References

Ahlgren, I. (1973). Limnologiska studier av Sjøn Norrvikan. 111. Avlastningens effekter. *Scripta Limnologica Upsaliencia*, No. 333.

Alcamo, et al. (1990). *The Rains Model of Acidification* (p. 366). Dordrecht, The Netherlands: Kluwer and Laxenburg, Austria: IIASA.

Allen, P. M. (1976). Evolution, population dynamics, and stability. *Proceedings of the National Academy of Sciences*, *73*, 665–668.

Allen, T. F. H., & Starr, T. B. (1982). *Hierarchy: Perspectives for Ecological Complexity* (p. 310). Chicago, USA: University of Chicago Press.

Allesina, S., & Bondavalli, C. (2004). Wand: An ecological network analysis user-friendly tool. *Environmental Modelling and Software*, *19*(4), 337–340.

Andreasen, I. (1985). *A General Ecotoxicological Model for the Transport of Lead Through the System: Air-Soil(Water)-Grass-Cow-Milk. Thesis at DIA-K* (p. 57). Kongens Lyngby: Technical University of Denmark.

Aoyama, I., Inoue, Y., & Inoue, Y. (1978). Simulation analysis of the concentration process of trace heavy metals by aquatic organisms from the viewpoint of nutrition ecology. *Water Research*, *12*, 837–842.

ApSimon, H., Goddard, A. J. H., & Wrigley, J. (1976). Estimating the possible transfrontier Consequences of accidental releases: the MESOS model for long range atmospheric dispersal. Seminar on radioactive releases and their dispersion in the atmosphere following a hypothetical reactor accident, Risø, Denmark, April 1980, CEC, Luxembourg pp. 819–842.

Bartell, S. M., Gardner, R. H., & O'Neill, R. V. (1984). The fates of aromatics model. *Ecological Modelling*, *22*, 109–123.

Bartell, S. M., Gardner, R. H., & O'Neill, R. V. (1992). *Ecological Risk Estimation*. Boca Raton, Florida: Lewis Publishers.

Beck, M. B. (1987). Water quality modeling: A review of the analysis of uncertainty. *Water Resources Research*, *23*(8), 1393–1442.

Benndorf, J. (1987). Food-web manipulation without nutrient control: A useful strategy in lake restoration? *Schweizerische Zeitschrift fur Hydrologie*, *49*, 237–248.

Benndorf, J. (1990). Conditions for effective biomanipulation. Conclusions derived from whole-lake experiments in Europe. *Hydrobiologia*, *200/201*, 187–203.

Beyer, J. E. (1981). *Aquatic Ecosystem: An Operational Research Approach* (p. 315). Seattle and London: University of Washington Press.

Bierman, V. J., Jr. (1976). Mathematical model of the selective enhancement of blue-green algae by nutrient enrichment. In R. P. Canale (Ed.), *Modelling Biochemical Processes in Aquatic Ecosystems* (pp. 1–31). Michigan: Ann Arbor Sciences Publishers.

Bonner, J. T. (1965). *Size and Cycle. An Essay on the Structure of Biology* (p. 219). New Jersey: Princeton University Press.

Bossel, H. (1992). Real structure process description as the basis of understanding ecosystems. In *Workshop Ecosystem Theory*, October, 14–17, 1991 (pp. 261–276). Kiel. *Special issue of Ecological Modelling* 63.

Bossel, H. (1998). Ecological orientors: Emergence of basic orientors in evolutionary self-organization. In F. Müller & M. Leupelt (Eds.), *Eco Targets, Goal Functions, and Orientors* (pp. 19–33). New York: Springer.

Bossel, H. (1999). *Indicators for sustainable development: Theory, method, applications.* Winnipeg: International Institute for Sustainable Development.

Bosserman, R. W. (1980). Complexity measures for assessment of environmental impact in ecosystem networks. In *Proceedings of the Pittsburgh Conference on Modelling and Simulation.* Pittsburgh, Pennsylvania, April 20–23, 1980.

Bosserman, R. W. (1982). Structural comparison for four lake ecosystem models. In L. Troncale (Ed.), *A General Survey of Systems Methodology, Proceedings of the Twenty- Sixth Annual Meeting of the Society for General Systems Research* (pp. 559–568). Washington, D.C., January 5–9, 1982.

Botkin, D. B., Janak, J. F., & Wallis, J. R. (1972). Some ecological consequences of a computer model of forest growth. *Journal of Ecology, 60,* 849–873.

Brandes, M., Chowdry, N. A., & Cheng, W. W. (1974). *Experimental Study on Removal of Pollutants from Domestic Sewage by Underdrained Soil Filters.* Chicago: National Home Sewage Disposal Symposium on Agricultural Engineering.

Brandes, R. J. (1976). *An Aquatic Ecological Model for Texas Bays and Estuaries.* Austin, Texas: Water Resources Engineers, Inc. For the Texas Water Development Board.

Breck, J. E., DeAngelis, D. L., Van Winkle, W., & Christensen, S. W. (1988). Potential importance of spatial and temporal heterogeneity in pH, Al, and Ca in allowing survival of a fish population: A model demonstration. *Ecological Modelling, 41,* 1–16.

Caswell, H. (1976). Community structure: A neutral model analysis. *Ecological Monographs, 46,* 327–354.

Chon, T. S., Jørgensen, S. E., & Cho, W. S. (2010). The role of conjugation in the gene-individual-population relationships in ecotoxicological systems under the constraints of toxin susceptibility and metabolic efficiency. in press.

Christensen, T. H. (1981). *The Application of Sludge as Soil Conditioner* (vol. 3, pp. 19–47). Copenhagen: Polyteknisk Forlag.

Christensen, T. H. (1984). Cadmium soil sorption at low concentrations, 1) Effect of time, cadmium load, pH, and calcium and 2) Reversibility, effect of changes in solute composition, and effect of soil ageing. *Water, Air and Soil Pollution, 21,* 105–125.

Christensen, V. (1991). On ECOPATH, Fishbyte, and fisheries management. *Fishbyte, 9*(2), 62–66.

Christensen, V., & Pauly, D. (1992). The ECOPATH II – a software for balancing steady-state ecosystem models and calculating network characteristics. *Ecological Modelling, 61,* 169–185.

Christensen, V., & Pauly, D. (Eds.), (1993). *Trophic models of aquatic ecosystems.* ICLARM Conference Proceedings 26, Manila, Philippines.

Chubin, R. G., & Street, J. J. (1981). Adsorption of cadmium on soil constituents in the presence of complexing agents. *Journal of Environmental Quality, 10,* 225–228.

Costanza, R., & Sklar, F. H. (1985). Articulation, accuracy and effectiveness of mathematical models: A review of freshwater wetland applications. *Ecological Modelling, 27,* 45–69.

Costanza, R., Sklar, F. H., & White, M. L. (1990). Modelling coastal landscape dynamics. *Bio-Science, 40,* 91–107.

Cowan, C. E., Mackay, D., Feijtel, T. C. J., can de Meent, D., di Guardo, A., Davies, J., & Mackay, N. (Eds.), (1995). *The Multi-Media Fate Model: A vital tool for predicting the fate of chemicals.* Pensacola FL: SETAC Press.

Cox, J. L. (1970). Accumulation of DDT residues in Triphoturus mexicanus from the Gulf of California. *Nature, 227,* 192–193.

Dahl-Madsen, K. I., & Strange-Nielsen, K. (1974). Eutrophication models for ponds. *Vand, 5,* 24–31.

Dame, R. F., & Patten, B. C. (1981). Analysis of energy flows in an intertidal *oyster reef. Mar, Ecol. Prog. Ser. 5,* 115–124.

DeAngelis, D. L., Cox, D. K., & Coutant, C. C. (1980). Cannibalism and size dispersal in young-of-the-year largemouth bass: Experiment and model. *Ecological Modelling, 8,* 133–148.

De Bernardi, R. (1989). Biomanipulation of aquatic food chains to improve water quality in eutrophic lakes 195-215. In O. Ravera (Eds.), *Ecological Assessment of Environmental Degradation, Pollution, and Recovery* (p. 356). Amsterdam: Elsevier Science Publications.

De Bernardi, R., & Giussani, G. (1995). Biomanipulation: Bases for a Top-down Control 1-14. In R. De Bernardi, & G. Giussani (Eds.), *Guidelines of Lake Management, Volume 7, Biomanipulation in Lakes and Reservoirs* (p. 211). ILEC and UNEP.

De Luna, J. T., & Hallam, T. G. (1987). Effect of toxicants on populations: A qualitative approach IV. Resource-consumer-toxicant models. *Ecological Modelling, 35,* 249–273.

Devillers, J. (2009). *Ecotoxicological Modelling* (p. 399). New York: Springer-Verlag.

Dillon, P. J., & Kirchner, W. B. (1975). The effects of geology and land use on the export of phosphorus from watersheds. *Water Research, 9,* 135–148.

Dillon, P. J., & Rigler, F. H. (1974). A test of a simple nutrient budget model predicting the phosphorus concentration in lake water. *Journal of the Fisheries Research Board of Canada, 31,* 1771–1778.

Dur, G., Souissia, S., Devrekera, D., Ginot, V., Schmitta, F. G., & Hwang, J. S. (2009). An individual-based model to study the reproduction of egg bearing copepods: Application to *Eurytemora affinis* (*Copepoda Calanoida*) from the Seine estuary, France. *Ecological Modelling, 220,* 1073–1089.

EPA Denmark. (1979). *The Lead Contamination in Denmark* (p. 145). Copenhagen.

Fagerstrøm, T., & Aasell, B. (1973). Methyl mercury accumulation in an aquatic food chain. A model and implications for research planning. *Ambio, 2,* 164–171.

Fath, B. D. (2004). Network analysis applied to large-scale cyber-ecosystems. *Ecological Modelling, 171,* 329–337.

Fath, B. D., & Borrett, S. R. (2006). A Matlab® function for network environ analysis. *Environmental Modelling and Software, 21,* 375–405.

Fath, B. D., & Halnes, G. (2007). Cyclic energy pathways in ecological food webs. *Ecological Modelling, 208,* 17–24.

Fath, B. D., & Patten, B. C. (1999). Review of the foundations of network environ analysis. *Ecosystems*, *2*, 167–179.

Fath, B. D., Patten, B. C., & Choi, J. S. (2001). Complementarity of ecological goal functions. *Journal of Theoretical Biology*, *208*, 493–506.

Felmy, A. R., Brown, S. M., Onoshi, Y., Yabusaki, S. B., Argo, R. S., Girvin, D. C., et al. (1984). *Modelling the Transport, Speciation, and Fate of Heavy Metals, AquaticSystems* (p. 4). Project Summary, EPA-600/S3-84-033, April 1984. Athens, Georgia: US EPA, Environmental Research Laboratory. (EPA Project Officer: R.B. Ambrose).

Fenchel, T. (1974). Intrinsic rate of natural increase: The relationship with body size. *Oecologia*, *14*, 317–326.

Findeisen, W., Lastebrov, A., Lande, R., Lindsay, J., Pearson, M., & Quade, E. S. (1978). *A sample glossary of systems analysis*. Working Paper WP-78-12 Laxenburg, Austria: International Institute for Applied Systems Analysis.

Flather, C. H. (1992). *Pattern of Avian Species-Accumulation Rates Among Eastern Forested Landscapes*. Ph.D dissertation. Fort Collins, Colorado: Colorado State University.

Flather, C. H. (1996). Fitting species-accumulation functions and assessing regional land use impacts on avian diversity. *Journal of Biogeography*, *23*, 155–168.

Fomsgaard, I. (1997). Modelling the mineralisation kinetics for low concentrations of pesticides in surface and subsurface soil. *Ecological Modelling*, *102*, 175–208.

Fomsgaard, I., & Kristensen, K. (1999). Influence of microbial activity, organic carbon content, soil texture, and soil depth on mineralisation rates of low concentrations of 14-C mecoprop — Development of a predictive model. *Ecological Modelling*, *122*, 45–68.

Fontaine, T. D. (1981). A self-designing model for testing hypotheses of ecosystem development. In D. Dubois (Ed.), *Progress in Ecological Engineering and Management by Mathematical Modelling* (pp. 281–291). Proc. 2nd Int. Conf. State-of-the-Art Ecological Modelling, 18–24 April 18–24, 1980. Liege, Belgium.

Forrester, J. W. (1961). *Industrial Dynamics*. Cambridge, MA: MIT Press.

France, J., & Thornley, J. H. M. (1984). *Mathematical Models in Agriculture* (p. 333). Burlington, MA: Butterworths.

Gard, T. C. (1990). A stochastic model for the effect of toxicants on populations. *Ecological Modelling*, *51*, 273–280.

Gause, G. F. (1934). *The Struggle of Existence* (p. 133). New York: Hafner.

Gilioli, G., & Pasquali, S. (2007). Use of individual-based models for population parameters estimation. *Ecological Modelling*, *200*, 109–118.

Gillett, J. W., et al. (1974). *A conceptual model for the movement of pesticides through the environment* (p. 79). Corvallis, OR: National Environmental Research Center, U.S. Environmental Protection Agency, OR Report EPA 600/3-74-024.

Giussani, G., & Galanti, G. (1995). Case Study: Lake Candia (Northern Italy) 135-146. In R. De Bernardi & G. Giussani (Eds.), *Guidelines of Lake Management, Volume 7. Biomanipulation in Lakes and Reservoirs* (p. 211). Shiga, Japan: ILEC and UNEP.

Grant, P. R. (1986). *Ecology and Evolution of Darwin's Finches* (p. 492). Reprinted in 1999. New Jersey: Princeton University Press.

Grimm, V. (2008). Individual Based Models. In S. E. Jorgensen & B. Fath (Eds.), *Encyclopedia of Ecology* (Vol. 1, pp. 1959–1968). Amsterdam: Elsevier.

Grimm, V., et al. (2006). A standard protocol for describing individual-based and agent-based models. *Ecological Modelling*, *198*, 115–126.

Grimm, V., Frank, K., Jeltsch, F., Brandl, R., Uchmanski, J., & Wissel, C. (1996). Pattern-oriented modelling in population ecology. *The Science of the Total Environment*, *183*, 151–166.

Grimm, V., & Railsback, S. F. (2005). *Individual Based Modelling and Ecology* (p. 482). Princeton, New Jersey: Princeton University Press.

Gromiec, M. J., & Gloyna, E. F. (1973). *Radioactivity transport in water*. Final Report No. 22 to U.S. Atomic Energy Commission, Contract AT (11-1)-490.

Gryning, S. E., & Batchvarova, E. (2000). *Air Pollution Modelling and its Applications XIII. Kluwer Proceedings from a conference held in Varna, Bulgaria, 1998* (p. 810). Dordrecht, the Netherlands: Academic.

Halfon, E. (1983). Is there a best model structure? II. Comparing the model structures or different fate models. *Ecological Modelling*, *20*, 153–163.

Halfon, E. (1984). Error analysis and simulation of Mirex behavior in Lake Ontario. *Ecological Modelling*, *22*, 213–253.

Halfon, E. (1986). Modelling the fate of Mirex and Lindane in Lake Ontario, off the Niagara River Mouth. *Ecological Modelling*, *33*, 13.

Halfon, E., Unbehauen, H., & Schmid, C. (1979). Model order estimation and system identification Theory to the modelling of 32P kinetics within the trophogenic zone of a small lake. *Ecological Modelling*, *6*, 1–22.

Hannon, B. (1973). The structure of ecosystems. *Journal of Theoretical Biology*, *41*, 535–546.

Hansen, J. A., & Tjell, J. C. (1981). *The Application of Sludge as Soil Conditioner* (Vol. 2, pp. 137–181). Copenhagen: Polyteknisk Forlag.

Hanski, I. (1994). Metapopulation dynamics in fragmented landscapes. *Trends in Ecology and Evolution*, *9*, 131–195.

Hanski, I. (1999). *Metapopulation in Ecology* (p. 422). Cambridge, UK: Oxford University Press.

Harris, J. R. W., Bale, A. J., Bayne, B. L., Mantoura, R. C. F., Morris, A. W., Nelson, L. A., et al. (1984). A preliminary model of the dispersal and biological effect of toxins in the Tamar estuary, England. *Ecological Modelling*, *22*, 253–285.

Hatten, J. R., & Parsley, M. J. (2009). A spatial model of white sturgeon rearing habitat in the lower Columbia River, USA. *Ecological Modelling*, *220*, 3638–3646.

Havens, K. E. (1999). Structural and functional responses of a freshwater community to acute copper stress. *Environmental Pollution*, *86*, 259–266.

Herendeen, R. A. (1981). Energy intensity in ecological and economic systems. *Journal of Theoretical Biology*, *91*, 607–620.

Higashi, M., Patten, B. C., & Burns, T. P. (1993). Network trophic dynamics: The modes of energy utilization in ecosystems. *Ecological Modelling*, *66*, 1–42.

Hilker, F. M., Hinsch, M., & Poethke, H. J. (2006). Parameterizing, evaluating, and comparing metapopulation models with data from individual-based simulations. *Ecological Modelling*, *199*, 476–485.

Hippe, P. W. (1983). Environ analysis of linear compartmental systems: The dynamic, time-invariant case. *Ecological Modelling*, *19*, 1–26.

Holling, C. S. (1959). Some characteristics of simple types of predation and parasitism. *Canadian Entomologist*, *91*, 385–398.

Holling, C. S. (1966). The functional response of invertebrate predators to prey density. *Memoirs of the Entomological Society of Canada*, *48*, 1–87.

Hosper, S. H. (1989). Biomanipulation, new perspective for restoring shallow, eutrophic lakes in The Netherlands. *Hydrobiological Bulletin*, *73*, 11–18.

Huston, M., DeAngelis, D. L., & Post, W. M. (1988). New computer models unify ecological theory. *BioScience*, *38*, 682–691.

Hutchinson, G. E. (1970). The biosphere. *Scientific American*, *223*(3), 44–53.

Hutchinson, G. E. (1978). *An Introduction to Population Ecology.* New Haven: Yale University Press.

Jeffers, N. R. J. (1978). *An Introduction to Systems Analysis with Ecological Applications*. London, England: E. Arnold Publishers.

Jensen, K., & Tjell, J. C. (1981). *The Application of Sludge as Soil Conditioner* (Vol. 3, pp. 121–147). Copenhagen: Polyteknisk Forlag.

Jeppesen, E. J., et al. (1990). Fish manipulation as a lake restoration tool in shallow, eutrophic temperate lakes. Cross-analysis of three Danish Case Studies. *Hydrobiologia*, *200/201*, 205–218.

Jørgensen, S. E. (1976a). A eutrophication model for a lake. *Journal of Ecological Modelling*, *2*, 147–165.

Jørgensen, S. E. (1976b). An ecological model for heavy metal contamination of crops and ground water. *Ecological Modelling*, *2*, 59–67.

Jørgensen, S. E. (1979). Modelling the distribution and effect of heavy metals in an aquatic ecosystem. *Ecological Modelling*, *6*, 199–222.

Jørgensen, S. E. (1981). Application of exergy in ecological models. In D. Dubois (Ed.), *Progress in Ecological Modelling* (pp. 39–47). Liege: Cebedoc.

Jørgensen, S. E. (1982). A holistic approach to ecological modelling by application of thermodynamics. In W. Mitsch, et al. (Eds.), *Systems and Energy.* Ann Arbor, Michigan: Ann Arbor Press.

Jørgensen, S. E. (1986). Structural dynamic model. *Ecological Modelling*, *31*, 1–9.

Jørgensen, S. E. (1988). Use of models as experimental tools to show that structural changes are accompanied by increased exergy. *Ecological Modelling*, *41*, 117–126.

Jørgensen, S. E. (1990). Ecosystem theory, ecological buffer capacity, uncertainty, and complexity. *Ecological Modelling*, *52*, 125–133.

Jørgensen, S. E. (Ed.), (1991). *A model for the distribution of chromium in Abukir Bay. Modelling in Environmental Chemistry* (Vol. 17). Amsterdam: Elsevier.

Jørgensen, S. E., Nors Nielsen, S., & Jørgensen, L. A. (1991). Handbook of Ecological Parameters and Ecotoxicology. Amsterdam: Elsevier, Published as CD under the name ECOTOX, with L.A. Jørgensen as first editor in 2000.

Jørgensen, S. E. (1992a). Parameters, ecological constraints and exergy. *Ecological Modelling*, *62*, 163–170.

Jørgensen, S. E. (1992b). Development of models able to account for changes in species composition. *Ecological Modelling*, *62*, 195–208.

Jørgensen, S. E. (1997). *Integration of Ecosystem Theories: A Pattern*. (2nd revised ed., p. 388). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Jørgensen, S. E. (2000). *Pollution Abatement* (p. 488). Amsterdam: Elsevier.

Jørgensen, L. A., Jørgensen, S. E., & Nielsen, S. N. (2000). Ecotox. CD.

Jørgensen, S. E. (2002). *Integration of Ecosystem Theories: A Pattern*. (3rd ed., p. 428). The Netherlands, Dordrecht: Kluwer Academic Publishers.

Jørgensen, S. E. (2008a). *Evolutionary Essays* (p. 230). Amsterdam: Elsevier.

Jørgensen, S. E. (2008b). An overview of the model types available for development of ecological models. *Ecological Modelling*, *215*, 3–9.

Jørgensen, S. E. (2009). The application of structurally dynamic models in ecology and ecotoxicology. In J. Devillers (Ed.), *Ecotoxicological Modelling* (pp. 377–394). New York: Springer-Verlag.

Jørgensen, S. E., & Bendoricchio, G. (2001). *Fundamentals of Ecological Modelling*. (3rd ed., p. 628). Amsterdam: Elsevier.

Jørgensen, S. E., & Fath, B. D. (2004). Application of thermodynamic principles in ecology. *Ecological Complexity*, *1*(4), 267–280.

Jørgensen, S. E., Chon, T., & Recknagel, F. (2009). *Handbook of Ecological Modelling and Informatics* (p. 432). Southampton: WIT Press.

Jørgensen, S. E., Costanza, R., & Xu, F. (2005, 2010). *Handbook of Ecological Indicators for Assessment of Ecosystem Health*. (2nd ed., p. 439). Boca Raton, Florida: CRC Press.

Jørgensen, S. E., & De Bernardi, R. (1998). The use of structural dynamic models to explain the success and failure of biomanipulation. *Hydrobiologia*, *379*, 147–158.

Jørgensen, S. E., & Fath, B. D. (2004). Modelling the selective adaptation of Darwin's finches. *Ecological Modelling*, *176*, 409–418.

Jørgensen, S. E., Fath, B., Bastianoni, S., Marques, M., Müller, F., Nielsen, S. N., et al. (2007). *A New Ecology. Systems Perspectives* (p. 288). Amsterdam: Elsevier.

Jørgensen, S. E., Halling-Sørensen, B., & Mahler, H. (1997). *Handbook of Estimation Methods in Ecotoxicology and Environmental Chemistry* (p. 230). Boca Raton, Florida: Lewis Publishers.

Jørgensen, S. E., Halling-Sørensen, B., & Nielsen, S. N. (1995). *Handbook of Environmental and Ecological Modelling* (p. 672). Boca Raton, Florida: CRC Lewis Publishers.

Jørgensen, S. E., Jacobsen, O. S., & Hoi, I. (1973). A prognosis for a lake. *Vatten*, *29*, 382–404.

Jørgensen, S. E., Jørgensen, L. A., Kamp Nielsen, L., & Mejer, H. F. (1981). Parameter estimation in eutrophication modelling. *Ecological Modelling*, *13*, 111–129.

Jørgensen, S. E., Kamp-Nielsen, L., & Jacobsen, O. S. (1975). A submodel for anaerobic mud-water exchange of phosphate. *Ecological Modelling*, *1*, 133–146.

Jørgensen, S. E., Kamp-Nielsen, L., Jørgensen, L. A., & Mejer, H. (1982). An environmental management model of the Upper Nile lake system. *ISEM Journal*, *4*, 5–72.

Jørgensen, S. E., Ladegaard, N., Debeljak, M., & Marques, J. C. (2005). Calculations of exergy for organisms. *Ecological Modelling*, *185*, 165–175.

Jørgensen, S. E., Löffler, H., Rast, W., & Straskraba, M. (2004). *Lake and Reservoir Management* (p. 503). Amsterdam: Elsevier.

Jørgensen, S. E., Lützhøft, H. C., & Halling-Sørensen, B. (1998). Development of a model for environmental risk assessment of growth promoters. *Ecological Modelling*, *107*, 63–72.

Jørgensen, S. E., & Mejer, H. F. (1977). Ecological buffer capacity. *Ecological Modelling*, *3*, 39–61.

Jørgensen, S. E., & Mejer, H. F. (1979). A holistic approach to ecological modelling. *Ecological Modelling*, *7*, 169–189.

Jørgensen, S. E., Mejer, H. F., & Friis, M. (1978). Examination of a lake. *Journal of Ecological Modelling*, *4*, 253–279.

Jørgensen, S. E., Nielsen, S. N., & Mejer, H. F. (1995). Emergy, environ, exergy, and ecological modelling. *Ecological Modelling*, *77*, 99–109.

Jørgensen, S. E., Nors Nielsen, S., & Jørgensen, L. A. (1991). *Handbook of Ecological Parameters and Ecotoxicology*. Amsterdam: Elsevier, Published as CD under the name ECOTOX, with L.A. Jørgensen as first editor in 2000.

Jørgensen, S. E., Patten, B. C., & Straskraba, M. (2000). Ecosystem emerging: 4. Growth. *Ecological Modelling*, *126*, 249–284.

Jørgensen, S. E., & Svirezhev, Y. (2004). *Toward a Thermodynamic Theory for Ecological Systems* (p. 366). Amsterdam: Elsevier.

Kallqvist, T., & Meadows, B. S. (1978). The toxic effects of copper on algae and rotifers from a soda lake. *Water Research*, *12*, 771–775.

Kamp-Nielsen, L. (1975). A kinetic approach to the aerobic sediment-water exchange of phosphorous in Lake Esrom. *Ecological Modelling*, *1*, 153–160.

Kauppi, P., Kämäri, J., Posch, M., Kauppi, L., & Matzner, E. (1986). Acidification of forest soils: model development and application for analysing impacts of acidic deposition in Europe. *Ecological Modelling*, *33*, 231–253.

Kazancı, C. (2007). EcoNet: A new software for ecological modelling, simulation, and network analysis. *Ecological Modelling*, *208*, 1, 3–8.

Kirchner, T. B., & Whicker, F. W. (1984). Validation of PATHWAY, a simulation model of the Transport of radionuclides through agroecosystems. *Ecological Modelling*, *22*, 21–45.

Knudsen, G., & Kristensen, L. (1987). *Development of a Model for Cadmium Uptake by Plants*. Master's thesis at University of Copenhagen.

Koestler, A. (1967). *The Ghost in the Machine*. New York: Macmillan.

Kohlmaier, G. H., Sire, E. O., Brohl, H., Kilian, W., Fishbach, U., Plochl, M., et al. (1984). Dramatic development in the dying of German spruce-fir forests: In search of possible cause effect relationships. *Ecological Modelling*, *22*, 45–65.

Kooijman, S. A. L. M. (2000). *Dynamic Energy and Mass Budget in Biological Systems*. (2nd ed., p. 424). Cambridge: Cambridge University Press, UK.

Koschel, R., Kasprzak, P., Krienitz, L., & Ronneberger, D. (1993). Long term effects of reduced nutrient loading and food-web manipulation on plankton in a stratified Baltic hard water lake. *Verhandlungen der Internationale Vereinigung für Theoretische und Angewandte Limnologie*, *25*, 647–651.

Kristensen, P., Jensen, P., & Jeppesen, E. (1990). *Eutrophication Models for Lakes* (p. 120). Research Report C9. Copenhagen: DEPA.

Lam, D. C. L., & Simons, T. J. (1976). Computer model for toxicant spills in Lake Ontario. In J. O. Nriago (Ed.), *Metals Transfer and Ecological Mass Balances, Environmental Biochemistry* (vol.2, pp. 537–549). Ann Arbor, Michigan: Ann Arbor Science.

Lammens, E. H. R. R. (1988). Trophic interactions in the hypertrophic Lake Tjeukemeer: Top-down and bottom-up effects in relation to hydrology, predation, and bioturbation, during the period 1974-1988. *Limnologica (Berlin)*, *19*, 81–85.

Lassiter, R. R. (1978). *Principles and constraints for predicting exposure to environmental pollutants.* Corvallis: U.S. Environmental Protection Agency, OR Report EPA 118-127519.

Legovic, T. (1997). Toxicity may affect predictability of eutrophication models in coastal sea. *Ecological Modelling, 99,* 1–6.

Lehman, J. T., Botkin, D. B., & Likens, K. E. (1975). The assumptions and rationales of a computer model of phytoplankton population dynamics. *Limnology and Oceanography, 20,* 343–364.

Leontief, W. W. (1951). *The Structure of American Economy, 1919–1939: An Empirical Application of Equilibrium Analysis.* New York: Oxford University Press.

Leslie, P. H. (1945). On the use of matrices in certain population mathematics. *Biometrika, 33,* 183–212.

Leung, D. K. (1978). *Modelling the bioaccumulation of pesticides in fish.* Troy, NY: Center for Ecological Modelling, Polytechnic Institute, Report 5.

Levine, S. (1980). Several measures of trophic structure applicable to complex food webs. *Journal of Theoretical Biology, 83,* 195–207.

Levins, R. (1969). Some demographic and genetic consequences of environmental heterogeneity for biological control. *Bulletin of the Entomological Society of America, 15,* 237–240.

Lewis, E. G. (1942). On the generation and growth of a population. *Sankhya, 6,* 93–96.

Liebig, J. (1840). *Chemistry in its Application to Agriculture and Physiology.* London: Taylor and Walton.

Likens, G. E. (Ed.), (1985). *An Ecosystem Approach to Aquatic Ecology: Mirror Lake and Its Environment* (p. 516). New York: Springer-Verlag.

Lindeman, R. L. (1942). The trophic dynamic aspect of ecology. *Ecology, 23,* 399–418.

Liu, J., & Ashton, P. S. (1995). Individual-based simulation models for forest succession and management. *Forest Ecology and Management, 73,* 157–175.

Lombardo, P. S. (1972). *Mathematical Model of Water Quality in Rivers and Impoundments.* Palo Alto, California: Hydrocomp. Inc.

Longstaff, B. C. (1988). Temperature manipulation and the management of insecticide resistance in stored grain pests. A simulation study for the rice weevil, Sitophilus oryzae. *Ecological Modelling, 43,* 303–313.

Lotka, A. J. (1956). *Elements of Mathematical Biology* (p. 465). New York: Dover.

Mackay, D. (1991). *Multimedia Environmental Models* (p. 257). *The Fugacity Approach.* Boca Raton, Florida: Lewis Publishers.

Mackay, D., Shiu, W. Y., & Ma, K. C. (1991, 1992). *Illustrated Handbook of Physical-Chemical Properties and Environmental Fate for Organic Chemicals* (vol. I). Mono-aromatic Hydrocarbons. Chloro-benzenes and PCBs. 1991, Volume II. Polynuclear Aromatic Hydrocarbons, Polychlorinated Dioxines, and Dibenzofurans, 1992, and Volume III. Volatile Organic Chemicals. 1992. New York: Lewis Publishers.

Margalef, R. (1968). *Perspectives in Ecological Theory* (p. 122). Chicago, IL: University of Chicago Press.

Margalef, R. (1969). Diversity and stability: A practical proposal and a model for interdependence. In G. M. Woodwell & H. H. Smith (Eds.), *Diversity and Stability in Ecological Systems. Brookhaven Symposia in Biology, No. 22* (pp 25–38). Upton, NY: Brookhaven National Laboratory.

Margalef, R. (1991). Networks in ecology. In M. Higashi & T. P. Burns (Eds.), *Theoretical Studies of Ecosystems: The Network Perspective* (pp. 41–57). Cambridge: Cambridge University Press, UK.

Margalef, R. A. (1995). Information theory and complex ecology. In B. C. Patten & S. E. Jørgensen (Eds.), *Complex Ecology* (pp. 40–50). New Jersey: Prentice Hall PTR.

Matthies, M., Behrendt, H., & Münzer, B. (1987). *EXSOL Modell für den Transport und Verbleib von Stoffen im Boden*. GSF-Bericht 23/87 Neuherberg.

Mauersberger, P. (1983). General principles in deterministic water quality modelling. In G. T. Orlob (Ed.), *Mathematical Modelling of Water Quality: Streams, Lakes and Reservoirs* (pp. 42–115). *International Series on Applied System Analysis, 12*. New York: Wiley.

Mauersberger, P. (1985). Optimal control of biological processes in aquatic ecosystem. *Gerlands Beitr. Geiophysik.*, *94*, 141–147.

May, R. M. (1974). Ecosystem patterns in randomly fluctuating environments. *Progress in Theoretical Biology, 3*, 1–50.

May, R. M. (1975). Patterns of species abundance and diversity. In M. L. Cody & J. M. Diamond (Eds.), *Ecology and Evolution of Communities* (pp. 81–120). Cambridge, MA: Harvard University. Press.

May, R. M. (1977). *Stability and Complexity in Model Ecosystems* (3rd ed.). New Jersey: Princeton University Press.

McMahon, T. A., Denison, D. J., & Fleming, R. (1976). A long distance transportation model incorporating washout and dry deposition components. *Atmospheric Environment*, *10*, 751–760.

Miller, D. R. (1979). Models for total transpon. In G. C. Butler (Ed.), *Principles of Ecotoxicology SCOPE* (Vol. 12, pp. 71–90). New York: Wiley.

Miller, J. G. (1978). *Living Systems* (p. 102). New York: McGraw-Hill.

Milne, G. W. A. (1994). *CRC Handbook of Pesticides*. Boca Raton, FL: CRC Press.

Mogensen, B. (1978). *Chromium pollution in a Danish fjord.* Licentiate Thesis. Copenhagen: Royal Danish School of Pharmacy.

Mogensen, B., & Jørgensen, S. E. (1979). Modelling the distribution of chromium in a Danish firth. In S. E. Jørgensen (Ed.), *Proceedings of 1st International Conference on State of the An in Ecological Modelling* (pp. 367–377). Copenhagen, 1978. Copenhagen: International Society for Ecological Modelling.

Monod, J. (1971). *Chance and Necessity: An Essay on the Natural Philosophy of Modern Biology.* New York: Alfred A. Knopf.

Monte, L. (1998). Prediction the migration of dissolved toxic substances from catchments by a collective model. *Ecological Modelling, 110*, 269–280.

Morgan, M. G. (1984). Uncertainty and quantitative assessment in risk management. In J. V. Rodricks & R. G. Tardiff (Eds.), *Assessment and Management of Chemical Risks.* Chapter 8. ACS Symposium Series 239. Washington, D.C.: American Chemical Society.

Morioka, T., & Chikami, S. (1986). Basin-wide ecological fate model for management of chemical hazard. *Ecological Modelling, 31*, 267.

Morowitz, H. J. (1968). *Energy flow in biology. Biological Organisation as a Problem in Thermal Physics* (p. 179). New York: Academic Press. See review by H. T. Odum, Science, *164*, 683–684, 1969.

Moustakas, A., Sakkos, K., Wiegand, K., Ward, D., Meyer, K. M., & Eisingerd, D. (2009). Are savannas patch-dynamic systems? A landscape model. *Ecological Modelling*, *220*, 3576–3588.

Müller, F., Schrautzer, J., Reiche, E. W., & Rinker, A. (2006). Ecosystem based indicators in retrogressive successions of an agricultural landscape. *Ecological Indicators*, *6*, 63–82.

Nagra synpunkter angaende limnoplanktons okologi med sarskild hansyn till fytoplankton. Svensk Botanisk Tidskrift 13, 129–163.

Naumann, E. (1919). Nagra synpunkter angaende limnoplanktons okologi med sarskild hansyn till fytoplankton. *Svensk Botanisk Tidskrift*, *13*, 129–163.

Nielsen, S. N. (1992a). *Application of Maximum Exergy in Structural Dynamic Models* (p. 51). Ph.D. Thesis. Denmark: National Environmental Research Institute.

Nielsen, S.N (1992b). Strategies for structural-dynamical modelling. *Ecological Modelling*, *63*, 91–101.

Nihoul, J. C. J. (1984). A non-linear mathematical model for the transport and spreading of oil slicks. *Ecological Modelling*, *22*, 325–341.

Nyholm, N., Nielsen, T. K., & Pedersen, K. (1984). Modelling heavy metals transpon in an arctic fjord system polluted from mine tailings. *Ecological Modelling*, *22*, 285–324.

O'Connor, D. J., Mancini, J. L., & Guerriero, J. R. (1981). *Evaluation of Factors Influencing the Temporal Variation of Dissolved Oxygen in the New York Bight. PHASE II*. Bronx. New York: Manhattan College.

Odling-Smee, F. J., Laland, K. N., & Feldman, M. W. (2003). *Niche Construction: The Neglected Process in Evolution* (p. 468). Princeton, New Jersey: Princeton University Press.

Odum, E. P. (1953). *Fundamentals of Ecology*. Philadelphia, PA: W.B. Saunders.

Odum, H. T. (1956). Primary production in flowing waters. *Limnology and Oceanography*, *1*, 102–117.

Odum, H. T. (1957). Trophic structure and productivity of Silver Springs. *Ecological Monographs*, *27*, 55–112.

Odum, E. P. (1959). *Fundamentals of Ecology* (2nd ed). Philadelphia, PA: W.B. Saunders.

Odum, E. P. (1969). The strategy of ecosystem development. *Science*, *164*, 262–270.

Odum, E. P. (1971). *Fundamentals of Ecology* (3rd ed). Philadelphia, PA: W.B. Saunders Co.

Odum, H. T. (1983). *System Ecology* (p. 510). New York: Wiley Interscience.

Odum, H. T., & Odum, E. C. (2000). *Modelling for all Scales* (p. 456). San Diego: Academic Press, and CD.

O'Neill, R. V. (1976). Ecosystem persistence and heterotrophic regulation. *Ecology*, *57*, 1244–1253.

O'Neill, R. V., Hanes, W. F., Ausmus, B. S., & Reichle, D. E. (1975). A theoretical basis for ecosystem analysis with particular reference to element cycling. In F. G. Howell, J. B. Gentty & M. H. Smith (Eds.), *Mineral Cycling in Southeastern Ecosystems* (pp. 28–40). NTIS pub. CONF-740513.

Onishi, Y., & Wise, S. E. (1982). *Mathematical model, SERA TRA, for sediment-contaminant transpon in rivers and its application to pesticide transpon in Four Mile and Wolf Creeks in Iowa* (p. 56). EPA-60013-82-045, Athens, Georgia.

Orlob, G. T., Hrovat, D., & Harrison, F. (1980). Mathematical model for simulation of the fate of copper in a marine environment. American Chemical Society. *Advances in Chemistry Series, 189*, 195–212.

Parrott, L. (2008). Adaptive Agents. In S. E. Jørgensen & B. Fath (Eds.), *Encyclopedia of Ecology* (vol.1, pp. 47–51). Amsterdam: Elsevier.

Patten, B. C. (1971–1976). *Systems Analysis and Simulation in Ecology* (vols. 1–4). New York: Academic Press.

Patten, B. C. (1978a). Systems approach to the concept of environment. *Ohio Journal of Science, 78*, 206–222.

Patten, B. C. (1978b). Energy environments in ecosystems. In R. A. Fazzolare & C. B. Smith (Eds.), *Energy Use Management* (vol. IV). New York: Pergamon Press.

Patten, B. C. (1981). Environs: The superniches of ecosystems. *American Zoologist, 21*, 845–852.

Patten, B. C. (1982a). Environs: relativistic elementary particles or ecology. *American Naturalist, 119*, 179–219.

Patten, B. C. (1982b). Indirect causality in ecosystem: its significance for environmental protection. In W. T. Mason & S. Iker, (Eds.), *Research on Fish and Wildlife Habitat, Commemorative monograph honoring the first decade of the US Environmental Protection Agency.* EPA-@18-82-022. Washington, D.C: Office of Research and Development, US Environmental Protection Agency.

Patten, B. C. (1985). Energy cycling in ecosystems. *Ecological Modelling, 28*, 7–71.

Peters, R. H. (1983). *The Ecological Implications of Body Size* (p. 329). Cambridge, UK: Cambridge University Press.

Pielou, E. C. (1966). Species-diversity and pattern diversity in the study of ecological succession. *Journal of Theoretical Biology, 10*, 370–383.

Pielou, E. C. (1977). *An Introduction to Mathematical Ecology* (p. 385). New York: Wiley-Interscience.

Prahm, L. P., & Christensen, O. J. (1976). Long-range transmission of sulphur pollutants computed by the pseu<k>spectral model. Danish Meteorological Institute, Air Pollution Section, Lyngbyvej, DK-2100 Copenhagen. In: *Prepared for the ECE Task Force for the preparation of a Co-operative Programme for the Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe, October 1976, Lillestrom, Norway.*

Prigogine, I. (1947). *Etude Thermodynamique des Processus Irreversibles.* Liege: Desoer.

Quinlin, A. V. (1975). *Design and Analysis of Mass Conservative Models of Ecodynamic Systems.* Ph.D. Dissertation. Cambridge, MA: MIT Press.

Rammig, A., & Fahse, L. (2009). Simulating forest succession after blowdown events: The crucial role of space for a realistic management. *Ecological Modelling, 220*, 3555–3564.

Rammig, A., Fahse, L., Bugmann, H., & Bebi, P. (2006). Forest regeneration after disturbance: A modelling study for the Swiss Alps. *Forest Ecology and Management, 222*, 123–136.

Sas, H. (Coordination) (1989). Lake restoration by reduction of nutrient loading. Expectations, experiences, extrapolations. *St. Augustine Academia Verl. Richarz.*, 497.

Scavia, D. (1980). An ecological model of Lake Ontario. *Ecological Modelling, 8*, 49–78.

Schaalje, G. B., Stinner, R. L., & Johnson, D.L (1989). Modelling insect populations affected by pesticides with application to pesticide efficacy trials. *Ecological Modelling*, *47*, 223.

Scheffer, M. (1990). *Simple Models as Useful Tools For Ecologists* (p. 192). Amsterdam: Elsevier.

Schoffeniels, E. (1976). *Anti-Chance*. New York: Pergamon Press.

Schrödinger, E. (1944). *What is Life?* (p. 186). Cambridge, UK: Cambridge University Press.

Scotti, M., & Bondavalli, C. R. (2011). *ENA: A free package for Ecosystem Network Analysis in R. Environmental Modelling and Software.*

Secor, D. H., & Houde, E. D. (1995). Temperature effects on the timing of striped bass egg production, larval viability, and recruitment potential in the Patuxent River (Chesapeake Bay). *Estuaries and Coasts*, *18*, 527–544.

Seip, K. L. (1978). Mathematical model for uptake of heavy metals in benthic algae. *Ecological Modelling*, *6*, 183–198.

Shapiro, J. (1990). Biomanipulation. The next phase-making it stable. *Hydrobiologia*, *200/210*, 13–27.

Shevtsov, J., Kazanci, C., & Patten, B. C. (2009). Dynamic environ analysis of compartmental systems: A computational approach. *Ecological Modelling*, *220*, 3219–3224.

Shugart, H. H. (1984). *A Theory of Forest Dynamics: The Ecological Implications of Forest Succession Models*. New York: Springer.

Sklar, F. H., Costanza, R., & Day, J. W. (1985). Dynamic spatial simulation modelling of coastal wetland habitat succession. *Ecological Modelling*, *29*, 261–281.

Slovic, P., Fischhoff, B., & Lichtenstein, S. (1982). Facts and fears: Understanding perceived risk. In R. C. Schwing & W. A. Albers, Jr. (Eds.), *Societal Risk Assessment: How Safe is Safe Enough?* New York: Plenum Press.

Snape, J. B., Dunn, I. J., Ingham, J., & Presnosil, J. E. (1995). *Dynamics of Environmental Bioporocesses* (p. 492). Weinheim, New York: VCH.

Sommer, U. (1989). Toward a Darwinian ecology of plankton. In U. Sommer (Ed.), *Plankton Ecology: Succession in Plankton Communities*. Berlin: Springer-Verlag.

Starfield, A. M., & Bleloch, A. L. (1986). *Building Models for Conservation and Wildlife Management* (p. 324). New York: Macmillan Publishing Company.

Steele, J. H. (1974). *The Structure of the Marine Ecosystems* (p. 128). Oxford: Blackwell Scientific Publications.

Stenseth, N. C. (1986). Darwinian evolution in ecosystems: a survey of some ideas and difficulties together with some possible solutions. In J. L. Casti & A. Karlqvist (Eds.), *Complexity, Language, and Life: Mathematical Approaches* (pp. 105–129). Berlin: Springer-Verlag.

Stonier, T. (1990). *Information and the Internal Structure of the Universe* (p. 260). Berlin: Springer Verlag.

Straskraba, M. (1979). Natural control mechanisms in models of aquatic ecosystems. *Ecological Modelling*, *6*, 305–322.

Straskraba, M. (1980). Cybernetic-categories of ecosystem dynamics. *ISEM Journal*, *2*, 81–96.

Suter, G. W. (1993). *Ecological Risk Assessment*. Chelsea, MI: Lewis Publishers.

Swannack, T. M., Grant, W. E., & Forstner, M. R. J. (2009). Projecting population trends of endangered amphibian species in the face of uncertainty: A pattern-oriented approach. *Ecological Modelling, 220*, 148–159.

Tansley, A. G. (1935). The use and abuse of vegetational concepts and terms. *Ecology, 16*, 284–307.

Tetra Tech Inc. (1980). *Methodology for Evaluation of Multiple Power Plant Cooling System Effects, Vol. V: Methodology Application to Prototype-Cayuga Lake*. Lafayette, California: Tetra Tech Inc, For Electric Power Research Institute. Report EPRI EA-1111.

Thomann, R. V. (1984). Physico-chemical and ecological modelling the fate of toxic substances in natural water systems. *Ecological Modelling, 22*, 145–170.

Thomann, R. V., et al. (1974). A food chain model of cadmium in western Lake Erie. *Water Research, 8*, 841–851.

Thomann, R. V., & Fitzpatrick, J. F. (1982). *Calibration and verification of a mathematical model of the eutrophication of the Potomac Estuary*. Mahwah, NJ, to DES, Dist. Col. Washington D.C: Report by Hydroqual, Inc.

Tinkle, I. J. (1967). *The life and demography of the side-blotched lizard* Utastand buriana. *Misc. Publ. Mus. Zool.* University of Michigan Number, pp. 132–182.

Tilman, D., & Kareiva, P. (Eds.). (1997). *Spatial Ecology: The Role of Space in Population Dynamics and Interspecific Interactions*. New Jersey: Princeton University Press.

Turner, M. G., & Gardner, R.H (Eds.). (1991). *Quantitative Methods in Landscape Ecology: An Introduction*. New York: Springer-Verlag.

Turner, M. G., Gardner, R. H., & O'Neill, R. V. (2001). *Landscape Ecology in Theory and Practice: Pattern and Process*. New York: Springer-Verlag.

Uchmanski, J., & Grimm, V. (1996). Individual-based modelling in ecology: what makes the difference? *Trends in Ecology and Evolution, 11*, 437–441.

Uchrin, C. G. (1984). Modelling transport processes and differential accmnulation of persistent toxic organic substances in groundwater systems. *Ecological Modelling., 22*, 135–144.

Ulanowicz, R. E. (1979). Prediction chaos and ecological perspective. In E. A. HaIfon (Ed.), *Theoretical Systems Ecology* (pp. 107–117). New York: Academic Press.

Ulanowicz, R. E. (1980). An hypothesis of the development of natural communities. *Journal of Theoretical Biology, 85*, 223–245.

Ulanowicz, R. E. (1982). *NETWORK 4.2b: A package of computer algorithms to analyze ecological flow networks*. Copyright 1982, 1987, 1998, 1999, 2002. UMCEES Ref. No. 82–7 CBL.http://www.cbl.umces.edu/~ulan/ntwk/netwrk.txt

Ulanowicz, R. E. (1986). *Growth and Development: Ecosystem Phenomenology*. New York: Springer-Verlag.

Ulanowicz, R. E. (1995). Ecosystem trophic foundations: Lindeman exonerata. In B. C. Patten & S. E. Jørgensen (Eds.), *Complex Ecology: The Part-Whole Relation in Ecosystems* (pp. 549–560). Englewood Cliffs, New Jersey: Prentice Hall PTR.

Ulanowicz, R. E. (1997). *Ecology, the Ascendant Perspective*. New York: Columbia University Press.

Ulanowicz, R.E (2009). *A Third Window: Natural Life beyond Newton and Darwin*. West Conshohocken, PA: Templeton Foundation Press.

Usher, M. B. (1972). Developments in the Leslie matrix model. In J. N. R. Jeffers (Ed.), *Mathematical Models in Ecology* (pp. 29–60). Oxford: Blackwells.

Vanclay, J. K. (1994). *Modelling Forest Growth and Yield* (p. 312). Wallingford: Cab International.

van den Belt, M. (2004). *Mediated Modelling*. Washington: Island Press.

Verschueren, K. (1983). *Handbook of Environmental Data on Organic Chemicals*. New York: Van Nostrand Reinhold.

Van Donk, E., Gulati, R. D., & Grimm, M. P. (1989). Food web manipulation in Lake Zwemlust: positive and negative effects during the first two years. *Hydrobiological Bulletin*, *23*, 19–35.

Vitousek, P. M., Aber, J. D., Howarth, R. W., Likens, G. E., Matson, P. A., Schindler, D. W., Schlesinger, W. H., & Tilman, D. G. (1997). Human alteration of the global nitrogen cycle: sources and consequences. *Ecological Applications*, *7*, 737–750.

Volterra, V. (1926). Actuations in the abundance of a species considered mathematically. *Nature*, *188*, 558–560.

Wallentin, G., Tappeiner, U., Strobla, J., & Tasserd, E. (2008). Understanding alpine tree line dynamics: An individual-based model. *Ecological Modelling*, *218*, 235–246.

Wangersky, P. J., & Cunningham, W. J. (1957). Time lag in population models. *Cold Spring Harbour Symposia Quantitative Biology*, *42*, 329–338.

Wheeler, G. L., Rolfe, G. L., & Reinholdt, K. A. (1978). A simulation for lead movement in a watershed. *Ecological Modeling*, *5*, 67–76.

Willemsen, J. (1980). Fishery aspects of eutrophication. *Hydrobiological Bulletin*, *14*, 12–21.

Wilson, D. S. (1978). Prudent predation: A field test involving three species of tiger beetles. *Oikos*, *31*, 128–136.

Wilson, W. (2000). *Simulating Ecological and Evolutionary Systems in C* (p. 300). Cambridge, UK: Cambridge University Press.

WMO (1975) *Intercomparison of Conceptual Models Used in Operational Hydrological Forecasting*. Operational Hydrology Report no. 7, Geneva, Switzerland: World Meteorological Organization.

Wolfram, S. (1984a). Computer software in science and mathematics. *Scientific American*, *251*, 140–151.

Wolfram, S. (1984b). Cellular automata as models of complexity. *Nature*, *311*, 419–424.

Woodwell, G. M., et al. (1967). DDT residues in an East Coast estuary: A case of biological concentration of a persistent insecticide. *Science*, *156*, 821–824.

Wratt, D. S., Hadfield, M. G., Jones, M. T., Johnson, G. M., & McBurney, I. (1992). Power stations, oxides of nitrogen emissions, and photochemical smog: a modelling approach to guide decision makers. *Ecological Modelling*, *64*, 185–204.

Wuttke, G., Thober, B., & Lieth, H. (1991). Simulation of nitrate transpon in groundwater with a three-dimensional groundwater model run as a subroutine in an agroecosystem model. *Ecological Modelling*, *57*, 263–276.

Yongberg, B. A. (1977). *Application of the Aquatic Model CLEANER to Stratified Reservoir System*. Repon #1. Troy, New York: Center for Ecological Modelling, Rensselaer Polytechnic Institute.

Zhang, J., Gurkan, Z., & Jørgensen, S. E. (2010). Application of eco-energy for assessment of ecosystem health and development of structurally dynamic models. *Ecological Modelling*, *221*, 693–702.

Zeigler, B. P. (1976). *Theory of Modelling and Simulation* (pp. 435–621). New York: Wiley.