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Education: Ph.D., Indiana University, 1962
M.A., University of California, 1959
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Research Experience:

Senior Research Scientist, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, 1976-present; Acting Director, 1984; Director, 1985-1989, Co-Director 1989-present
Tage Erlander Visiting Professor, Askö Laboratories, University of Stockholm, Sweden, September 1988-September 1989
N.S.F. Postdoctoral Fellow, Norwegian Institute for Water Research, 1971-1972
Assistant Professor (1965), Associate Professor (1967), Professor (1971-1976), North Carolina State University, Raleigh
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Research Associate, University of California, Davis, 1962-1963

Honors and Memberships:

U.S. Arctic Research Commission, 1996-present
Arctic Research Consortium of the U. S., Board of Directors, 1989-2001
Chair, Florida Bay Scientific Oversight Panel, 1998-present
Member, Executive Committee, Long-Term Ecological Research Coordinating Committee
Member, Ecological Society of America
President, American Society of Limnology and Oceanography, 1984-1986
President, Association of Ecosystems Research Centers, 1987-1988, 1992-1993
Member, Corporation of the Marine Biological Laboratory
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Awards - Hutchinson Award for Research (American Society of Limnology and Oceanography), Sigma Xi Research Award

Publications:

Hobbie, J. E., and R. T. Wright. 1968. A new method for the study of bacteria in lakes: description and results. *Mitt. Internat. Verein. Limnol.* 14:64-71.
Hobbie, J. E. 1969. Contributor to H. L. Golterman and R. S. Clymo (eds.), *Methods for Chemical Analysis of Freshwaters*. IBP Handbook No. 9. Blackwell Scientific Publications, Oxford and Edinburgh. 172 p.

- Hobbie, J. E. 1969. A method for studying heterotrophic bacteria, pp. 146-151. In: R. H. Vollenweider (ed.), Primary Production in Aquatic Environments. IBP Handbook No. 12, Blackwell Scientific Publications, Oxford and Edinburgh.
- Hobbie, J. E., and C. C. Crawford. 1969. Respiration corrections for bacterial uptake of dissolved organic compounds in natural water. *Limnol. Oceanogr.* 14:528-532.
- Hobbie, J. E., and C. C. Crawford. 1969. Bacterial uptake of organic substrates: new methods of study and application to eutrophication. *Verh. Internat. Verein. Limnol.* 17:725-730.
- Goldman, C. R., D. T. Mason and J. E. Hobbie. 1969. Variations in photosynthesis in two shallow Antarctic lakes. *Verh. Internat. Verein. Limnol.* 17:414-418.
- Hobbie, J. E. 1970. Arctic limnology, pp. 107-115. In: J. E. Sater (ed.), The Polar Basin. Arctic Institute of North America, Washington, D.C.
- Hobbie, J. E. 1971. Heterotrophic bacteria in aquatic ecosystems: some results of studies with organic radioisotopes, pp. 181-194. In: J. Cairns, Jr. (ed.), Proceedings of a Symposium on Structure and Function of Aquatic Microbial Communities. Virginia Polytechnic Institute Press, Blacksburg, VA. 301 p.
- Hobbie, J. E., and L. R. Pomeroy. 1972. Experimental concentration of aquatic microorganisms. *Verh. Internat. Verein. Limnol.* 18:696-700.
- Hobbie, J. E., R. J. Barsdate, V. Alexander, D. W. Stanley, C. M. McRoy, R. G. Stross, D. A. Bierle, R. D. Dillon and M. C. Miller. 1972. Carbon flux through a tundra pond ecosystem at Barrow, Alaska. Report 72-1 to U.S. IBP Tundra Biome.
- Hobbie, J. E., O. Holm-Hansen, T. T. Packard, L. R. Pomeroy, R. W. Sheldon, J. P. Thomas and W. J. Wiebe. 1972. A study of the distribution and activity of microorganisms in ocean water. *Limnol. Oceanogr.* 17:544-555.
- Hobbie, J. E. 1973. Using kinetic analyses of uptake of carbon-14 to measure rates of movement of individual organic compounds into aquatic bacteria, pp. 207-214. In: T. Rosswall (ed.), Modern Methods in the Study of Microbial Ecology. Bulletin No. 16 from the Ecological Research Committee, Stockholm. Editorial Service, National Science Research Council, Stockholm, Sweden.
- Hobbie, J. E. 1973. Arctic limnology: A review, pp. 127-168. In: M. E. Britton (ed.), Alaskan Arctic Tundra. Technical Paper No. 25. Arctic Institute of North America.
- Hobbie, J. E., and G. E. Likens. 1973. The output of phosphorus, dissolved organic carbon and fine particulate carbon from Hubbard Brook watersheds. *Limnol. Oceanogr.* 18:734-742.
- Bennet, M. E., and J. E. Hobbie. 1973. The uptake of glucose by *Chlamydomonas* sp. *J. Phycol.* 8:392-398.
- Crawford, C. C., J. E. Hobbie and K. L. Webb. 1973. Utilization of dissolved organic compounds by microorganisms in an estuary, pp. 169-180. In: H. Stephenson (ed.), Proceedings of a Conference on Estuarine Microbiology. University of South Carolina Press.
- Crawford, C. C., J. E. Hobbie and K. L. Webb. 1973. The utilization of dissolved free amino acids by estuarine microorganisms. *Ecology* 55:331-363.
- Hobbie, J. E. 1974. Effects of phosphorus on estuarine systems, pp. 252-270. In: H. T. Odum, B. J. Copeland and E. McMahan (eds.), Coastal Ecological Systems of the United States. The Conservation Foundation, Washington, D.C.
- Hobbie, J. E. 1974. Nutrients in the Pamlico River Estuary, NC, 1971-1973. Report No. 100 of the Water Resources Research Institute of the University of North Carolina.
- Harrison, W. G., and J. E. Hobbie. 1974. Nitrogen budget of a North Carolina Estuary. Report of the Water Resources Research Institute of the University of North Carolina 86:1-171.
- Hobbie, J. E. 1975. Some controls in tundra pond ecosystems, III, pp. 43-51. In: Circumpolar Conference on Northern Ecology. National Research Council, Ottawa, K1A 0R6.
- Hobbie, J. E., and P. Rublee. 1975. Bacterial production in an arctic pond. *Verh. Internat. Verein. Limnol.* 19:466-471.

- Hobbie, J. E., B. J. Copeland and W. G. Harrison. 1975. Sources and fates of nutrients in the Pamlico River estuary of North Carolina, pp. 287-302. In: L. E. Cronin (ed.), Estuarine Research. Vol. 1. Academic Press, New York.
- Daley, R. J., and J. E. Hobbie. 1975. Direct counts of aquatic bacteria by a modified epifluorescence technique. *Limnol. Oceanogr.* 20:875-882.
- Hobbie, J. E. 1976. Bacteria, algae, and dissolved organic matter, pp. 105-109. In: M. Connally (ed.), Ponds as a Wastewater Treatment Alternative. University of Texas Press.
- Hobbie, J. E. 1976. Nutrients in estuaries. *Oceanus* 19:41-45.
- Hobbie, J. E., and N. W. Smith. 1976. Nutrients in the Neuse River Estuary. Sea Grant Report UNC SG-75-21.
- Tiwari, J. L., and J. E. Hobbie. 1976. Random differential equations as models of ecosystems: Monte Carlo simulation approach. *Math. Biosci.* 28:25-44.
- Tiwari, J. L., and J. E. Hobbie. 1976. Random differential equations as models of ecosystems: II. Initial condition and parameter specification in terms of maximum entropy distributions. *Math. Biosci.* 31:37-53.
- Hobbie, J. E., and P. Rublee. 1977. Radioisotope studies of heterotrophic bacteria in aquatic ecosystems, pp. 441-476. In: J. Cairns, Jr. (ed.), Freshwater Microbial Communities. Garland Publishing, Inc., New York and London.
- Hobbie, J. E., and J. L. Tiwari. 1977. Ecosystem models versus biological reality: experiences in the systems analysis of an arctic pond. *Verh. Internat. Verein. Limnol.* 20:105-109.
- Hobbie, J. E., R. J. Daley and J. Jasper. 1977. Use of Nuclepore filters for counting bacteria by fluorescence microscopy. *Appl. Environ. Microbiol.* 33:1225-1228.
- Bowden, W. B., and J. E. Hobbie. 1977. Nutrients in Albemarle Sound. Sea Grant Report UNC SG.
- Stanley, D. W., and J. E. Hobbie. 1977. Nitrogen Recycling in the Chowan River. Report 121. Water Resources Research Institute, North Carolina State University. 127 p.
- Cammen, L. M., P. A. Rublee and J. E. Hobbie. 1978. The significance of microbial carbon in the nutrition of the polychaete *Nereis succinea* and other aquatic deposit feeders. UNC Sea Grant Publication UNC-SG-78-12.
- Jordan, M. J., J. E. Hobbie and B. J. Peterson. 1978. Effect of petroleum hydrocarbons on microbial populations in an arctic tundra pond. *Arctic* 31:170-179.
- Miller, M. C., J. R. Vestal, S. Mozley, M. Butler and J. E. Hobbie. 1978. Effects of Prudhoe crude oil spills on coastal tundra ponds, pp. 521-529. Energy/Environment II, EPA Decision Series EPA-600/9-77-012.
- Peterson, B. J., J. E. Hobbie and J. F. Haney. 1978. *Daphnia* grazing on natural bacteria. *Limnol. Oceanogr.* 23:1039-1044.
- Rublee, P. A., L. M. Cammen and J. E. Hobbie. 1978. Bacteria in a North Carolina salt marsh: standing crop and importance in the decomposition of *Spartina alterniflora*. UNC Sea Grant Publication UNC-SG-78-11. 80 p.
- Tiwari, J. L., J. E. Hobbie, J. P. Reed, D. W. Stanley and M. C. Miller. 1978. Some stochastic differential equation models of an aquatic ecosystem. *Ecol. Model.* 4:3-27.
- Tiwari, J. L., J. E. Hobbie and B. J. Peterson. 1978. Random differential equations as models of ecosystems. III. Bayesian inference for parameters. *Math. Biosci.* 38:247-258.
- Hobbie, J. E. 1979. Activity and bacterial biomass. *Arch. Hydrobiol. Beih. Ergebn. Limnol.* 12:59-63.
- Hobbie, J. E., and R. T. Wright. 1979. An assessment of quantitative measurements of aquatic microbes. *Arch. Hydrobiol. Beih. Ergebn. Limnol.* 13:85-95.
- Valiela, I., L. Koumjian, T. Swain, J. M. Teal and J. E. Hobbie. 1979. Cinnamic acid inhibition of detritus feeding. *Nature* 280:55-57.
- Watson, S. W., and J. E. Hobbie. 1979. The measurement of bacterial biomass as lipopolysaccharide, pp. 82-88. In: W. Costerton and R. Colwell (eds.), Native Aquatic Bacteria-Enumeration, Activity and Ecology. ASTM Publication STP 695, Philadelphia. 214 p.

- Hobbie, J. E. (ed.). 1980. Limnology of Tundra Ponds: Barrow, Alaska. Dowden, Hutchinson and Ross, Stroudsburg, PA. 514 p.
- Hobbie, J. E. 1980. Major findings, pp. 1-18. In: J. E. Hobbie (ed.), Limnology of Tundra Ponds, Barrow, Alaska. Dowden, Hutchinson and Ross, Stroudsburg, PA. 514 p.
- Hobbie, J. E. 1980. Introduction and site description, pp. 19-50. In: J. E. Hobbie (ed.), Limnology of Tundra Ponds: Barrow, Alaska. Dowden, Hutchinson and Ross, Stroudsburg, PA. 514 p.
- Hobbie, J. E., and B. J. Copeland. 1980. Estuarine ecosystems, pp. 186-197. In: F. E. Guthrie and J. J. Perry (eds.), Introduction to Environmental Toxicology. Elsevier, New York. 484 p.
- Hobbie, J. E., and C. Lee. 1980. Microbial production of extracellular material: importance in benthic ecology, pp. 341-346. In: K. Tenore and B. Coull (eds.), Marine Benthic Dynamics. Belle W. Baruch Institute for Mar. Biol., University of South Carolina Press.
- Hobbie, J. E., T. Traaen, P. Rublee, J. P. Reed, M. C. Miller and T. Fenchel. 1980. Decomposers, bacteria, and microbenthos, pp. 340-387. In: J. E. Hobbie (ed.), Limnology of Tundra Ponds: Barrow, Alaska. Dowden, Hutchinson and Ross, Stroudsburg, PA. 514 p.
- Barsdate, B. J., M. C. Miller, V. Alexander, J. R. Vestal and J. E. Hobbie. 1980. Oil spill effects, pp. 388-406. In: J. E. Hobbie (ed.), Limnology of Tundra Ponds: Barrow, Alaska. Dowden, Hutchinson and Ross, Stroudsburg, PA. 514 p.
- Tiwari, J. L., R. J. Daley, J. E. Hobbie, M. C. Miller, D. W. Stanley and J. P. Reed. 1980. Modeling, pp. 407-456. In: J. E. Hobbie (ed.), Limnology of Tundra Ponds: Barrow, Alaska. Dowden, Hutchinson and Ross, Stroudsburg, PA. 514 p.
- Valiela, I., B. L. Howes, R. W. Howarth, A. Giblin, K. Foreman, J. M. Teal and J. E. Hobbie. 1980. The regulation of primary production and decomposition in a salt marsh ecosystem. In: Proceedings of First International Wetlands Conference, New Delhi, India, Sept. 1980.
- Hobbie, J. E. 1981. Epifluorescence total cell counts. In: R. S. Tobin (ed.), Indicator Systems for Microbiological Quality and Safety of Water. NATO Report.
- Moore, B., R. D. Boone, J. E. Hobbie, R. A. Houghton, J. M. Melillo, B. J. Peterson, G. R. Shaver, C. J. Vorosmarty and G. M. Woodwell. 1981. A simple model for analysis of the role of terrestrial ecosystems in the global carbon budget, pp. 365-385. In: B. Bolin (ed.), Modelling the Global Carbon Cycle, SCOPE 16. John Wiley and Sons, New York.
- Stanley, D. W., and J. E. Hobbie. 1981. Nitrogen recycling in a North Carolina coastal river. Limnol. Oceanogr. 26:30-42.
- Howarth, R. W., and J. E. Hobbie. 1982. The regulation of decomposition and heterotrophic microbial activity in salt marsh soils, pp. 183-207. In: V. S. Kennedy (ed.), Estuarine Comparisons. Academic Press.
- Johnson, A. W., J. T. Andrews, K. R. Everett, W. Gilbert, J. E. Hobbie, P. L. Johnson, H. Mooney, L. L. Tieszen, R. Weeden and G. C. West. 1982. Arctic Terrestrial Environmental Research Programs of the Office of Energy Research, Department of Energy: Evaluation and Recommendations. National Academy Press, Washington, D.C. 63 p.
- Woodwell, G. M., J. E. Hobbie, R. A. Houghton, J. M. Melillo, B. Moore, B. J. Peterson and G. R. Shaver. 1982. Global deforestation and the atmospheric carbon dioxide problem. Science 222:1081-1086.
- Hobbie, J. E., T. L. Corliss and B. J. Peterson. 1983. Seasonal patterns of bacterial abundance in an arctic lake. Arct. Alp. Res. 15:253-259.
- Houghton, R. A., J. E. Hobbie, J. M. Melillo, B. Moore, B. J. Peterson G. R. Shaver and G. M. Woodwell. 1983. Changes in the carbon content of terrestrial biota and soils between 1860 and 1980: a net release of CO₂ to the atmosphere. Ecol. Monogr. 53:235-262.
- Marinucci, A. C., J. E. Hobbie and J. V. K. Helfrich. 1983. Effect of litter nitrogen on decomposition and microbial biomass in *Spartina alterniflora*. Microb. Ecol. 9:27-40.
- Peterson, B. J., J. E. Hobbie, T. L. Corliss and K. Kriet. 1983. A continuous-flow periphyton bioassay: Tests of nutrient limitation in a tundra stream. Limnol. Oceanogr. 28:583-591.

- Hobbie, J. E. 1984. Polar limnology, pp. 63-105. In: F. Taub (ed.), Lakes and Reservoirs. Elsevier, Amsterdam.
- Hobbie, J. E. 1984. The ecology of tundra ponds of the Arctic Coastal Plain: a community profile. U.S. Fish Wildl. Service FWS/OBS-83/25. 52 p.
- Hobbie, J. E., and J. J. Cole. 1984. Response of a detrital food web to eutrophication. Bull. Mar. Res. 35:357-363.
- Hobbie, J. E., and J. M. Melillo. 1984. Role of microbes in global carbon cycling, pp. 389-393. In: M. J. Klug and C. A. Reddy (eds.), Current Perspectives in Microbial Ecology. Am. Soc. Microbiol., Washington, D.C.
- Hobbie, J. E., and P. J. leB. Williams (eds.). 1984. Heterotrophic Activity in the Sea. Plenum Press, New York.
- Hobbie, J. E., J. J. Cole, J. Dungan, R. A. Houghton and B. J. Peterson. 1984. Role of biota in the global CO₂ balance: The controversy. BioScience 34:492-498.
- Cole, J. J., G. E. Likens and J. E. Hobbie. 1984. Decomposition of planktonic algae in an oligotrophic lake. Oikos 42:257-266.
- Woodwell, G. M., J. E. Hobbie, R. A. Houghton, J. M. Melillo, B. Moore, A. B. Park, B. J. Peterson and G. R. Shaver. 1984. Measurement of changes in the vegetation of the earth by satellite imagery, pp. 221-241. In: G. M. Woodwell (ed.), The Role of Terrestrial Vegetation in the Global Carbon Cycle: Measurement by Remote Sensing, SCOPE. John Wiley and Sons, New York.
- Hicks, R. E., and J. E. Hobbie. 1985. Expolymers: Production and use in aquatic ecosystems. In: R. R. Colwell, E. R. Pariser and A. J. Sinskey (eds.), Biotechnology of Marine Polysaccharides: Proceedings of the 3rd Annual MIT Sea Grant College Program Lecture and Seminars. Hemisphere Publication Corp., Washington.
- Peterson, B. J., J. E. Hobbie, A. E. Hershey, M. A. Lock, T. E. Ford, J. R. Vestal, V. L. McKinley, M. A. J. Hullar, M. C. Miller, R. M. Ventullo and G. S. Volk. 1985. Transformation of a tundra river from heterotrophy to autotrophy by addition of phosphorus. Science 229:1383-1386.
- Wakeham, S. G., E. A. Canuel, P. H. Doering, J. E. Hobbie, J. V. K. Helfrich and G. R. G. Lough. 1985. The biogeochemistry of toluene in coastal seawater: Radiotracer experiments in controlled ecosystems. Biogeochemistry 1:307-328.
- Naiman, R. J., J. M. Melillo and J. E. Hobbie. 1986. Ecosystem alteration of boreal forest streams by beaver (*Castor canadensis*). Ecology 67(5):1254-1269.
- Peterson, B. J., J. E. Hobbie and T. L. Corliss. 1986. Carbon flow in a tundra stream ecosystem. Can. J. Fish. Aquatic Sci. 43:1259-1270.
- Hobbie, J. E. 1987. Epifluorescence - total cell count, pp. 195-198. In: D. O. Cliver, R. A. Newman and J.A. Cortruvo (eds.), Drinking Water Microbiology. CCMS #128 of the Committee of the Challenges of Modern Society (NATO/CCMS). J. Environm. Pathol. Toxicol. Oncol. 7 (5/6): 1-366.
- Hobbie, J. E., T. J. Novitsky, P. A. Rublee, R. L. Ferguson and A. V. Palumbo. 1987. Microbiology, pp. 247-251. In: R. Backus (ed.), Georges Bank. MIT Press, Cambridge.
- Houghton, R. A., R. D. Boone, J. R. Fruci, J. E. Hobbie, J. M. Melillo, C. A. Palm, B. J. Peterson, G. R. Shaver, G. M. Woodwell, B. Moore, D. L. Skole and N. Myers. 1987. The flux of carbon from terrestrial ecosystems to the atmosphere in 1980 due to changes in land use: geographic distribution of the global flux. Tellus 39B:122-139.
- Hobbie, J. E. 1988. A comparison of the ecology of planktonic bacteria in fresh and salt water. Limnol. Oceanogr. Special Issue 33(4, part 2):750-764.
- Hobbie, J. E., and J. V. K. Helfrich III. 1988. The effect of grazing by microprotozoans on production of bacteria. Archiv Hydrobiol. Beih. 31:281-288.
- Hobbie, J. E. and S. G. Wakeham. 1988. Mesocosms: A tool for studying microbes and effects and behavior of toxic materials, pp. 321-333. In: M. S. Evans (ed.), Toxic Contaminants and Ecosystem Health: A Great Lakes Focus. J. Wiley and Sons.

- Novelli, P., A. Michelson, M. I. Scranton, G. T. Banta, J. E. Hobbie, and R. W. Howarth. 1988. Acetate and hydrogen cycling in marine sediments. *Geochim. Cosmochim. Acta* 52:2477-2486.
- Hobbie, J. E. and M. M. Fletcher. 1989. The aquatic environment, pp. 132-162. In: J. M. Lynch and J. E. Hobbie (eds.), *Microorganisms in Action*. Blackwell Scientific Publications Ltd., Oxford, England.
- Lynch, J. M. and J. E. Hobbie (eds.). 1989. *Microorganisms in Action*. Blackwell Scientific Publications Ltd., Oxford, England.
- Vestal, J. R. and J. E. Hobbie. 1989. Microbial adaptations to extreme environments, pp. 193-206. In: J. M. Lynch and J. E. Hobbie (eds.). *Microorganisms in Action*. Blackwell Scientific Publications Ltd., Oxford, England.
- Hobbie, J. E. 1990. How to count a wild bacterium. *Current Contents* 21(4):14.
- Hobbie, J. E. 1990. Measuring heterotrophic activity in plankton, pp. 235-250. In: R. Grigorova and J. R. Norris (eds.), *Methods in Microbiology, Volume 22*. Academic Press, London.
- Lock, M. A., T. E. Ford, D. M. Liebig, M. C. Miller, M. Hullar, J. R. Vestal, B. J. Peterson and J. E. Hobbie. 1990. A biogeochemical survey of rivers and streams in the mountains and foothills province of arctic Alaska. *Arch. Hydrobiol.* 115:499-521.
- Hobbie, J. E. 1991. Eutrophication in streams, lakes and coastal oceans: Synthetic approaches, pp. 67-74. In: V. Holter (ed.), *International Conference on N, P and Organic Matter: Conference Contributions*. Ministry of the Environment, National Agency of Environmental Protection, Copenhagen.
- Hobbie, J. E., B. J. Peterson, G. R. Shaver and W. J. O'Brien. 1991. The Toolik Lake Project: Terrestrial and freshwater research on change in the Arctic. *Proceedings of a University of Alaska Conference, "International Conference on the Role of the Polar Regions in Global Change"*, June 1990, Volume II:378-383.
- Bowden, W. B., C. J. Vorosmarty, J. T. Morris, B. J. Peterson, J. E. Hobbie, P. A. Steudler and B. A. Moore III. 1991. Transport and processing of nitrogen in a tidal freshwater marsh. *Water Resources Research* 27:389-408.
- Rastetter, E. B., M. G. Ryan, G. R. Shaver, J. M. Melillo, K. J. Nadelhoffer, J. E. Hobbie and J. D. Aber. 1991. A general biogeochemical model describing the responses of the C and N cycles in terrestrial ecosystems to changes in CO₂, climate and N deposition. *Tree Physiology* 9:101-126.
- Hobbie, J. E. 1992. Microbial control of dissolved organic carbon in lakes: research for the future, pp. 169-180. In: K. Salonen, T. Kairesalo and R. I. Jones (eds.), *Dissolved Organic Matter in Lacustrine Ecosystems: Energy Source and System Regulator*. Kluwer Academic Publishers. Also, *Hydrobiologia* 229:169-180.
- Peterson, B. J., T. L. Corliss, K. Kriet and J. E. Hobbie. 1992. Nitrogen and phosphorus concentrations and export for the upper Kuparuk River on the North Slope of Alaska in 1980. *Hydrobiologia* 240:61-69.
- Broman, D., C. Näf, C. Rolff, Y. Zebühr, B. Fry and J. Hobbie. 1992. Using ratios of stable nitrogen isotopes to estimate bioaccumulation and flux estimates of Polychlorinated Dibenzo-p-dioxins (PCDDs) and Dibenzofurans (PCDFs) for two food chains from the Northern Baltic. *Environmental Toxicology and Chemistry* 11:331-345.
- O'Brien, W. J., A. E. Hershey, J. E. Hobbie, M. A. Hullar, G. W. Kipphut, M. C. Miller, B. Moller and J. R. Vestal. 1992. Control mechanisms of arctic lake ecosystems: A limnocorral experiment. *Hydrobiologia* 240:143-188.
- Rastetter, E. B., A. W. King, B. J. Cosby, G. M. Hornberger, R. V. O'Neill and J. E. Hobbie. 1992. Aggregating fine-scale ecological knowledge to model coarser-scale attributes of ecosystems. *Ecological Applications* 2:55-70.
- Hobbie, J. E. 1993. Arctic ecosystem response to change. *Arctic Research of the United States* 7:2-9.
- Hobbie, J. E. 1993. Introduction, pp. 1-5. In: P. F. Kemp, B. F. Sherr, E. B. Sherr and J. J. Cole (eds.), *Handbook of Methods in Aquatic Microbial Ecology*. Lewis Publishers, Boca Raton, Florida.

- Hobbie, J. E., and T. E. Ford. 1993. A perspective on the ecology of aquatic microbes, pp. 1-14. In: T. E. Ford (ed.), *Aquatic Microbiology: A Ecological Approach*. Blackwell Scientific Publications, Boston.
- Hobbie, J. E., and J. B. Pearce. 1993. Ecology in Woods Hole: Baird, Bigelow, and Redfield, pp. 261-286. In: R. Barlow, J. Dowling, G. Weissmann and P. Clapp (eds.), *The Biological Century: Friday Evening Talks at the Marine Biological Laboratory*. Harvard University Press, Cambridge.
- Peterson, B. J., L. A. Deegan, J. Helfrich, J. E. Hobbie, M. Hullar, B. Moller, T. E. Ford, A. Hershey, A. Hiltner, G. Kipphut, M. A. Lock, D. M. Fiebig, V. McKinley, M. C. Miller, J. R. Vestal, R. Ventullo and G. Volk. 1993. Biological responses of a tundra river to fertilization. *Ecology* 74:653-672.
- Hobbie, J. E. 1994. The state of the microbes: a summary of a symposium honoring Lawrence Pomeroy. *Microbial Ecology* 28:113-116.
- Deegan, L. A., J. T. Finn, C. S. Hopkinson, A. E. Giblin, B. J. Peterson, B. Fry and J. E. Hobbie. 1995. Flow model analysis of the effects of organic matter-nutrient interactions on estuarine trophic dynamics. In: *International Symposium Series, Changes in Fluxes in Estuaries: Implications from Science to Management*. Olsen and Olsen, Fredensborg, Denmark.
- Hines, M. E., G. T. Banta, A. E. Giblin, J. E. Hobbie and J. B. Tugel. 1994. Acetate concentrations and oxidation in salt marsh sediments. *Limnology and Oceanography* 39:140-148.
- Hobbie, J. E., L. A. Deegan, B. J. Peterson, E. B. Rastetter, G. R. Shaver, G. W. Kling, W. J. O'Brien, F. S. T. Chapin, Michael C. Miller, G. W. Kipphut, W. B. Bowden, A. E. Hershey and M. E. McDonald. 1995. Long-term measurements at the Arctic LTER site, pp. 391-409. In: T. M. Powell and J. H. Steele (eds.), *Ecological Time Series*. Chapman and Hall, New York.
- Banta, G. T., A. E. Giblin, J. E. Hobbie and J. Tucker. 1995. Benthic respiration and nitrogen release in Buzzards Bay, Massachusetts. *Journal of Marine Research* 53:107-135.
- Weller, G., F. S. Chapin, K. R. Everett, J. E. Hobbie, D. Kane, W. C. Oechel, C. L. Ping, W. S. Reeburgh, D. Walker and J. Walsh. 1995. The arctic flux study: a regional view of trace gas release. *J. Biogeography* 22:365-374.
- Bahr, M., J. E. Hobbie and M. L. Sogin. 1996. Bacterial diversity in an arctic lake: A freshwater SAR11 cluster. *Aquatic Microbial Ecology* 11:271-277.
- Hobbie, J. E. 1996. History of limnology in Alaska: Expeditions and major projects, pp. 45-60. In: A. M. Milner and M. W. Oswood (eds.), *Freshwaters of Alaska. Ecological Syntheses*. Springer-Verlag, New York.
- Hershey, A. E., W. B. Bowden, L. A. Deegan, J. E. Hobbie, B. J. Peterson, G. W. Kipphut, G. W. Kling, M. A. Lock, R. W. Merritt, M. C. Miller, J. R. Vestal and J. W. Schuldt. 1996. The Kuparuk River: A long-term study of biological and chemical processes in an arctic river, pp. 107-130. In: A. M. Milner and M. W. Oswood (eds.), *Freshwaters of Alaska. Ecological Syntheses*. Springer-Verlag, New York.
- O'Brien, W. J., M. Bahr, A. E. Hershey, J. E. Hobbie, G. W. Kipphut, G. W. Kling, H. Kling, M. McDonald, M. C. Miller, P. Rublee and J. R. Vestal. 1997. The limnology of Toolik Lake, pp. 61-106. In: A. M. Milner and M. W. Oswood (eds.), *Freshwaters of Alaska. Ecological Syntheses*. Springer-Verlag, New York.
- McGuire, A. D., and J. E. Hobbie. 1997. Global climate change and the equilibrium responses of carbon storage in arctic and subarctic regions, pp. 53-54. In: *Modeling the Arctic System: A Workshop Report on the State of Modeling in the Arctic System Science Program*. The Arctic Research Consortium of the United States. Fairbanks, Alaska.
- Vallino, J. J., C. S. Hopkinson and J. E. Hobbie. 1996. Modeling bacterial utilization of dissolved organic matter: Optimization replaces monod growth kinetics. *Limnology and Oceanography* 41:1591-1609.

- Hansson, S., J. E. Hobbie, R. Elmgren, U. Larsson, B. Fry and S. Johansson. 1997. The stable nitrogen isotope ratio as a marker of food-web interactions and fish migration. *Ecology* 78: 2249-2257.
- Hershey, A. E., W. B. Bowden, L. A. Deegan, J. E. Hobbie, B. J. Peterson, G. W. Kipphut, G. W. Kling, M. A. Lock, M. C. Miller and J. R. Vestal. 1997. The Kuparuk River: A long-term study of biological and chemical processes in an arctic river, pp. 107-129. In: A. Milner and M. W. Oswood (eds.), *Alaskan Freshwaters*. Springer-Verlag, New York.
- Hobbie, J. E., B. L. Kwiatkowski, E. B. Rastetter, D. A. Walker and R. B. McKane. 1998. Carbon cycling in the Kuparuk basin: Plant production, carbon storage, and sensitivity to future changes. *Journal of Geophysical Research*, 103(D22):29,065-29,073.
- Michaelson, G. J., C. L. Ping, G. W. Kling and J. E. Hobbie. 1998. The character and bioactivity of dissolved organic matter at thaw and in the spring runoff waters of the Arctic Tundra North Slope, Alaska. *Journal of Geophysical Research*, 103(D22):28,939-28,946.
- Hopkinson, C. S., I. Buffam, J. E. Hobbie, J. Vallino, M. Perdue, B. Eversmeyer, F. Prahl, J. Covert, R. Hodson, M. A. Moran, E. Smith, J. Baross, B. Crump, S. Findlay and D. Foreman. 1998. Terrestrial inputs of organic matter to coastal ecosystems: An intercomparison of chemical characteristics and bioavailability. *Biogeochemistry*. 43:211-234.
- McGuire, A. D., and J. E. Hobbie. 1998. Global climate change and the equilibrium responses of carbon storage in arctic and subarctic regions, pp. 47-48. In: *Arctic System Science Modeling Workshop Report*. The Arctic Research Consortium of the United States. Fairbanks, Alaska.
- Hobbie, J.E., M. Bahr, and P.A. Rublee. 1999. Controls on microbial food webs in oligotrophic arctic lakes. *Archiv fur Hydrobiologie*. Special issue. *Advances in Limnology* 54:61-76.
- Hobbie, J. E., B. J. Peterson, N. Bettez, L. A. Deegan, W. J. O'Brien, G. W. Kling, G. W. Kipphut, B. Bowden and A. Hershey. 1999. Impact of global change on the biogeochemistry and ecology of an arctic freshwater system. *Polar Research*. 18(2):207-214.
- Hobbie, J. E., M. Bahr, N. Bettez, and P. A. Rublee. 2000. Microbial food webs in oligotrophic arctic lakes, pp. 123-128. In: *Proceedings of the 8th International Symposium on Microbial Ecology*, Atlantic Canada Society for Microbial Ecology, Halifax, Canada.
- Vincent, W.F. and J.E. Hobbie. 2000. Ecology of arctic lakes and rivers, p. 197-232. In M. Nuttal and T. Callaghan (eds.) *The Arctic: Environment, People, Policies*. Harwood Academic Publishers, United Kingdom.
- Hobbie, J.E. 2000. *Estuarine Science: A Synthetic Approach to Research and Practice*. Island Press. Washington. D. C.
- Hobbie, J. E. 2000. *Estuarine Science: The Key to Progress in Coastal Ecological Research*. Chapter 1, pp. 1-11. In: J. E. Hobbie (ed.), *Estuarine Science. A Synthetic Approach to Research and Practice*. Island Press, Washington, DC.
- Clein, J. S., B. L. Kwiatkowski, A. D. McGuire, J. E. Hobbie, E. B. Rastetter, J. M. Melillo and D. W. Kicklighter. 2000. Modeling carbon responses of tundra ecosystems to historical and project climate: A comparison of a plot- and a global-scale ecosystem model to identify process-based uncertainties. *Global Change Biology* 6 (Suppl. 1) 127-140.
- Stieglitz, M., A. Giblin, J.E. Hobbie, M. Williams, G. Kling. 2000. Effects of climate change and climate variability on the carbon dynamics in Arctic tundra. *Global Biogeochemical Changes* 14 (4):1123-1136.
- Wollheim, W. M., B. J. Peterson, L. A. Deegan, J. E. Hobbie, B. Hooker, W. B. Bowden, K. J. Edwardson, D. B. Arscott, and A. E. Hershey. 2001. Influence of stream size on ammonium and suspended particulate nitrogen processing. *Limnology and Oceanography* 46(1):1-13.
- Hobbie, J.E., A.E. Hershey, P.W. Lienesch, M.E. McDonald, G. W. Kling, and W. J. O'Brien. 2001. Studies of fresh waters on the North Slope, pp. 123-128. In: D. Norton (ed.) *Fifty More Years Below Zero: Tributes and Meditations for the Naval Arctic Research Laboratory's First Half Century at Barrow, Alaska*. University of Alaska Press, Fairbanks, Alaska.

- Williams, M., E. B. Rastetter, G. R. Shaver, J.E. Hobbie, E. Carpino, and B.L. Kwiatkowski. 2001. Primary production of an arctic watershed: An uncertainty analysis. *Ecological Applications* 11:1800-1816.
- Hobbie, J.E., S. Carpenter, N. Grimm, J. Gosz, and T. Seastedt. 2003. The US Long Term Ecological Research program. *BioScience* 53:21-32
- Hobbie, J. E. 2003. Scientific accomplishments of the Long Term Ecological Research program: an introduction. *BioScience* 53:17-20.
- Le Dizès, S., B.L. Kwiatkowski, E.B. Rastetter, A. Hope, J.E. Hobbie, D. Stow, S. Daeschner. 2003. Modeling biogeochemical responses of tundra ecosystems to temporal and spatial variations in climate in the Kuparuk River Basin (Alaska). *Journal of Geophysical Research-Atmospheres* 108(D2), 8165, doi:10.1019/2001JD00960.
- Crump, B.C., G.W. Kling, M. Bahr and J.E. Hobbie. 2003. Bacterioplankton community shifts in an Arctic lake correlate with seasonal changes in organic matter source. *Applied and Environmental Microbiology* 69(4): 2253-2268.
- Hobbie, J. E., G. Shaver, J. Laundre, K. Slavik, L. A. Deegan, J. O'Brien, S. Oberbauer, and S. MacIntyre. 2003. Climate forcing at the Arctic LTER Site, pp. 74-91. In: D. Greenland, D. Goodin and R. Smith (eds.), *Climate Variability and Ecosystem Response at Long-Term Ecological Research (LTER) Sites*. Oxford University Press, New York.
- Zhuang, Q., A.D. McGuire, J.M. Melillo, J.S. Clein, R.J. Dargaville,, D.W. Kicklighter, R. B. Myneni, J. Dong, V.E. Romaovksy, J. Harden and J.E. Hobbie. 2003. Carbon cycling in extratropical terrestrial ecosystems of the Northern Hemisphere during the 20th century: A modeling analysis of the influence of soil thermal dynamics. *Tellus* 55B:751-776.
- Klepac-Ceraj, V., M. Bahr, B. C. Crump, A. P. Teske, J. E. Hobbie, and M. F. Poltz. 2004 High Overall Diversity and Dominance of Microdiverse Relationships in Salt Marsh Sulfate-Reducing Bacteria. *Environmental Microbiology* 6 (7): 686-698.
- Rastetter, E.B., B. L. Kwiatkowski, S. Le Dizès, and J.E. Hobbie. In Press. The Role of Down-Slope Water and Nutrient Fluxes in the Response of Arctic Hill Slopes to Climate Change. *Biogeochemistry* 69:37-62.
- Slavik, K., B.J. Peterson, L.A. Deegan, W. B. Bowden, A.E. Hershey, and J. E. Hobbie. 2004. Long-term responses of the Kuparuk River ecosystem to phosphorus fertilization. *Ecology* 85(4): 949-954.
- Crump, B.C., C.S. Hopkinson, M.L. Sogin and J.E. Hobbie. 2004. Microbial biogeography along an estuarine salinity gradient: the combined influences of bacterial growth and residence time. *Appl. Environ. Microbiol.* 70: 1494-1505.

Recent Activities:

Reviewer: NSF - Atmospheric Chemistry
 - Chemical Oceanography
 - Biological Oceanography
 - Polar Programs
 - Ecosystem Analysis
 - Applied Science and Engineering

Reviewer for Journals: Science
 Limnology and Oceanography
 Ecology
 Marine Biology
 Estuarine and Coastal Marine Science
 Hydrobiologia
 Applied and Environmental Microbiology

Estuaries
Microbial Ecology

Panel Member:

Past Chairman, NSF Division of Polar Programs Advisory Committee
NAS-NRC Activities
Panama Canal Review (Dr. A. Beeton)
NRC Review of DOE Arctic Program
Vice Chairman, DOE, Health and Environmental Effects of Coal Liquefaction and Oil
Shale Technology
Biotic Markers
NRC Review of EMAP (EPA)
Member, Ocean Studies Board and Polar Research Board, NAS/NRC

Conferences
and Projects:

Organizer, NATO Advanced Research Institute on "Microbial Metabolism and the
Cycling of Organic Matter in the Sea"
Organizing Committee, 3rd Symposium on Microbial Ecology, 1983
Organizer, Land/Sea Interactions Workshop (NSF)
Organizer, NSF Workshop on a Center for the Study of Comparative Ecology and
Chair, Steering Committee, NSF-Arctic Systems Science (ARCSS), Terrestrial
Former Chair, Coordinating Committee, Land Margin Ecosystems Research

Scientific Society
Activities:

Past Member-At-Large, Board of American Society for Limnology and
Oceanography
President, American Society of Limnology and Oceanography, 1984-86
Executive Committee Member, Association of Ecosystem Research Centers,
President, 1987-88, 1992-93

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Chairman, Safety Committee
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