Adjunct Professor, Fisheries Oceanography
School for Marine Science and Technology
University of Massachusetts Dartmouth
(2005 – present)

Senior Marine Research Scientist
Graduate School of Oceanography
University of Rhode Island
(2007 – present)

Principal Scientist and Director of Research (ret.)
BAE Systems (Tracor), Applied Technology
San Diego, CA (1962-2007)

D.V. Holliday

Education
B.S. (1961) & M.A. (1965) in Physics, Univ. of Texas, Austin
Ph.D. (1972) in Applied Physics, Univ. of California, San Diego

Research Interests
Acoustical oceanography, development and use of new technology for assessing fish, plankton and benthic organisms in diverse aquatic environments.

Current Research
A physicist with over four decades of field experience in oceanography, Dr. Holliday maintains an active research program in acoustical oceanography, e.g., reverberation, ambient noise, propagation and signal processing. He develops and uses high technology instrumentation to measure, study and monitor life at different trophic levels in marine ecosystems, including the seabed. He has pioneered various acoustical methods that are used internationally to assess and study oceanic plankton, nekton and marine mammals. He has worked in Arctic and temperate ocean environments as well as in estuaries and lakes. His research has been sponsored by NOAA, DoD, NSF, state governments and various industrial groups.

He pioneered the use of high frequency acoustical zooplankton sensors, enabling estimation of zooplankton size - biomass data from measurements of acoustical scattering spectra. These methods are currently being used in the field research of fisheries and biological oceanographers in North America, Australia, Japan, and France. In 2002, 2003 and 2004, working with NOAA's Alaska Fisheries Science Center, moored sensors were deployed in the coastal Gulf of Alaska where they were used to assess abundances and sizes of zooplankton and micronekton. In 2006, 2007 and 2008, deployments were made on a mooring in the Bering Sea, enabling reports on abundance and size for mesozooplankton and micronekton at 20 min intervals via a satellite link. He also studies fine-scale vertical layers of plankton using multi-frequency acoustic sensors.

Professional Affiliations, Honors and Awards

Fellow, Acoustical Society of America
Member, American Society of Limnology and Oceanography
Charter Member and past Councilor, The Oceanographic Society
Silver Medal in Acoustical Oceanography, Acoustical Society of America, 2004.
"… for contributions to the study of marine life, from plankton to whales."
Meritorious Public Service Award, Dept. of the Navy, Chief of Naval Research, 2002
Editorial Board, Limnology and Oceanography: Methods, 2002- present.
Steinbach Visiting Scholar, Woods Hole Oceanographic Institution, Summer 1987
Member, U.S. Delegation to the International Council for the Exploration of the Sea (ICES/CIEM), 1987 - present.

Selected Publications

"*Acoustic Seabed Classification of Marine Physical and Biological Landscapes*", John Anderson, Van Holliday, Rudy Kloser, Dave Reid and Yvan Simard (Eds.), ICES Cooperative Research Report, Rapport des Recherches Collectives, No 286, 2007.

"Active acoustical assessment of plankton and micronekton", D.V. Holliday and T.K. Stanton, Chapter 12 in *Sounds in the Seas: From Ocean Acoustics to Acoustical Oceanography*, H. Medwin, ed. 2005, Cambridge University Press.

"The Effects of Physical Processes on the Structure and Transport of Thin Zooplankton Layers in the Coastal Ocean. McManus, M.A., O.M. Cheriton, P.J. Drake, D.V. Holliday, C.D. Storlazzi, P.L. Donaghay and C.F. Greenlaw. Marine Ecology Progress Series 301: 199-215, 2005.

"High-frequency scattering from saturated sand sediments", C.F. Greenlaw, D.V. Holliday and D.E. McGehee. J. Acoust. Soc. Am. 115(6): 2818-2823, 2004.

"Characteristics, Distribution and Persistence of Thin Layers Over a 48-Hour Period". McManus, M.A., A.L. Alldredge, A.H. Barnard, E. Boss, J.F. Case, T.J. Cowles, P.L. Donaghay, L.B. Eisner, D.J. Gifford, C.F. Greenlaw, C.M. Herren, D.V. Holliday, D. Johnson, S. MacIntyre, D.M. McGehee, T.R. Osborn, M.J. Perry, R.E. Pieper, J.E.B. Rines, D.C. Smith, J.M. Sullivan, M.K. Talbot, M.S. Twardowski, A. Weidemann and J.R. Zaneveld. Mar. Ecol. Prog. Ser. 261: 1 – 19. 2003.

"A shallow scattering layer: High-resolution acoustic analysis of nocturnal vertical migration from the seabed". Kringel, K., P.A. Jumars, and D.V. Holliday. Limnol. Oceanogr. 48(3): 1223-1234, 2003.

"Advances in defining fine- and micro-scale pattern in marine plankton", Dale V. Holliday, Percy L. Donaghay, Charles F. Greenlaw, Duncan E. McGehee, Margaret M. McManus, Jim M. Sullivan and Jennifer L. Miksis, Aquatic Living Resources 16(3): 131-136, 2003.

"Occurrence and mechanisms of formation of a dramatic thin layer of marine snow in a shallow Pacific fjord", A.L Alldredge, T.J. Cowles, S. MacIntyre, J.E.B. Rines, P.L. Donaghay, C.F. Greenlaw, D.V. Holliday, M.M. Dekshenieks, J.L. Sullivan and J.R.V. Zaneveld, Mar. Ecol. Prog. Ser. 233: 1-12, 2002.

"Acoustical sensing of biology in the sea", D.V. Holliday, in *Acoustical Oceanography*, T.G. Leighton, G.J. Heald, H.D. Griffiths and G. Griffiths, eds., Proc. Institute of Acoustics (UK) 23(2): 172-180, 2001.