  
1-July 26, 1970: Director, University of California Institute of Marine Resources.
- 1963-64 Science Committee on Oceanic Research Representative, Marine Communities Working Group for the International Biological Program.
- 1963-66 Member, Study Team for the U.S. National Aquarium.
- 1963-68 Member, National Academy of Sciences Latin American Science Board.

- 1963-70 Member, National Academy of Sciences Nutrition Board, Scientific Advisory Committee on Marine Protein Resources Development.
- 1963-70 Scientific Consultant, Inter-American Tropical Tuna Commission.
- 1964 Member, Study Committee of American Society of Limnology and Oceanography.
- 1964-67 Chairman, National Academy of Sciences/National Research Council Committee on Oceanography.
- 1964-69 Member, United Nations Expert Panel for the Facilitation of Tuna Research; Chairman 1964-September, 1966.
- 1965 Member, Committee on Science and Technology of the National Citizen's Commission on International Cooperation.
- 1965 Member, Advisory Committee on Fisheries and Oceanography, U.S. Department of State.
- 1965 Member, National Academy of Sciences/National Research Council Geophysics Research Board.
- 1965-66 Member, Ad Hoc Committee for Evaluation of Study of Economic Benefits from the Continental Shelf, U.S. Department of Commerce, Environmental Sciences Service Administration.
- 1965-70 Member, California Governor's Advisory Committee on Ocean Resources; Chairman 1965-December, 1966.
- 1965-70 Member, U.S. Department of State, Industry Advisory Committee on Fisheries Oceanography.
- 1966-67 Member, Board of Directors, National Oceanography Association.
- 1966-70 Member, Indicative World Plan (IWP) Working Group on Marine Resources Appraisal.
- 1967 Consultant, National Council on Marine Resources and Engineering Development.
- 1967 Recipient, Diploma de Reconocimiento (Costa Rica).
- 1967 Member, U.S. Department of the Interior, Advisory Committee on Marine Resources Development Program.
- 1967 August-February, 1969: Science Advisor to the Secretary of the U.S. Department of the Interior, Stewart Udall.
- 1967 September 30: Elected fellow, California Academy of Sciences.

- 1968 January 31: Speaker, Symposium on Critical Review of the Report of the National Commission on Marine Sciences, Engineering and Resources, Law Committee of the Marine Technology Society, Washington, D.C.
- 1968 June 24: Chairman of the Symposium, The Geneva Conventions Ten Years Later: Third Conference of the Law of the Sea Institute, University of Rhode Island, Kingston.
- 1968 September: Member, United States Delegation to the Working Group on Legal Questions Related to Scientific Investigation of the Ocean, Intergovernmental Oceanographic Commission, Paris.
- 1968 October 19: Speaker, Conference on Career Opportunities in the Marine Sciences, Northeastern University, Boston, MA.
- 1968 November 26: Speaker, Extension Course in Ocean Engineering, University of Delaware.
- 1969 Consultant and Visiting Scientist, Instituto del Mar del Peru.
- 1969 Member, National Academy of Sciences/National Research Council Food and Nutrition Board.
- 1969 Member, National Academy of Sciences/National Research Council Committee on Oceanography, Panel on Radioactivity in the Marine Environment.
- 1969 Member, National Academy of Sciences/National Research Council Committee on Oceanography, Panel on International Marine Science Affairs.
- 1969 Government Liaison Member (Department of the Interior), National Academy of Sciences/National Research Council Committee on Oceanography, Steering Group for Planning of International Decade of Ocean Exploration.
- 1969 February 24-25: Speaker, Symposium on Man's Chemical Invasion of the Ocean, University of California, Scripps Institution of Oceanography, La Jolla, CA.
- 1969 March: Resumed Directorship of the University of California Institute of Marine Resources, La Jolla, CA.
- 1969 April 12-30: Pursuing research at Instituto del Mar del Peru.
- 1969 June 2-3: Ford Foundation Lecturer in Quantitative Ecology and Resource Management, Center for Quantitative Science in Forestry, Fisheries and Wildlife, University of Washington, Seattle.
- 1969 June 22: Speaker, 17th Office of Naval Research West Coast Research Reserve Seminar, Oregon State University, Corvallis.
- 1969 June 23-26: Participant, Fourth Annual Conference, Law of the Sea Institute, University of Rhode Island.

- 1969 June 30-July 5: Speaker, Symposium on the International Regime of the Sea-Bed, Istituto Affari Internazionali, Rome.
- 1969 July 9: Speaker, Symposium on Food Production Engineering, Marine Technical Society, Washington, D.C.
- 1969 August 12: Testified at hearings of the Subcommittee on Oceanography of the U.S. House of Representatives' Committee on Merchant Marine and Fisheries concerning the Report of the Commission on Marine Science, Engineering and Resources.
- 1969 September 10: Received citation and award from the American Fisheries Society for the most significant paper published in their Transactions.
- 1969 September 12-13: Speaker, American Fisheries Society 99th Annual Meeting, New Orleans, LA.
- 1969 September 26-29: Participant, Conference on the Resources of the Ocean Bed, The Ditchley Foundation, Ditchley Park, Oxfordshire, England.
- 1969 October 28: Testified at hearings of California Legislature Assembly Committee on Water.
- 1969-70 Member, Coordinating Board, University of California Water Resources Center.
- 1969-70 Member, Panel of Advisory Editors, Bulletin of the Scripps Institution of Oceanography, University of California.
- 1970 Member, Director's Advisory Council, Scripps Institution of Oceanography, University of California.
- 1970 Member, Sea Grant Advisory Committee, Scripps Institution of Oceanography, University of California.
- 1970 January 12-16: Participant, United Nations Food and Agriculture Organization, Meeting and Workshop of Panel of Experts, on Population Dynamics of Peruvian Anchoveta, Callao, Peru.
- 1970 February 25-27: Participant, Conference on Planning and Development in Relation to Ocean Research, United Nations Institute for Training and Research, New York.
- 1970 April 20-26: Speaker, Symposia on Ecology and on Science Policy, Center for the Study of Democratic Institutions, Santa Barbara, CA.
- 1970 June 28-July 3: Participant, International Convocation "Pacem in Maribus," Center for the Study of Democratic Institutions, Malta.
- 1970 July 26: Died in San Diego, California.

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