

## CURRICULUM VITAE

ARIEL E. LUGO

**PERSONAL** Born in Mayagüez, Puerto Rico; April 28, 1943. Married to Helen Nunci (1984). Daughter and son, forty six and thirty nine. Three grandchildren. Home Address: 1528 Támesis, Urbanización El Paraíso, Río Piedras, Puerto Rico 00926. Phone: 787-764-0302.

**EDUCATION** Mayagüez Public Schools; Hostos High School, Mayagüez, 1959; B.S. (Biology) University of Puerto Rico, 1963; M.S. (Biology) University of Puerto Rico, 1965; Ph.D. (Ecology) Department of Botany, University of North Carolina at Chapel Hill, 1969.

**CURRENT POSITION** Director, International Institute of Tropical Forestry, USDA Forest Service, Jardín Botánico Sur, 1201 Calle Ceiba, Río Piedras, PR 00926-1119. Phone: 787-764-7743. Fax number: 787-766-6263.

Official Electronic Mail: [alugo@fs.fed.us](mailto:alugo@fs.fed.us)

Personal Electronic Mail: [hanael@prtc.net](mailto:hanael@prtc.net)

Tweeter account: @usfs\_iitf

**CITATIONS** Original Member, Highly Cited Researchers Database ISI Thomson Scientific, 2002. In January 2015, Google Scholar reports an h index of 71, and i10-index of 185, and a total of 20,121 citations. ResearchGate Score 40.41 (higher than 97.5% of ResearchGate Members’).

**ADMINISTRATIVE AND POLICY-MAKING EXPERIENCE** Assistant Secretary for Planning and Resource Analysis, Puerto Rico Department of Natural Resources (1973-1974). Assistant Secretary for Science and Technology, Puerto Rico Department of Natural Resources (1974-1975). Address: P.O. Box 5887, Puerta de Tierra, San Juan, PR 00906. Acting Director, Center for Wetlands, University of Florida at Gainesville (July 1977-January 1978). Staff Member, Council on Environmental Quality, Executive Office of the President (1978-1979). Address: 722 Jackson Place, N.W., Washington, D.C. 20006. Division Head, Center for Energy and Environment Research, University of Puerto Rico (1980-1988). Project Leader (1979-1992), Director (1986-1992), and Supervisory Research Ecologist (1979-1992), Institute of Tropical Forestry. Acting Director (1992-1994), International Institute of Tropical Forestry. Appointed to the Senior Executive Service in 1994. Acting Deputy Chief of International Forestry, USDA Forest Service, Washington, D.C., February-March, 1995.

**RESEARCH EXPERIENCE** Research has been conducted and published for the following ecosystems: subtropical wet forest at El Verde in Puerto Rico (1963-1966). Granite outcrops in Southeastern United States (1965-1969). Tropical wet forest at the Osa Peninsula in Costa Rica (1971). Mangrove forests of Florida (1971-1973 and 1977-1982), Puerto Rico, and the Caribbean (1973-present). Hardwood forest in Gainesville, Florida (1969-1973). Sand pine forest in Ocala, Florida (1971-1973). Río Dulce river in Guatemala (1972). Oklawaha river and floodplain wetlands in Florida (1972-1973). Farm pond in Gainesville, Florida (1970-1972). Fresh water prairie (Paynes Prairie) and associated lakes in Gainesville, Florida (1972-1975). Laboratory microcosms (1969-1975). Subtropical dry forest in Puerto Rico (1974-1977 and 1981-present). Sandhill forest in Gainesville, Florida (1976-1978). Palm wetlands in subtropical wet and subtropical rain forest life

zones in Puerto Rico (1980-present). Current research also includes an assessment of the role of tropical forests in global processes; ecological studies of tropical tree plantations; comparisons of plantations and natural forests; response of tropical forests to disturbances; studies of tropical wetlands; studies of introduced species; and the ecological characteristics of novel tropical forests including urban ecosystems.

## **ORGANIZATIONS**

### **Positions Held**

Councilor (1985-1987) and President (1990) Association for Tropical Biology.  
Chairman (1980-1989) Man and the Biosphere (MAB) Directorate I - Tropical Forest Ecosystems.  
Chairman (1990) MAB Tropical Ecosystems Directorate.  
President (1981) Science Teachers Association of Puerto Rico.  
Chairman (1980-1998) Research Committee of the Latin America Forestry Commission of the Food and Agriculture Organization of UNESCO.  
Member Executive Committee (1990-1993) International Society of Tropical Foresters.  
Member Board of Governors (1989-1991) and Member of the Board (1992-1994) Society for Conservation Biology.  
Founding Member (1988) and Member of the Board of Directors (1992-1999) Society for Ecological Restoration.  
Member Board of Bearers (1990-1993) and Executive Committee (1994-1998) International Society for Tropical Ecology.  
Member Board of Directors (1990-1995) Puerto Rico Conservation Foundation (Vice President 1992-1993, President 1994-1995).  
Councilor of Caribbean Division of the American Association for the Advancement of Science (1991-1992).  
Member Academic Council EPOMEX Program (Programa de Ecología, Pesquerías y Oceanografía del Golfo de México, Universidad Autónoma de Campeche, México) (1994-2000).  
Member of Scientific Committee of The Conservation Trust of Puerto Rico. (1997-1998).  
Member-at-Large of the Board of the Ecological Society of America (1998-2000).  
Member of U.S. National Academies' Scientific Committee on Problems of the Environment (SCOPE) (2000-2006).  
Member Executive Committee International Society for Tropical Ecology (2001-present)  
Member Board of Directors Tropical Forest Foundation (2002-2015)  
Member of Advisory Council for the Sea Grant Program of Puerto Rico (2010-present)

### **Editorial Boards**

Vegetatio (1981-1992).  
Journal of the Litoral (1982-2000), Natural Sciences Society in Santa Fe, Argentina.  
Acta Científica (Editor) (1987-present), Journal of the Puerto Rico Science Teachers Association.

Journal of Sustainable Forestry (1991-present).  
Restoration Ecology (Associate Editor) (1992-1999).  
Forest Ecology and Management (1994-2007).  
Agrociencia (1994).  
Journal of Vegetation Science, organ of the International Association for  
Vegetation Science (1994-1996).  
Madera y Bosques. Published by Instituto de Ecología, México (1995-2000).  
Mitigation and Adaptation Strategies for Global Change (1995-present).  
Conservation Ecology (1997-2003)  
Ecology and Society (2003-present)  
Ecosystems (2002-present)  
Society for Ecological Restoration-Island Press Book Series (2003-2006)  
Millennium Ecosystem Assessment Board of Review Editors (2003-2005)  
New Forests (2004-present)  
Annals of Forest Science (2008-present)  
International Journal of Ecology (2010-present)

## **Memberships**

Association for Tropical Biology.  
Society of the Sigma Xi (1969-1995).  
Ecological Society of America (life member).  
Society of Limnology and Oceanography (1973-1991).  
International Society for Tropical Ecology.  
MAB Directorate 7-B Caribbean Islands (1978-1989).  
IUCN Commission on Ecology (including working group on mangrove ecosystems  
and working group on rain forest ecosystems) (1980-1986).  
International Association for Ecology.  
Florida Academy of Sciences (1970-1992).  
National Wetlands Technical Council (1983-1993).  
IUBS Decade of the Tropics (working groups on species diversity and soil fertility)  
(1985-1988).  
Honorary member Beta Beta Beta honor society, Zeta Zeta chapter, InterAmerican  
University, Río Piedras, P.R. (1986-present).  
Puerto Rico Academy of Arts and Sciences (1991-present).  
International Society of Tropical Foresters.  
Society of Caribbean Ornithology.  
Sociedad Ornitológica Puertorriqueña.  
United States Biosphere Reserves Association (2004-present).  
Fellow of the World Innovation Foundation, November 2004  
Sierra Club, founding member Puerto Rico Chapter, 2005  
International Center for Tropical Ecology, Scientific Board Member (2007-2008).  
Society of Conservation Biology Working Group for Ecological Economics and Sustainable  
Science elected Board Member (2007-2009)

## **CONSULTING EXPERIENCE**

### **International**

UNESCO: Thailand (1975-1976), Colombia (1978), Malaysia (1983).  
World Bank: Mexico (1978).  
National Audubon Society: Bahamas (1977).  
Organization of American States: Venezuela (1979, 1980).  
UNESCO: MAB Program, General Scientific Advisory Panel in Paris (1985-1986).  
Conservation Trust of Belize: Rio Bravo Reserve (1996).  
Scientific Certification Council for Société Générale de Surveillance (1998-2000).

## **National**

Save Our Bays Association (1970).  
American Oil Co. (1972).  
H.W. Lochner, Inc. (1972).  
U.S. Forest Service (1972).  
U.S. Department of Interior (1972, 1973, 1976, 1977).  
U.S. Environmental Protection Agency (1974).  
U.S. Justice Department (1974, 1978).  
Southwest Florida Regional Planning Council (1976, 1977).  
Florida Department of Natural Resources (1976).  
Rockefeller Foundation (1976).  
County of Lee, Florida (1977).  
National Wildlife Federation (1978).  
Collier County Nature Conservancy (1980).  
Trustee Florida Defenders of the Environment (1980-1981).  
Research Associate, Islands Resources Foundation, US Virgin Islands  
(1980-1990).  
Scientific Advisor, CO<sub>2</sub> Program of the Institute of Energy Analysis, Oak Ridge,  
Tennessee (1982-1984).  
Executive Committee U.S. MAB Program (1981-1984).  
National Research Council Committee on Ecological Problems Associated with  
Development of the Humid Tropics (1980-1982).  
Advisory committee, Yale Tropical Resources Institute (1985-1990).  
Advisor to Rhode Island University coastal zone program for tropical countries  
(1985-1988).  
Board of Overseers of Harvard College, Committee to visit Department of  
Organismic and Evolutionary Biology (1989-1994).  
Review team for the Department of Forestry, School of Forest Resources and  
Conservation, University of Florida (1989).  
National Committee for US MAB Program (1990).  
National Research Council Committee on Sustainable Agriculture and the  
Environment in the Humid Tropics (1990-1993).  
Science Advisory Panel for The Center for Microbial Ecology, Michigan State  
University (1993-1998).  
Organization for Tropical Studies Research Advisory Committee (1998-2000).  
National Science Foundation Committee of Visitors, Division of Environmental  
Biology (2009).  
National Science Foundation, Long-Term Ecological Research Program, review of  
Everglades site (2009)

United States Carbon Cycle Science Program Interagency Carbon Cycle working group  
(2007-2009)

### **State (Puerto Rico)**

Department of Natural Resources (1975, 1976).  
Environmental Quality Board (1976, 1977).  
Senior Advisory Committee to the President of the University of Puerto Rico  
(1982-1988), Chairman (1985-1988).  
Appointed by the Governor of Puerto Rico to the *Consejo Consultivo del Programa  
de Patrimonio Nacional* (1990-1992; 1994-1998).  
Advisory Committee to President of University of Puerto Rico on the Minority Center  
for Research Excellence (1990-2000).  
San Juan Bay Estuary Ecological Assessment Sub-committee (1996-2000).  
Advisory Council Member of the University of Puerto Rico's Sea Grant College Program  
(1997-2000).  
Review Panel Member of the Puerto Rico Experimental Program to Stimulate  
Competitive Research (2001).  
Member of Resident Commissioner's Environmental Advisory Council (2001-2004)  
Member of Governor of Puerto Rico's Environmental Advisory Board (2002-2004)  
Member of Governor of Puerto Rico's Sustainability Board (2012-present)

### **TEACHING EXPERIENCE**

#### **University**

General zoology laboratory assistant, University of Puerto Rico (1962).  
Cell physiology laboratory assistant, University of Puerto Rico (1963).  
General botany laboratory assistant, University of North Carolina (1967).  
Assistant Professor, Department of Botany, University of Florida (1969-1976).  
Associate Professor, Department of Botany, University of Florida (07/1976-1979).  
Taught courses on biological sciences, general ecology, ecology of Florida,  
tropical ecology, aquatic ecology, and radiation and plant growth.  
Ad Honorem lecturer and professor, University of Puerto Rico (1974-1976,  
1980-present). Taught courses on experimental ecology, the forests of  
Puerto Rico, mangrove ecology, plantation forestry, tropical forest restoration  
and rehabilitation, advanced ecology, and natural history of Puerto Rico.  
Courtesy appointments at Department of Environmental Engineering Sciences,  
Center for Latin American Studies (1977), and Department of Botany, University  
of Florida, Gainesville, Florida (1980-1992).  
Ad Honorem Associate Professor, Department of Public Health, School of  
Medicine, University of Puerto Rico (1985-1986).  
Graduate faculty member, Department of Environmental, Population and  
Organismic Biology, University of Colorado, Boulder, Colorado (1990-1991).  
Adjunct Professor of Oceanography and Graduate Faculty, University of Rhode Island (2011-  
2014)

## **Short Courses**

International and interdisciplinary course on man and the environment, Leiden University, The Netherlands (1972) and University of Florida (1973).  
Four short courses for natural resources managers, USDA Forest Service (1971-1973).  
Tropical ecology - Costa Rica (1971); Venezuelan Institute of Scientific Investigations in Caracas, Venezuela (1973); University of Puerto Rico (1976); Instituto Cultural Dominicano-Americano in Santo Domingo, Dominican Republic (1976); Instituto Guatemalteco Americano in Guatemala City, Guatemala (1979).  
Water planning and management, Mediterranean Agronomic Institute, Zaragoza, Spain (1978, 1981-1983, 1986-1988).  
Ecosystem modelling and management, University of La Plata, Argentina (under Fullbright-Hayes Fellowship) (1978).  
Systems ecology, CIDIAT, Merida, Venezuela (1979, 1980).  
Chautauqua-type courses on tropical forestry for high school and college teachers, University of Puerto Rico (1984-1987, 1990).  
Research methodology for science teachers, University of Puerto Rico (1981-1988)  
Mangrove ecology, Las Tuxtlas field station, Veracruz, Mexico (1990).  
Post graduate course on the ecology and management of tropical forests at the National University of La Plata, Argentina (1994).  
Alianza para el Aprendizaje de Ciencias y Matemáticas, short research course for high school students on new forests of Puerto Rico, San Juan (2005, 2006, 2007, 2008).

## **FEDERAL COURT APPEARANCES AS EXPERT WITNESS**

1972 - Jacksonville Federal District Court in the Environmental Defense Fund Inc. vs. Corps of Engineers of the United States Army *et al.* Case No. 71-652-CIV-J dealing with the Cross Florida Barge Canal.

1974 - Washington D.C. Federal District Court in PFZ Properties vs. EPA, a case dealing with development in a mangrove wetland.

1977 - United States District Court for the District of Puerto Rico in Commonwealth of Puerto Rico and Environmental Quality Board vs. The SS Zoe Colocotroni, her engines, appurtenances, etc., *et al.* Case No. 252-73 dealing with an oil spill on mangroves.

1978 - Miami Court of Claims in James J. Jentgen vs. United States. Case No. 415-76 dealing with section 404 of the Water Pollution Control Act.

1981 - United States District Court for the District of Puerto Rico in USI Properties Corp. vs. the U.S. Environmental Protection Agency and U.S. Department of the Army. Case No. 80-2329 dealing with development of a wetland.

1982 - United States Claims Court at Key West in Melvin J. Laney vs. the United States. Case No. 130-801 dealing with a taking of a mangrove wetland.

1989 - United States District Court for the District of Puerto Rico in United States of America vs. Tommy Muñiz *et al.* Case No. 87-0759 (JP) dealing with bulkhead construction in mangrove wetlands.

### **STATE (PUERTO RICO) COURT APPEARANCES AS EXPERT WITNESS**

2002 – Commonwealth of Puerto Rico Court in Ana Ramos Toro et al. vs. Carlos Rivera Bustamante et al. Case No. KDP2002-0190(904) dealing with construction on the island of Culebra, Puerto Rico.

### **FEDERAL INTERAGENCY COMMITTEES**

Endangered Species Scientific Authority (1978-1979).

Interagency Arctic Research Coordinating Committee (1978-1979).

Interagency Tropical Deforestation Task Force (1978-1979).

Federal Committee on Ecological Reserves (Co-Chairman, 1977-1979).

Tropical Diversity Interagency Committee (1985).

USDA Hispanic Advisory Council (Appointed by Secretary Glickman, July 24, 1997-2000).

US Carbon Cycle Scientific Steering Group (US Climate Change Science Program) April 2007-2010.

### **FEDERAL REPRESENTATION**

1982 – Member of Delegation to the Food and Agriculture Organization Latin American and the Caribbean Forestry Commission in Lima, Peru.

1986 – Member of Delegation to the Food and Agriculture Organization Latin American and the Caribbean Forestry Commission in San José, Costa Rica.

1988 – Member of Delegation to the Food and Agriculture Organization Latin American and the Caribbean Forestry Commission in Kingston, Jamaica.

1991 – Member of Delegation to the Food and Agriculture Organization Latin American and the Caribbean Forestry Commission in Ciudad Guyana, Venezuela.

2002 – Head of United States Delegation to the Food and Agriculture Organization Latin American and the Caribbean Forestry Commission in Buenos Aires, Argentina.

2004 – Head of United States Delegation to the Food and Agriculture Organization Latin American and the Caribbean Forestry Commission in San José, Costa Rica.

2006 – Head of United States Delegation to the Food and Agriculture Organization Latin American and the Caribbean Forestry Commission in Santo Domingo, Dominican Republic.

2008 – Head of United States Delegation to the 25<sup>th</sup> Session of the Latin American and Caribbean Forestry Commission in Quito, Ecuador.

2010 – Head of United States Delegation to the 26<sup>th</sup> Session of the Latin American and Caribbean Forestry Commission in Guatemala City, Guatemala.

2012 – Head of United States Delegation to the 27<sup>th</sup> Session of the Latin American and Caribbean Forestry Commission in Asunción, Paraguay.

## **GRADUATE STUDENT RESEARCH**

Patricio Jerez, Masters thesis, 1972. Energy flow estimates in cotton production in the tropics (Nicaragua).

Mark Brinson, Doctoral dissertation, 1973. The organic matter budget and energy flow of a tropical lowland aquatic ecosystem (earned “excellence for graduate research” award).

Patricia Veno, Masters thesis, 1974. A successional study of north-central Florida plant communities.

Ken Dugger, Masters thesis, 1975. A management model for Paynes Prairie.

Leslie Brinson, Masters thesis, 1977. A comparison of seasonal plankton abundance and primary productivity in five tropical freshwater deltaic embayments.

Caroline S. Rogers, Doctoral dissertation, 1977. The response of a coral reef to sedimentation.

Carol Patterson Zucca, Masters thesis, 1978. The effects of road construction on a mangrove ecosystem.

Robert Twilley, Doctoral dissertation, 1982. Litter dynamics and organic carbon exchange in black mangrove (*Avicennia germinans*) basin forests in a southwest Florida estuary.

Migdalia Álvarez, Masters thesis, 1982. A comparison of the structure and ecology of *Pterocarpus officinalis* (JACQ.) forested wetlands in Puerto Rico.

Carlos David Rodríguez Pedraza, Masters thesis, 1993. Efectos del huracán Hugo sobre plantaciones y bosques secundarios pareados en el Bosque Experimental de Luquillo, Puerto Rico.

Sandra Molina Colón, Doctoral dissertation, 1998. Long-term recovery of a Caribbean dry forest after abandonment of different land uses in Guánica, Puerto Rico.

Migdalia Álvarez Ruiz, Doctoral dissertation, 2002. Effects of anthropogenic disturbance on stand structure and decomposition, and genetic diversity of *Dacryodes excelsa* Vahl (tabonunco) forest in Puerto Rico.

Oscar J. Abelleira Martínez, Masters thesis, 2009. Ecology of novel forests dominated by the African tulip tree (*Spathodea campanulata* Beauv.) in northcentral Puerto Rico.



Jessica Fonseca da Silva, Masters thesis, 2011. Ecophysiology and productivity of *Castilla elastica*, an introduced tree species.

Omar Gutierrez del Arroyo Santiago, Masters thesis, 2014. Soil respiration of a novel subtropical moist forest: from diel to seasonal patterns.

## **POST DOCTORAL ASSOCIATES**

Sandra Brown, 1978-1981. Global Carbon Cycle and Forested Wetlands.

Jorge L. Frangi, 1981-1982. Palm Forest Wetlands.

Elvira Cuevas, 1987-1988. Plantation Ecology.

Juan Torres, 1988-1990. Wood Decomposition.

Whendee Silver, 1991-1993. Global Climate Change and Forested Wetlands.

Tamara Heartsill-Scalley, 2008-2012. Watershed and Riparian

## **AWARDS**

National Institute of Health Training Fellowship, 1965-1968.

University of Florida Graduate School research grant, 1969 (\$6,000)

U.S. Forest Service contract to write a book on the ecology of the Ocala National Forest, 1970 (\$15,000) with S.C. Snedaker.

University of Florida, Division of Sponsored Research grant to study microcosms, 1970 (\$10,000).

U.S. Department of Interior contract to model south Florida ecosystems, 1971 (\$5,000) with S.C. Snedaker, H.T. Odum, and S. Bayley.

Bureau of Sport Fisheries and Wildlife (USDI) contract to study mangrove forests, 1971-1973 (\$67,200) with S.C. Snedaker.

University of Florida, Division of Biological Sciences grant to study estuaries, 1971-1972 (\$1,900).

American Oil Company contract to model the impact of oil drilling on the Ocala National Forest, 1972 (\$2,500).

Florida Department of Natural Resources grant to study aquatic plants, 1972-1975 (\$87,000) with T.W. Lucansky and D.S. Anthony.

H.W. Lochner, Inc. grant to assess environmental impact of Interstate Highway 75 in south Florida, 1972 (\$2,000).

University of Florida, Graduate School grant to buy an analog computer, 1972 (\$5,000) with J. Ewel.

U.S. Department of Interior and State of Florida contract to model south Florida ecosystems, 1972-1974 (\$120,000) with H.T. Odum, S.C. Snedaker, S. Bayley, and L. Peterson.

U.S. Department of Interior, Bureau of Sport Fisheries and Wildlife contract to study mangrove forests and a coastal dry forest in Puerto Rico, 1973-1976 (\$137,350).

Excellence for graduate research award, Institute of Food and Agricultural Sciences, University of Florida, 1973 with Mark Brinson.

National Science Foundation international travel grant to Zaire, Africa, 1974 (\$1,000).

U.S. Environmental Protection Agency grant to study black mangrove forests in south Florida, 1977-1979 (\$78,000).

Conservation Foundation grant to write a review paper on the primary productivity of freshwater wetlands, 1977 (\$1,650) with M. Brinson and S. Brown.

Fulbright-Hayes Fellowship to teach an ecosystem modelling course at the University of La Plata in Argentina, 1978.

U.S. Department of Energy grant to study the role of tropical forest ecosystems in the CO<sub>2</sub> balance of the world, 1978-1982 (\$400,000) with S. Brown and C.A.S. Hall.

U.S. Department of Energy grant to study the role of tropical forest ecosystems in the CO<sub>2</sub> balance of the world, 1983-1987 (\$405,748) with S. Brown.

U.S. Man and the Biosphere consortium grant to study mineral cycling of tropical tree plantations and natural forests in a Biosphere Reserve, 1980-1983 (\$50,000) with Leon H. Liegel.

U.S. Man and the Biosphere consortium grant to conduct a workshop for Caribbean tropical foresters, 1981, 1983, and 1987 (\$29,400).

U.S. Man and the Biosphere consortium grant to administer the U.S. MAB Tropical Forest Directorate, 1980-1984 (\$14,350).

National Science Foundation grant to study the Guánica State Forest, 1981-1983 (\$111,875) with Peter Murphy and Susan Kephart.

U.S. AID grant to lead a forestry research program in Caribbean islands, 1982-1983 (\$240,000).

FAO grant to conduct a workshop for Latin American Foresters, 1983 (\$7,000).

U.S. Department of Energy grant to publish a life zone map of Brazil, 1983 (\$5,000).

U.S. National Oceanographic Administration grant to study carbon dynamics in arid mangrove ecosystems, 1984-1985 (\$10,000) with Gilberto Cintrón and Eddie Laboy.

U.S. Man and the Biosphere Program grant to study the relationship between land use and water quality in Caribbean islands, 1984-1985 (\$27,675) with Ferdinand Quiñones.

U.S. Man and the Biosphere Program grant to organize and publish proceedings of a symposium on Tropical Forestry, 1985-1986 (\$28,000).

National Technical Wetlands Council. Contract to conduct a workshop on Caribbean island wetlands, 1986 (\$7,300).

National Science Foundation grant to develop a long-term ecological research site proposal for the Luquillo Experimental Forest, 1988 (\$150,000) with R. Waide.

U.S. Department of Energy grant on exchanges of carbon between the atmosphere and terrestrial ecosystems as a result of land use changes, 1988-1990 (\$268,250) with S. Brown.

Distinguished Service Award, U.S. Department of Agriculture, 1988.

National Science Foundation Long-Term Ecological Research grant for the Luquillo Experimental Forest I, 1988-1995 (\$2,250,000) with R. Waide. (BIR-88112902).

World Wildlife Fund grant to assess the effects of Hurricane Gilbert on the forests of Jamaica, 1989 (\$6,150) with G. Bauer and A. Gillespie.

Distinguished Scientist Award, USDA Forest Service, 1990.

Workforce Diversity Award, Southern Forest Experimental Station, 1990.

U.S. Man and the Biosphere Program grant to administer the tropical ecosystems directorate, 1990-1991 (\$15,000).

U.S. Department of Energy grant to study terrestrial sources and sinks in the global carbon balance, 1990-1991 (\$99,000) with S. Brown and L. Iverson.

Distinguished Scientist Award for 1992, InterAmerican University, San Juan, Puerto Rico.

National Science Foundation Long-Term intersite decomposition experimental team (LIDET) with M. Harmon and 32 others.

National Science foundation Long-Term Ecological Research grant for the Luquillo Experimental Forest II, 1994-1997 (\$4,080,000) with R. Waide, F.N. Scatena, and J.K. Zimmerman. (DEB-9411973).

Premio Chelonia 1995 (education), Puerto Rico Herpetological Society, San Juan, PR.

National Science Foundation Long-Term Ecological Research grant for the Luquillo Experimental Forest III, March 18, 1999-2001 (\$235,122) with J. Zimmerman and F. Scatena.

National Aeronautics and Space Administration Institutional Research Award for Land Management in The Tropics and its Effects on the Global Environment, 1999, (\$112,000) with E. Helmer.

National Science Foundation Long-Term Ecological Research grant for the Luquillo Experimental Forest III, December 1, 2002-2006 (\$700,000) with N. Brokaw, J. Zimmerman, W. Silver, and W. McDowell.

Premio Amigos de la Planificación, Awarded by the Association of Planners of Puerto Rico, 2003.

Nominated by the Secretary of Agriculture for a Presidential Meritorious Rank Award, December, 2003.

Meritorious Executive Rank Award from President George W. Bush, October, 2004.

Distinguished Scientific Career Award, University of Puerto Rico, Cayey Campus, March, 2004.

Doctor en Letras Humanas Honoris Causa, University of Puerto Rico at Cayey, October 2004.

Environmental Quality Award, US Environmental Protection Agency, April 2005.

National Science Foundation Long-Term Ecological Research grant for the Luquillo Experimental Forest IV, December 1, 2006-2012 (\$4, 920,000) with N. Brokaw.

Distinguished Alumni University of Puerto Rico, College of Natural Sciences (2006).

As an author of the “Millennium Ecosystem Assessment” received the Zayed International Prize for the Environment: Zayed Prize Diploma II<sup>nd</sup> Prize. February 6, 2006 at Dubai United Arab Emirates.

Recognized by the Puerto Rico House of Representatives as Distinguished Puertorrican (2007) [House Resolution 6567 April 23, 2007].

Was among the members of the international science community that contributed to the Intergovernmental Panel on Climate Change (IPCC) Scientific Assessment that in 2007 received with Albert Gore the Nobel Peace Prize. Specifically I contributed to the *Effects on Ecosystems* chapter of the *Climate Change The IPCC Scientific Assessment* published by Cambridge University Press in 1990.

Recognized by the Smithsonian Latino Center to receive the 2008 Smithsonian Latino Center Legacy Award in the Sciences. September 18, 2008.

Defensor de nuestra naturaleza, Awarded by the University of Puerto Rico Alumni Association. October 4, 2008

NEON Inc. Designation of Guánica Forest as a NEON site (2009) with Skip Van Bloem, Josefina Arce, and others.

Youth Ambassador for the Planet, awarded by the Wyland Foundation. April 2010.

National Science Foundation Urban Long-Term Research Areas, grant for San Juan ULTRA ex. 2010-2012 (\$250,000) with José Seguinot, Tischa Muñoz, and others.

Forest Hero Award – United Nations Forests for People Awards. Awarded at the United Nations Forum on Forests. Istanbul, April 10, 2013.

## **PUBLICATIONS** (abstracts not included)

### **1965**

1. Lugo, A.E. Photosynthetic studies on rain forest seedlings, *Cecropia peltata*, *Anthocephalus cadamba*, *Dacryodes excelsa*, and *Sloanea berteriana*. M.S. Thesis, University of Puerto Rico, Río Piedras, 37 p., 11 tables and 25 figures.

### **1969**

2. Lugo, A.E. Water, carbon, and energy budgets for a granite outcrop ecosystem. Ph.D. dissertation, Botany Department, University of North Carolina, Chapel Hill. 232 p.

### **1970**

3. Lugo, A.E. Energy flow in some tropical ecosystems. Soil and Crop Science Society Proceedings 29:245-264.

4. Lugo, A.E. The ecological role of fertilizers in relation to forest productivity and dollar subsidy by man. Proceedings Florida Section Society American Foresters 21-33 p.

5. Lugo, A.E. Ecosystems and Man. Florida Naturalist 43:89-92.

6. Lugo, A.E. (1) The bioclimate of the Oklawaha regional ecosystem (p. 22-23). (2) Vegetation of the Oklawaha regional ecosystem (p. 29-33, with A.F. Carr). (3) Systems analysis: A tool for the analysis of ecosystems (p. 89-101). In R. Dasmann, editor. Environmental Impact of the Cross Florida Barge Canal. Florida Defenders of the Environment, Gainesville. 117 p.

7. Odum, H.T. and A. Lugo. Metabolism of forest floor microcosms. Chapter I-3 in H.T. Odum and R.F. Pigeon, editors. A Tropical Rain Forest. U.S. Atomic Energy Commission. Division of Technical Information, Oak Ridge, TN.

8. Lugo, A. Photosynthetic Studies of four species of rain forest seedlings. Chapter I-7 in H.T. Odum and R.F. Pigeon, editors. A Tropical Rain Forest. U.S. Atomic Energy Commission. Division of Technical Information, Oak Ridge, TN.

9. Odum, H.T., A. Lugo, G. Cintrón, and C.F. Jordan. Metabolism and evapotranspiration of some rain forest plants and soil. Chapter I-8 in H.T. Odum and R.F. Pigeon, editors. A Tropical Rain Forest. U.S. Atomic Energy Commission. Division of Technical Information, Oak Ridge, TN.

## 1971

10. Lugo, A.E. and S.C. Snedaker, editors. Readings on ecological systems, their function and relation to man. M.S.S. Publishing Company, NY. 353 p.
11. Lugo, A.E. and S.C. Snedaker. The ecosystem approach to management. Pages 339-353 *in* A.E. Lugo and S.C. Snedaker, editors. Readings on Ecological Systems, Their Function and Relation to Man. M.S.S. Publishing Company, N.Y. 353 p.
12. Lugo, A.E., S.C. Snedaker, and J.F. Gamble. Models of energy and matter flow in a southern mixed hardwood forest in Florida: Preliminary results. Pages 929-935 *in* D.J. Nelson, editor. Proceedings of the Third National Symposium on Radioecology. National Technical Information Service, Springfield, VA. 1268 p.
13. Lugo, A.E., S.C. Snedaker, S. Bayley, and H.T. Odum. Models for Planning and Research for the South Florida Environmental Study. U.S. Department of the Interior. 157 p.

## 1972

14. Lugo, A.E. Man and his life-support system. *Science Education* 56(4):579-582 (book review).
15. Snedaker, S.C. and A.E. Lugo. The Ecology of the Ocala National Forest. USDA Forest Service, Region 8, U.S. Government Printing Office. 211 p.
16. Gardner, G.M., D.Q. Thompson, A.E. Lugo, and D.J. Pool, editors. An Environmental Assessment of Lake Oklawaha Reservoir. A report of the President's Council on Environmental Quality and the Secretary of the Army. U.S. Department of Agriculture, Department of Interior, and Department of the Army.
17. Peterson, L., A.E. Lugo, S.C. Snedaker, H.T. Odum, M. Brown, S. Ferrell, G. Genova, D. Moore, D. Pellerin, C. Pine, T. Pugh, L. Searl, and C. Wojick. Towards a General Theory of Planning Design. Department of Architecture, University of Florida, Gainesville. 60 p.

## 1973

18. Lugo, A.E. Ecological management of south Florida range ecosystems for maximum environmental quality. Pages 57-68 *in* Range Resources of the Southeastern United States. American Society of Agronomists and Crop Science Society of America, Madison, WI.
19. Lugo, A.E. Optimizing the management of the Kissimmee River basin marshes for maximizing value to man. *In* A. Marshall, editor. Report to the Governor and Cabinet of the State of Florida.
20. Lugo, A.E., E. Farnworth, D. Pool, P. Jerez, and G. Kaufman. The impact of the leaf cutter ant (*Atta colombica*) on the energy flow of a tropical wet forest. *Ecology* 54(6):1292-1301.

21. Lugo, A.E., T. Ramsey, and J. Hoy. Chlorophyll studies in a southern hardwood forest in north central Florida. *Florida Scientist* 36(2-4):146-153.

#### 1974

22. Lugo, A.E. Conceptos generales de la ecología con atención especial a los manglares. Departamento de Recursos Naturales, San Juan, PR. 6 p. and 7 figures.

23. Lugo, A.E. Some problems in Puerto Rico with the management of natural resources. *C.I.A.A.* 26(3):30-32.

24. Lugo, A.E. (Team Leader), M. Brinson, M. Cerame Vivas, C. Gist, R. Inger, C. Jordan, H. Lieth, W. Milstead, P. Murphy, N. Smythe, and S. Snedaker. Tropical ecosystem structure and function. Pages 67-111 *in* E.G. Farnworth and F.B. Golley, editors. *Fragile Ecosystems: Evaluation of Research and Applications in the Neotropics*. Springer-Verlag, NY. (Translated into Spanish by J.R. Pérez Lias, 1977. Fondo de Cultura Económica, Méjico 12, D.F.).

25. Lugo, A.E. and S.C. Snedaker. The ecology of mangroves. *Annual Review Ecology and Systematics* 5:39-64. Reprinted in *Benchmark papers in ecology, Volume 10, Tropical Ecology*. C.F. Jordan, editor, 1981. Academic Press, N.Y.

26. Carrera, C. and A.E. Lugo. *Areas naturales críticas de Puerto Rico*. Vol. 1 y Vol. 11. Departamento de Recursos Naturales, San Juan, PR.

27. Van Raay, H.G.T. and A.E. Lugo, editors. *Man and Environment LTD*. Rotterdam University Press, The Netherlands. 332 p.

28. Lugo, A.E. The ecological view of the steady state society. Chapter 16 *in* H.G.T. Van Raay and A.E. Lugo, editors. *Man and Environment LTD*. Rotterdam University Press, The Netherlands. 332 p. (Translated into Spanish in *Ambiente* 1(2):6-25).

29. Van Raay, H.G.T. and A.E. Lugo. Environmental realities: knowledge for action. Chapter 17 *in* H.G.T. Van Raay and A.E. Lugo, editors. *Man and Environment LTD*. Rotterdam University Press, The Netherlands. 332 p.

30. Brinson, M.M., L.G. Brinson, and A.E. Lugo. The gradient of salinity, its seasonal movement, and ecological implications for the Lake Izabal-Rio dulce ecosystem, Guatemala. *Bulletin Marine Science* 24(3):335-344.

31. McCormick, J.F., A.E. Lugo, and B. Scharitz. Experimental analysis of ecosystems. Chapter 9 *in* B. Strain and W.D. Billings, editors. *Vegetation and Environment (Part 6 of Handbook of Vegetation Science)*, Dr. W. Junk b.v. The Hague. 193 p.

#### 1975

32. Lugo, A.E. ¿Vale la pena salvar los manglares? *Avance* 3(130):26-30.

33. Lugo, A.E. and División de Educación, editors. *Primer simposio de recursos naturales*. Departamento de Recursos Naturales, San Juan, PR. 116 p.

34. Lugo, A.E. Manglares de agua dulce: ¿ley o mito? Chapter 1 *in* A.E. Lugo and División de Educación, editors. Primer simposio de recursos naturales. Departamento de Recursos Naturales, San Juan, P.R. 116 p.
35. Lugo, A.E. and S.C. Snedaker. Properties of a mangrove forest in south Florida. Pages 170-212 *in* G. Walsh, S. Snedaker, and H. Teas, editors. Proceedings of International Symposium on Biology and Management of Mangroves. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. 846 p.
36. Pool, D.J., A.E. Lugo, and S.C. Snedaker. Litter production in mangrove forests of south Florida and Puerto Rico. Pages 213-237 *in* G. Walsh, S. Snedaker, and H. Teas, editors. Proceedings of International Symposium on Biology and Management of Mangroves. Institute of Food and Agricultural Science, University of Florida, Gainesville, FL. 846 p.
37. Lugo, A.E. and G. Cintrón. The mangrove forests of Puerto Rico and their management. Pages 825-846 *in* G. Walsh, S. Snedaker, and H. Teas, editors. Proceedings of International Symposium on Biology and Management of Mangroves. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. 846 p.
38. Lugo, A.E., G. Evink, M. Brinson, A. Broce, and S.C. Snedaker. Diurnal rates of photosynthesis, respiration, and transpiration in mangrove forests of south Florida. Chapter 22 *in* F.B. Golley and E. Medina, editors. Tropical Ecological Systems. Springer-Verlag, N.Y. 398 p.
39. Ewel, K.C., J.F. Gamble, and A.E. Lugo. Aspects of mineral-nutrient cycling in a southern mixed hardwood forest in north central Florida. Pages 700-714 *in* F.G. Howell, J.B. Gentry, and M.H. Smith, editors. Mineral Cycling in Southeastern Ecosystems. ERDA Symposium Series (CONF-740513). 898 p.

## 1976

40. Lugo, A.E. La relación entre la contaminación del agua y las invasiones de plantas acuáticas. Pages 157-165 *in* E. Cardona, editor. Segundo simposio del Departamento de Recursos Naturales, San Juan, P.R. 280 p.
41. Cintrón, B., J. González-Liboy, and A.E. Lugo. Floristic composition of the Guánica forest with respect to litter production. Pages 191-216 *in* E. Cardona, editor. Segundo simposio del Departamento de Recursos Naturales, San Juan, P.R.
42. Lugo, A.E. Mangrove wetlands. Pages 190-240 *in* C.H. Wharton *et al.*, editors. Forested Wetlands of Florida-Their Management and Use. Center for wetlands, University of Florida. 421 p.
43. Lugo, A.E., M. Sell, and S.C. Snedaker. Mangrove ecosystem analysis. Pages 113-145 *in* B.C. Patten, editor. Systems Analysis and Simulation Ecology. Vol. 4. Academic Press, N.Y. 593 p. (Also published in 1999. Pages 345-365 *in* A. Yáñez Arancibia and A.L. Lara Domínguez, editors. Mangrove Ecosystems in Tropical America. Instituto de Ecología. A.C. Xalapa, México; IUCN/Orama, Costa Rica; NOAA-NMFS, Silver Springs, MD. 380 p.).



44. Lugo, A.E. Aims and methods of vegetation ecology. *Plant Science Bulletin* 22(2):21 (book review).

### 1977

45. Lugo, A.E. Some observations on energetic developments in agricultural production. Pages 17-28 *in* L.F. Seatz, editor. *Ecology and Agricultural Production*. The University of Tennessee, Knoxville. 247 p.

46. Lugo, A.E. and C. Patterson Zucca. The impact of low temperature stress on mangrove structure and growth. *Tropical Ecology* 18(2):149-161.

47. Pool, D.J., S.C. Snedaker, and A.E. Lugo. Structure of mangrove forests in Florida, Puerto Rico, Mexico, and Costa Rica. *Biotropica* 9(3):195-212. Published in Spanish *in* *Memorias del II simposio latinoamericano sobre oceanografía biológica* 1:47-77. Universidad de Oriente, Cumana, Venezuela. 261 p.

### 1978

48. Cintrón, G., A.E. Lugo, D.J. Pool, and G. Morris. Mangroves of arid environments in Puerto Rico and adjacent islands. *Biotropica* 10(2):110-121. Published in Spanish *in* *Memorias del II simposio latinoamericano sobre oceanografía biológica* 2:137-150. Universidad de Oriente, Cumana, Venezuela. 261 p.

49. Lugo, A.E. Harvesting: ecological and energy considerations. *Frontiers* 43(1):34-37.

50. Lugo, A.E. Los arrecifes de coral en Puerto Rico. Departamento de Recursos Naturales, Programa de la Zona Costanera, Estado Libre Asociado de Puerto Rico. 66 p.

51. Lugo, A.E. Stress and ecosystems. Pages 62-101 *in* J.H. Thorp and J.W. Gibbons, editors. *Energy and Environmental Stress in Aquatic Systems*. U.S. Department of Energy Symposium Series (CONF-77114). National Technical Information Services, Springfield, VA. 911p.

52. Lugo, A.E., J.F. Gamble, and K.C. Ewel. Organic matter budget in a mixed-hardwood forest in north-central Florida. Pages 790-800 *in* D.C. Adriano and I.L. Brisbin, Jr., editors. *Environmental Chemistry and Cycling Processes*. U.S. Department of Energy Symposium Series 45 (CONF-760429). 911 p.

53. Carrera, C. and A.E. Lugo. Los sistemas de mangles de Puerto Rico. Programa de la Zona Costanera, Departamento de Recursos Naturales, Estado Libre Asociado de Puerto Rico. 102 p., 3 apéndices, 32 figuras, 17 tablas y 179 referencias.

54. Lugo, A.E., J.A. González Liboy, B. Cintrón, and K. Dugger. Structure, productivity, and transpiration of a subtropical dry forest in Puerto Rico. *Biotropica* 10(4):278-291.

55. Lugo, A.E., G.R. Ultsch, M.M. Brinson, and E. Kane. Metabolism and biomass of water hyacinth-dominated ponds and canals in the vicinity of Gainesville, Florida. *Geo-Eco-Trop* 2(4):415-441.

## 1979

56. Lugo, A.E., S. Jones, K. Dugger, and T.L. Morris. Ecological approaches to the control of aquatic weeds. *Geo-Eco-Trop* 3(3):193-213.
57. Brown, S., M.M. Brinson, and A.E. Lugo. Structure and function of riparian wetlands. Pages 17-31 *in* R.R. Johnson and J.F. McCormick, Technical Coordinators. *Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems*. USDA Forest Service GTR-WO-12, Washington, D.C. 410 p.
58. Lugo, A.E. and M.M. Brinson. Calculations of the value of salt water wetlands. Pages 120-130 *in* P.E. Greeson, J.R. Clark, and J.E. Clark, editors. *Wetland Functions and Values: The State of Our Understanding*. American Water Resources Association. Minneapolis, MN. 674 p.
59. Lugo, A.E. Constraints on human ecosystems. Pages 51-54 *in* W.S. Beller, editor. *Transactions at the Conference on Environmental Management and Economic Growth in the Smaller Caribbean Islands*. U.S. Department of State Publication 8996. International Organization and Conference Series 143. 187 p.

## 1980

60. Lugo, A.E. Mangrove ecosystems: Successional or steady state? *Biotropica* 12 (Supplement, 2):65-72.
61. Lugo, A.E., F. Quiñones Márquez, and P.L. Weaver. La erosión y sedimentación en Puerto Rico. *Caribbean Journal Science* 16(1-4):143-165.
62. Lugo, A.E. and S. Brown. Tropical forest ecosystems: sources or sinks of atmospheric carbon? *Unasylva* 32(129):8-13.
63. Lugo, A.E. La ecología, los sistemas tropicales y el hombre. *Boletín de la Sociedad Venezolana de Ciencias Naturales* 34(137):7-41.
64. Cintrón, G., C. Goenaga, and A.E. Lugo. Observaciones sobre el desarrollo del manglar en costas áridas. Pages 18-32 *in* *Estudio científico e impacto humano en el ecosistema de manglares*. Oficina Regional de Ciencia y Tecnología para América Latina y el Caribe. UNESCO. Montevideo, Uruguay ISBN 92-3-001810-4. 405 p.
65. Lugo, A.E., S. Brown, and C. Hall. The role of tropical forests in the carbon balance of the world. Pages 261-276 *in* L.E. Schmitt, editor. *Proceedings of the Carbon Dioxide and Climate Research Program Conference*. U.S. Department of Energy CONF-8004110 UC-11. 287 p.
66. Brown, S. and A.E. Lugo, and B. Liegel, editors. *The Role of Tropical Forests on the World Carbon Cycle*. CONF-800350 UC-11. U.S. Department of Energy. 156 p. Available from: National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

67. Lugo, A.E. and S. Brown. Ecological issues associated with the interpretation of atmospheric CO<sub>2</sub> data. Pages 30-43 *in* S. Brown, A.E. Lugo, and B. Liegel, editors. *The Role of Tropical Forests on the World Carbon Cycle*. CONF-800350 UC-11. U.S. Department of Energy. 156 p.
68. Brown, S. and A.E. Lugo. Preliminary estimate of the storage of organic carbon on tropical forests ecosystems. Pages 65-117 *in* S. Brown, A.E. Lugo, and B. Liegel, editors. *The Role of Tropical Forests on the World Carbon Cycle*. CONF-800350 UC-11. U.S. Department of Energy. 156 p.

## 1981

69. Brown, S. and A.E. Lugo. Management and Status of U.S. Commercial Marine Fisheries. Council on Environmental Quality, Washington, D.C. 45 p.
70. Lugo, A.E. and S. Brown. Ecological monitoring in the Luquillo Experimental Forest Biosphere Reserve. *Ambio* 10(23):102-107.
71. Brown, S. and A.E. Lugo. The role of terrestrial biota in the global CO<sub>2</sub> cycle. American Chemical Society Division of Petroleum Inc. Preprints 26(4):1019-1025.
72. Lugo, A.E. Mangrove issue debates in courtrooms. Pages 48-60 *in* R.C. Carey, P.S. Markovits, and J.B. Kirkwood, editors. *Proceedings U.S. Fish and Wildlife Service Workshop on Coastal Ecosystems of the Southeastern United States*. U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C. FWS/OBS-80/59. 257 p.
73. Lugo, A.E. The inland mangroves of Inagua. *Journal of Natural History* 15(5):845-852.
74. Lugo, A.E. and S. Brown. Potential storage and production of organic matter in Puerto Rican forests. Pages 49-68 *in* Seventh Symposium of the Puerto Rico Department of Natural Resources, San Juan. Also published as: Tropical forests as a Puerto Rican energy source. Chapter V *in* Symposium Papers Fuels and Feedstock from Tropical Biomass. University of Puerto Rico's Center for Energy and Environment Research. CEER-B-104. San Juan, P.R.
75. Brinson, M.M., A.E. Lugo, and S. Brown. Primary productivity, decomposition and consumer activity in freshwater wetlands. *Annual Review of Ecology and Systematics* 12:123-161.
76. Lugo, A.E. and J.F. McCormick. Influence of environmental stressors upon energy flow in a natural terrestrial ecosystem. Pages 79-102 *in* G.W. Barrett and R. Rosenberg, editors. *Stress Effects on Natural Ecosystems*. John Wiley and Sons Limited, Sussex, England. 305 p.
77. Lugo, A.E., G. Cintrón, and C. Goenaga. Mangrove ecosystems under stress. Pages 129-153 *in* G.W. Barret and R. Rosenberg, editors. *Stress Effects on Natural Ecosystems*. John Wiley and Sons Limited, Sussex, England. 305 p. Published in Spanish (1980) *in*: Estudio científico e impacto humano en el ecosistema de manglares. Oficina Regional de Ciencia y Tecnología para América Latina y el Caribe. UNESCO. Montevideo ISBN 92-3-001810-4. 405 p.
78. Lugo, A.E., R. Schmidt, and S. Brown. Tropical forests in the Caribbean. *Ambio* 10(6):318-324.

79. Lugo, A.E., R. Schmidt, and S. Brown. Preliminary estimates of storage and production of stemwood and organic matter in tropical tree plantations. Pages 8-17 *in* J.L. Whitmore, editor. Wood Production in the Neotropics via Plantations. IUFRO/MAB/Forest Service Symposium. Washington, D.C. 409 p.
80. Lugo, A.E. and S. Brown. Tropical lands: popular misconceptions. *Mazingira* 5(2):10-19. (In Spanish and French also).
81. Lugo, A.E. and S. Brown. Tropical ecosystems and the human factor. *Unasyuva* 33(133):45-49.
82. Brown, S., G.Z. Gertner, A.E. Lugo, and J.M. Novak. Carbon dioxide dynamics of the biosphere. Pages 19-28 *in* W.J. Mitsch, R.W. Bosserman, and J.M. Klopatek, editors. Energy and Ecological Modelling. Elsevier Scientific Publishing Company. Amsterdam, The Netherlands. 839 p.
- 1982**
83. Brown, S. and A.E. Lugo. The storage and production of organic matter in tropical forests and their role in the global carbon cycle. *Biotropica* 14(3):161-187.
84. Lugo, A.E. and S. Brown. Conversion of tropical moist forests: a critique. *Interciencia* 7(2):89-93.
85. Lugo, A.E. and S. Brown. Rebuttal to the “response to the Lugo-Brown critique by Myers.” *Interciencia* 7(6):360.
86. Lugo, A.E. and S. Brown. Deforestation in the Brazilian Amazon. *Interciencia* 7(6):361-362.
87. Brown, S. and A.E. Lugo. A comparison of structural and functional characteristics of saltwater and freshwater forested wetlands. Pages 109-130 *in* B. Gopal, R.E. Turner, R.G. Wetzel, and D.F. Whigham, editors. Wetlands: Ecology and Management. National Institute of Ecology at Jaipur, and International Scientific Publications. Jaipur, India.
88. Brown, S., A.E. Lugo, and G. Gertner. Ecological interpretation of atmospheric CO<sub>2</sub> concentration at Mauna Loa. Pages 1-8 *in* S. Brown, editor. Global Dynamics of Biospheric Carbon. CONF-8108131-UC-11. U.S. Department of Energy. 194 p.
89. Lugo, A.E. and S. Brown. The role of tropical forests in the global carbon cycle: state of understanding. Pages 115-130 *in* S. Brown, editor. Global Dynamics of Biospheric Carbon. CONF-8108131-UC-11. U.S. Department of Energy. 194 p.
90. Lugo, A.E. and S. Brown, editors. Forestry in the Caribbean. U.S. Man and the Biosphere Program. U.S. MAB report No. 7. 137 p.

91. Savage, J.M., C.R. Goldman, D.P. Janos, A.E. Lugo, P.H. Raven, P.A. Sánchez, and H. Garrison. *Ecological Aspects of Development in the Humid Tropics*. National Academy Press, Washington, D.C. 297 p.
92. Lugo, A.E. and G.L. Morris. *Los sistemas ecológicos y la humanidad*. Monografía Num. 23, Serie de biología. Secretaría General de la Organización de los Estados Americanos Programa Regional de Desarrollo Científico y Tecnológico. 82 p. Also published in 1981 by CIDIAT, Merida, Venezuela. 112 p.
93. Lugo, A.E. *La naturaleza y límites del ecosistema puertorriqueño*. Boletín de la Academia de Artes y Ciencias de Puerto Rico 19(1-2):1-33.
94. Lugo, A.E. Some aspects of the interaction among nutrient cycling, hydrology, and soils in wetlands. *Water International* 7(4):178-184.
- 1983**
95. Brown, S., A.E. Lugo, S. Silander, and L. Liegel. *Research History and Opportunities in the Luquillo Experimental Forest*. USDA Forest Service, Southern Forest Experiment Station, General Technical Report SO-44. New Orleans, LA. 128 p.
96. Lugo, A.E., M. Applefield, D.J. Pool, and R.B. McDonald. *The impact of hurricane David on the forests of Dominica*. *Canadian Journal of forest research* 13(2):201-211.
97. Lugo, A.E. and C. Patterson Zucca. *Comparison of litterfall and turnover in two Florida ecosystems*. *Florida Scientist* 46(2):101-110.
98. Lugo, A.E. *Influence of green plants on the world carbon budget*. Pages 391-398 in T.N. Veziroglu, editor. *Alternative energy sources V. Part E: Nuclear/Conservation/Environment*. Elsevier Science Publishers B.V. Amsterdam, The Netherlands. Reprinted in 1990 in T.N. Veziroglu, editor. *Environmental Problems and Solutions*. Hemisphere Publishing Corporation, New York. Pages 79-86.
99. Lugo, A.E. and F. Quiñones Márquez. *Organic carbon export from intensively used watersheds in Puerto Rico*. Pages 237-242 in E.T. Degens, editor. *Transport of Carbon and Minerals in Major World Rivers. Part 2*. SCOPE/UNEP Sonderband, Heft 5S Hamburg, Germany.
100. Lugo, A.E. *Organic Carbon export by riverine waters of Spain*. Pages 267-279 in E.T. Degens, editor. *Transport of Carbon and Minerals in Major World Rivers. Part 2*. SCOPE/UNEP Sonderband, Heft 5S Hamburg, Germany.
101. Lugo, A.E., editor. *Los bosques de Puerto Rico*. Servicio Forestal del Departamento de Agricultura de los Estados Unidos de América y el Departamento de Recursos Naturales, Estado Libre Asociado de Puerto Rico, Río Piedras. 321 p.
102. Lugo, A.E. *Forest research in Puerto Rico*. Pages 6-34 in A.E. Lugo, editor. *Los bosques de Puerto Rico*. Servicio Forestal del Departamento de Agricultura de los Estados Unidos de América y el Departamento de Recursos Naturales, Estado Libre Asociado de Puerto Rico, Río Piedras.

103. Lugo, A.E. Coastal forests of Puerto Rico. Pages 177-203 in A.E. Lugo, editor. Los bosques de Puerto Rico. Servicio Forestal del Departamento de Agricultura de los Estados Unidos de América y el Departamento de Recursos Naturales, Estado Libre Asociado de Puerto Rico, Río Piedras.
104. Lugo, A.E. Definición, clasificación, funcionamiento y valor ecológico de tierras pantanosas. Pages 226-232 in A.E. Lugo, editor. Los bosques de Puerto Rico. Servicio Forestal del Departamento de Agricultura de los Estados Unidos de América y el Departamento de Recursos Naturales, Estado Libre Asociado de Puerto Rico, Río Piedras.

## 1984

105. Lugo, A.E. and S. Brown. Research and training needs in the tropics: the need for re-evaluation. Pages 57-70 in F. di Castri, F.W.G. Baker, and M. Hadley, editors. Ecology in Practice, Vol. 1. Tycooly International Publishing Limited, Dublin UNESCO, Paris. 524 p.
106. Brown, S. and A.E. Lugo. Biomass of tropical forests: a new estimate based on forest volumes. Science 223:1290-1293.
107. Lugo, A.E., M. Patiño Ruiz, O. Mayoral Gómez, D. Pizarro Camacho, J. Gómez Cebrián, F. Juárez Cardona, J. Brun Rodrigo, A. Maluquer Amorós, M. Laín Alonso, I. Abd-Allah, and J Caluo. Models of energy flow for rural planning in the Ebro river watershed. Options Mediterraneennes Serie Etudes. Institute Agronomique Mediterranee de Zaragoza 83-11. 71 p. (Article in English and Spanish).
108. Brown, S., A. Glubczynski, and A.E. Lugo. Effects of land use and climate on the organic carbon content of tropical forest soils in Puerto Rico. Pages 204-209 in New Forests for a Changing World. Proceedings of the Convention of the Society of American Foresters, Portland, Oregon. Society of American Foresters, Washington, D.C
109. Figueroa, J.C., L. Totti, A.E. Lugo, and R.O. Woodbury. Structure and composition of moist coastal forests in Dorado, Puerto Rico. USDA Forest Service, Southern Forest Experiment Station Research Paper SO-202. New Orleans, LA. 11 p.
110. Lugo, A.E. and J. Figueroa. *Anthocephalus chinensis*. Silvics of forest trees of the American tropics. USDA Forest Service, Southern Forest Experiment Station SO-ITF-SM-1. New Orleans, LA. 6 p. Also published in: J.K. Francis and C.A. Lowe, editors; S. Trabanino, translator 2000. Bioecología de árboles nativos y exóticos de Puerto Rico y las Indias Occidentales, p 43-48. USDA Forest Service, International Institute of Tropical Forestry, General Technical Report IITF-15. Río Piedras, PR. 582 p.
111. Lugo, A.E., editor. Case Studies on Forestry Activities in the Eastern Caribbean and Jamaica. Institute of Tropical Forestry, Río Piedras, Puerto Rico. 143 p.
112. Lugo, A.E. A review of early literature on forested wetlands in the United States. Pages 7-15 in K.C. Ewel and H.T. Odum, editors. Cypress Swamps. University Presses of Florida. Gainesville, Florida.

113. Lugo, A.E., J.K. Nessel, and T.M. Hanlon. Root distribution in a north-central Florida Cypress strand. Pages 279-285 in K.C. Ewel and H.T. Odum, editors. Cypress Swamps. University Presses of Florida. Gainesville, Florida.
114. Lugo, A.E. and S.L. Brown. The Oklawaha river forested wetlands and their response to chronic flooding. Pages 365-373 in K.C. Ewel and H.T. Odum, editors. Cypress Swamps. University Presses of Florida. Gainesville, Florida.
115. Lugo, A.E. and S. Brown. Conserving tropical rainforest ecosystems: assessing coverage and assigning priorities. Pages 37-43 in Conservation, Science and Society. UNESCO-UNEP Paris, France.

## 1985

116. Lugo, A.E. Principles of sound watershed management. Pages 11-16 in A.E. Lugo and S. Brown, editors. Watershed Management in the Caribbean. USDA Forest Service Institute of Tropical Forestry, Río Piedras, P.R.
117. Lugo, A.E. and S. Brown, editors. Watershed Management in the Caribbean. USDA Forest Service Institute of Tropical Forestry, Río Piedras, P.R. 157 p.
118. Brown, S. and A.E. Lugo. Deforestation of tropical rain forests. Pages 252-253 in D.D. Churas. Environmental Science: a Framework for Decision Making. Benjamin/Cummings, Menlo Park, California.
119. Lugo, A.E. Countering the effects of tropical deforestation with modern technology. Pages 289-295 in R.R. Henke, K.W. Hughes, M.P. Constantin, and A. Hollaender, editors. Tissue Culture in Forestry and Agriculture. Plenum Publishing Corporation, N.Y.
120. Lugo, A.E. An introduction to the forests of Puerto Rico. Slide show narrative with 80 slides and 20 p of text including 39 references.
121. Díaz, P.L., A.E. Lugo, and W.H. McDowell. General hydrology and water quality of Layou river in Dominica, Buccament river in St. Vincent, and Troumassee river in St. Lucia, British West Indies. Pages 46-49 in F. Quiñones and A.V. Sánchez, editors. Symposium on Tropical Hydrology and 2nd Caribbean Islands Water Resources Congress. American Water Resources Association, Bethesda, Maryland. 176 p.
122. Lugo, A.E. and J. Figueroa. Performance of *Anthocephalus chinensis* in Puerto Rico Canadian Journal of Forest Research 15:577-585.
123. Lugo, A.E. Mangroves and pollution. Pages 171-175 in O. Jin-Eong and G. Wooi-Khoon, editors. Productivity of the Mangrove Ecosystem: Management Implications. School of Biological Sciences, University Sains Malaysia, Penang, Malaysia.
124. Jiménez, J.A., A.E. Lugo, and G. Cintrón. Tree mortality in mangrove forests. Biotropica 17(3):177-185.

125. Frangi, J.L. and A.E. Lugo. Ecosystem dynamics of a subtropical floodplain forest. *Ecological Monographs* 55(3):351-369.
126. Cintrón, G., A.E. Lugo, and R. Martínez. Structural and functional properties of mangrove forests. Pages 53-66 *in* W.G. D'Arcy and M.D. Correa A., editors. *The Botany and Natural History of Panama/ La botánica e historia natural de Panamá*. Monographs in Systematic Botany 10. Missouri Botanical Garden, St. Louis, Missouri, USA.
127. Jiménez, J.A. and A.E. Lugo. *Avicennia germinans*. Silvics of forest trees of the American tropics. USDA Forest Service, Southern Forest Experiment Station SO-ITF-SM-4. New Orleans, LA. 6 p. Also published *in*: J.K. Francis and C.A. Lowe, editors; S. Trabanino, translator 2000. *Bioecología de árboles nativos y exóticos de Puerto Rico y las Indias Occidentales*, p 59-64. USDA Forest Service, International Institute of Tropical Forestry, General Technical Report IITF-15. Río Piedras, PR. 582 p.
128. Lugo, A.E. The mangrove ecosystem: research methods. *The Quarterly Review of Biology* 60(4):532-533 (book review).
129. Díaz, P.L., A.E. Lugo, and W.H. McDowell. General hydrology and water quality of three rivers in the eastern Caribbean. Pages 11-34 *in* A.E. Lugo, editor. *Development, Forestry, and Environmental Quality in the Eastern Caribbean*. Institute of Tropical Forestry, Río Piedras, P.R.
130. Liegel, L.H. and A.E. Lugo. Damage and management of hurricane-prone forests in the Caribbean. Pages 103-122 *in* A.E. Lugo, editor. *Development, Forestry, and Environmental Quality in the Eastern Caribbean*. Institute of Tropical Forestry, Río Piedras, P.R.
131. Lugo, A.E., editor. *Development, forestry, and environmental quality in the eastern Caribbean*. Institute of Tropical Forestry, Río Piedras, P.R. 165 p.
- 1986**
132. Lugo, A.E. and S. Brown. Brazil's Amazon forest and the global carbon problem. *Interciencia* 11(2):57-58.
133. Murphy, P.G. and A.E. Lugo. Ecology of tropical dry forest. *Annual Review of Ecology and Systematics* 17:67-88.
134. Lugo, A.E. Water and the ecosystems of the Luquillo Experimental Forest. USDA Forest Service, Southern Forest Experiment Station General Technical Report SO-63, New Orleans, LA. 17 p.
135. Brown, S., A.E. Lugo, and J. Chapman. Biomass of tropical tree plantations and its implications for the global carbon budget. *Canadian Journal of Forest Research* 16(2):390-394.
136. Twilley, R., A.E. Lugo, and C. Patterson Zucca. Litter production and turnover in basin mangrove forests in southwest Florida. *Ecology* 67(3):670-683.
137. Lugo, A.E., M.J. Sánchez, and S. Brown. Land use and organic carbon content of some subtropical soils. *Plant and Soil* 96:185-196.



138. Lugo, A.E. and P.G. Murphy. Nutrient dynamics of a Puerto Rican subtropical dry forest. *Journal of Tropical Ecology* 2:55-76.
139. Murphy, P.G. and A.E. Lugo. Structure and biomass of a subtropical dry forest in Puerto Rico. *Biotropica* 18(2):89-96.
140. Lugo, A.E. Mangrove understory: an expensive luxury? *Journal of Tropical Ecology* 2:287-288.
141. Lugo, A.E. and S. Brown. Steady state ecosystems and the global carbon cycle. *Vegetatio* 68(2):83-90.
142. Lugo, A.E., M. Brinson, and S. Brown. Development of an integrated ecological research program for the Parana River in Argentina. *Revista de la Asociación de Ciencias Naturales del Litoral* 17(2):137-155.

### **1987**

143. Lugo, A.E. The botany of mangroves. *Ecology* 68(1):238-239 (book review).
144. Lugo, A.E. Wood utilization needs in the tropics. Pages 57-66 *in* Forest Products Research Conference 1986: Matching Utilization Research with the Needs in Timber Managers. USDA Forest Service Forest Products Laboratory. Madison, Wisconsin. 105 p.
145. Lugo, A.E. and L.B. Ford, editors. Forest Recreation in the Caribbean Islands. Institute of Tropical Forestry and Caribbean National Forest. USDA Forest Service, Río Piedras, P.R. 95 p.
146. Lugo, A.E. La selva nublada del Rancho Grande, Parque Nacional "Henry Pittier." *Journal of Tropical Ecology* 3(3):281-283 (book review).
147. Lugo, A.E. and C.T. Rivera Batlle. Leaf production, growth rate, and age of the palm *Prestoea montana* in the Luquillo Experimental Forest, Puerto Rico. *Journal of Tropical Ecology* 3:151-161.
148. Weaver, P.L., R.A. Birdsey, and A.E. Lugo. Soil organic matter in secondary forests of Puerto Rico. *Biotropica* 19(1):17-23.
149. Lugo, A.E. Tropical forest management. *Journal of Forestry* 85(10):44-47 (book review).
150. Lugo, A.E. Budapest symposium examines economic, social context of environmental restoration. *Restoration and Management Notes* 5(2):76, 82.
151. Lugo, A.E. Edad de árboles de Puerto Rico. *Acta Científica* 1(1):36-41.
152. Lugo, A.E., J.J. Ewel, S.B. Hecht, P.G. Murphy, C. Padoch, M.C. Schminck, and D. Stone, editors. People and the Tropical Forest. U.S. Man and the Biosphere Program, Washington, D.C. (available from National Technical Information Service, Springfield, VA). 75 p.

153. Lugo, A.E. and P.L. Díaz. General hydrology and water quality in eastern Caribbean islands. Pages 26-27 in A.E. Lugo, J.J. Ewel, S.B. Hecht, P.G. Murphy, C. Padoch, M.C. Schmink, and D. Stone, editors. *People and the Tropical Forest*. U.S. Man and the Biosphere Program, Washington, D.C. (available from National Technical Information Service, Springfield, VA).

154. Lugo, A.E. and L.H. Liegel. Comparison of plantations and natural forests in Puerto Rico. Pages 41-44 in A.E. Lugo, J.J. Ewel, S. S.B. Hecht, P.G. Murphy, C. Padoch, M.C. Schmink, and D. Stone, editors. *People and the Tropical Forest*. U.S. Man and the Biosphere Program, Washington, D.C. (available from National Technical Information Service, Springfield, VA).

155. Lugo, A.E. Avances y prioridades de investigación en manglares. Pages 59-76. Simposio sobre ecosistemas da costa sul e sudeste Brasileira. Volume 3. Publicação ACIESP No. 54-111. Academia de Ciencias do Estado de Sao Paulo. Sao Paulo, Brazil.

156. Lugo, A.E. Are island ecosystems different from continental ecosystems? *Acta Científica* 1(2-3):48-54.

## **1988**

157. Lugo, A.E. Estimating reductions in the diversity of tropical forest species. Pages 58-70 in E.O. Wilson and F.M. Peter, editors. *Biodiversity*. National Academy Press, Washington, D.C.

158. Lugo, A.E., S. Brown, and J. Chapman. An analytical review of production rates and stemwood biomass of tropical forest plantations. *Forest Ecology and Management* 23(2-3):179-200.

159. Lugo, A.E., S. Brown, and M.M. Brinson. Forested wetlands in freshwater and saltwater. *Limnology and Oceanography* 33(4):894-909.

160. Lugo, A.E. Forests of Jamaica. *Interciencia* 13(5):272-273 (book review).

161. Lugo, A.E. The mangroves of Puerto Rico are in trouble. *Bulletin of the American Littoral Society* 17(3):11-12. Also *Acta Científica* 2(2-3):124.

162. Lugo, A.E. The future of the forest. Ecosystem rehabilitation in the tropics. *Environment* 30(7):16-20 and 41-45.

163. Lugo, A.E., J.R. Clark, and R.D. Child, editors. *Ecological Development in the Humid Tropics: Guidelines for Planners*. Winrock International, Institute for Agricultural Development, Morrilton, AR. 362 p.

164. Lugo, A.E. Tropical forest management with emphasis on wood production. Pages 169-189 in A.E. Lugo, J.R. Clark, and R.D. Child, editors. *Ecological Development in the Humid Tropics: Guidelines for Planners*. Winrock International, Institute for Agricultural Development. Morrilton, AR. 362 p.

165. Lugo, A.E. Diversity of Tropical Species: Questions that Elude Answers. *Biology International* (special issue 19). 37 p.

166. Lugo, A.E. Ecological aspects of catastrophes in Caribbean islands. *Acta Científica* 2(1):24-31.
167. Lugo, A.E. Uso de las zonas boscosas de America Latina Tropical. *Interciencia* 13(6):288-295. Also published as: (1) Tropical forest uses. Pages 117-132 in T.E. Downing, S.B. Hetch, H.A. Pearson, and C. García Downing, editors. *Development or Destruction*. Westview Press, Boulder CO. 405 p. 1992. (2) Usos de las zonas boscosas de la América Latina Tropical. Pages 548-572 in G.C. Gallopin, I.A. Gómez, and A.A. Pérez and M. Winograd, compilers. *El futuro ecológico de un continente. Una visión prospectiva de la América Latina*. Editorial de la Universidad de las Naciones Unidas Tokio. 1995.
168. Lugo, A.E. and S. Brown. The wetlands of Caribbean islands. *Acta Científica* 2(2-3):48-61.
169. Lugo, A.E. and S. Brown. Evaluation of functional predictors of wetlands of Caribbean islands. *Acta Científica* 2(2-3):125-130.

## 1989

170. Lugo, A.E. Forest lands in Puerto Rico and the Caribbean 500 years after their discovery by Cristoforo Colombo. Slide show narrative with 80 slides and 16 p. of text including 15 references and an appendix.
171. Lugo, A.E. Biosphere reserves in the tropics: An opportunity for integrating wise use and preservation of biotic resources. Pages 53-67 in W.P. Gregg, Jr, S.L. Krugman, and J.D. Wood, editors. *Proceedings of the Symposium on Biosphere Reserves*. Fourth World Wilderness Congress. U.S. Department of Interior, National Park Service, Atlanta, GA. 291 p.
172. Brown, S., A.J.R. Gillespie, and A.E. Lugo. Biomass estimation methods for tropical forests with applications to forest inventory data. *Forest Science* 35(4):881-902.
173. Lugo, A.E. Using mangroves wisely. *Interciencia* 14(5):271 (book review).
174. Lugo, A.E. and L.B. Ford, editors. *Wildlife Management in the Caribbean Islands*. Proceedings of the Fourth Meeting of Caribbean Foresters. Institute of Tropical Forestry and Caribbean National Forest, USDA Forest Service, Río Piedras, P.R. 129 p.
175. Lugo, A.E. Ecological advantages of natural plant communities in residential landscapes. *Acta Científica* 3(2-3):103-106.
176. Lugo, A.E. Tropical deforestation. *Acta Científica* 3(2-3):113-117.
177. Lugo, A.E. How are tropical forests coupled to temperate zones. *Acta Científica* 3(2-3):119-122.
178. Lugo, A.E. Elementos para una reunión científica exitosa. *Acta Científica* 3(2-3):123-125.
179. Wadsworth, F.H. and A.E. Lugo. The Institute of Tropical Forestry: fifty years of regional forestry leadership. *Acta Científica* 3(2-3):127-133.

180. Lugo, A.E. Los manglares de La Parguera. *Acta Científica* 3(2-3):135-140.

## 1990

181. Lugo, A.E. Development, forestry, and environmental quality in the eastern Caribbean. Pages 317-340 in W. Beller, P. d'Ayala, and P. Hein, editors. *Sustainable Development and Environmental Management of Small Islands*. The Parthenon Publishing Group, and UNESCO, Paris. An earlier version published in pages 123-165 in publication 131.

182. Brown, S. and A.E. Lugo. Tropical secondary forests. *Journal of Tropical Ecology* 6(1):1-32.

183. Lugo, A.E., D. Wang, and F.H. Bormann. A comparative analysis of biomass production in five tropical tree species. *Forest Ecology and Management* 31(3):153-166.

184. Lugo, A.E. Tropical forest conservation: getting the act together. *Conservation Biology* 4(1):109-110 (book review).

185. Lugo, A.E., E. Cuevas, and M.J. Sánchez. Nutrients and mass in litter and top soil of ten tropical tree plantations. *Plant and Soil* 125:263-280.

186. Brown, S. and A.E. Lugo. Effects of forest clearing and succession on the carbon and nitrogen content of soils in Puerto Rico and US Virgin Islands. *Plant and Soil* 124:53-64.

187. Kangas, P.C. and A.E. Lugo. The distribution of mangroves and saltmarshes in Florida. *Tropical Ecology* 31(1):32-39.

188. Lugo, A.E. and J.K. Francis. A comparison of 10 provenances of *Eucalyptus deglupta* and *E. urophylla* in Puerto Rico: growth and survival over 15 years. *Commonwealth Forestry Review* 69(2):157-171.

189. Lugo, A.E. The myth of the tragedy of the commons. *Journal of Tropical Ecology* 6:332 (book review).

190. Brown, S., A.J.R. Gillespie, and A.E. Lugo. Use of forest inventory data for biomass estimation of tropical forests. Pages 1046-1055 in H.G. Lund and G. Preto, technical coordinators. *Global Natural Resource Monitoring and Assessments: Preparing for the 21st Century*. American Society for Photogrammetry and Remote Sensing, Bethesda, MD.

191. Lugo, A.E. Mangroves of the Pacific islands: Research Opportunities. General Technical Report PSW-118, USDA Forest Service Pacific Southwest Research Station, Berkeley, California. 13 p.

192. Lugo, A.E., M.M. Brinson, and S. Brown, editors. Forested wetlands. *Ecosystems of the World* Vol. 15. Elsevier, Amsterdam, The Netherlands. 527 p.

193. Lugo, A.E., Introduction. Pages 1-14, chapter 1 in A.E. Lugo, M.M. Brinson, and S. Brown, editors. *Forested Wetlands. Ecosystems of the world Vol. 15.* Elsevier Amsterdam, The Netherlands.
194. Lugo, A.E., S. Brown, and M.M. Brinson. Concepts in wetland ecology. Pages 53-85, chapter 4 in A.E. Lugo, M.M. Brinson, and S. Brown, editors. *Forested Wetlands. Ecosystems of the World Vol. 15.* Elsevier, Amsterdam, The Netherlands.
195. Lugo, A.E. Fringe wetlands. Pages 143-169, chapter 6 in A.E. Lugo, M.M. Brinson, and S. Brown, editors. *Forested Wetlands. Ecosystems of the World Vol. 15.* Elsevier, Amsterdam, The Netherlands.
196. Lugo, A.E., M.M. Brinson, and S. Brown. Synthesis and search for paradigms in wetland ecology. Pages 447-460, chapter 19 in A.E. Lugo, M.M. Brinson, and S. Brown, editors. *Forested Wetlands. Ecosystems of the World Vol. 15.* Elsevier, Amsterdam, The Netherlands.
197. Gillespie, A.J.R., S. Brown, and A.E. Lugo. Biomass estimates for tropical forests based on existing inventory data. Pages 246-253 in V.J. La Bau, and T. Cunia, technical editors. *State-of-the-art Methodology of Forest Inventory: a Symposium Proceedings.* USDA Forest Service Pacific Northwest Research Station General Technical Report PNW-GTR-263. Portland, OR. 592 p.
198. Medina, E., E. Cuevas, M. Popp, and A.E. Lugo. Soil salinity, sun exposure, and growth of *Acrostichum aureum*, the mangrove fern. *Botanical Gazette* 151(1):41-49.
199. Silander, S.R. and A.E. Lugo. *Cecropia peltata* L. Yagrumo hembra, trumpet tree. Pages 244-249 in R.M. Burns and B.H. Honkala technical-coordinators. *Silvics of North America.* Agriculture Handbook No. 6540. USDA Forest Service, Washington, D.C.
200. Lugo, A.E. and F.H. Wadsworth. *Dracryodes excelsa* Vahl. Tabonuco. Pages 284-287 in R.M. Burns and B.H. Honkala, technical coordinators. *Silvics of North America.* Agriculture Handbook No. 654. USDA Forest Service, Washington, D.C. Also published in: J.K. Francis and C.A. Lowe, editors; S. Trabanino, translator 2000. *Bioecología de árboles nativos y exóticos de Puerto Rico y las Indias Occidentales*, p 186-189. USDA Forest Service, International Institute of Tropical Forestry, General Technical Report IITF-15. Río Piedras, PR. 582 p.
201. Lugo, A.E. Forest Management for Ecological Stability: A Call for Leadership. Pages 27-30 in *Are forests the answer?* Society of American Foresters National Convention Proceedings. SAF Publication 90-02. Washington, D.C. 614 p.
202. Murphy, P.G. and A.E. Lugo. Dry forests of the tropics and subtropics: Guánica forest in context. *Acta Científica* 4(1-3):15-24.
203. Cintrón, B.B. and A.E. Lugo. Litter fall in a subtropical dry forest: Guánica, Puerto Rico. *Acta Científica* 4(1-3):37-49.
204. Lugo, A.E. El movimiento conservacionista y las reservas biosféricas: alternativas y soluciones al problema del desarrollo en Puerto Rico. *Acta Científica* 4(1-3):97-107.

205. Lugo, A.E. Removal of exotic organisms. *Conservation Biology* 4(4):345. Reprinted in p 186 in D. Ehrenfeld, editor. *Readings from Conservation Biology: Plant Conservation*. Society for Conservation Biology and Blackwell Science Inc. Cambridge, MA; and in p 47 in D. Ehrenfeld, editor. *Readings from Conservation Biology: wildlife and forests*. Society for Conservation Biology and Blackwell Science Inc. Cambridge, MA.

## 1991

206. Lugo, A.E. Dominancia y diversidad de plantas en Isla de Mona. *Acta Científica* 5:65-71.

207. Brown, S., A.J.R. Gillespie, and A.E. Lugo. Biomass of tropical forests of south and southeast Asia. *Canadian Journal of Forest Research* 21(1):111-117.

208. Lugo, A.E. Tropical forestry research: past, present, and future. *Journal of Forestry* 89(3):10-11,22.

209. Lugo, A.E. and S. Brown. Comparing tropical and temperate forests. Pages 319-330 in J. Cole, G. Lovett, and S. Findlay, editors. *Comparative Analysis of Ecosystems: Patterns, Mechanisms, and Theories*. Springer-Verlag, New York.

210. Lugo, A.E. Managing tropical forests in a time of climate change. Pages 14-25 in F.H. Beinroth and G. Acevedo, editors. *Proceedings of southern regional technical work-planning conference of the National Cooperative Soil Survey*. San Juan, P.R. June 18-22, 1990. USDA Soil Conservation Service. Also published in 1992: pages 336-344 in A. Aureshi, editor. *Forests in a Changing Climate*. Climate Institute, Washington, D.C. 446 p.

211. Lugo, A.E. Cities in the sustainable development of tropical landscapes. *Nature and Resources* 27(2):27-35. An abstract of this article was published in 1996 as: Making room for the city. *Nature and Resources* 32(2):8.

212. Cuevas, E., S. Brown, and A.E. Lugo. Above and belowground organic matter storage and production in a tropical pine plantation and a paired broadleaf secondary forest. *Plant and Soil* 135:257-268.

213. Frangi, J.L. and A.E. Lugo. Hurricane damage to a flood plain forest in the Luquillo Mountains of Puerto Rico. *Biotropica* 23(4):324-335.

214. Steudler, P.A., J.M. Melillo, R.D. Bowden, M.S. Castro, and A.E. Lugo. The effects of natural and human disturbances on soil nitrogen dynamics and trace gas fluxes in a Puerto Rican wet forest. *Biotropica* 23(4):356-363.

215. Lugo, A.E. The tropical challenge to ecological economics. Pages 200-205 in D.P. Bradley and P.O. Nilsson, editors. *Ecological Economics: Its Implications for Forest Management and Research*. The Swedish University of Agricultural Sciences, Faculty of Forestry Research Notes no. 223. Garpenberg. 339 p.

216. Wang, D., F.H. Bormann, A.E. Lugo, and R.D. Bowden. Comparison of nutrient-use efficiency and biomass production in five tropical tree taxa. *Forestry Ecology and Management* 46(1-2):1-21.

217. Brinson, M.M. and A.E. Lugo. Tropical wetlands: an overview of their distribution and diversity. Pages 83-89 in J.A. Kusler and S. Daly, editors. Wetlands and River Corridor Management. Association of Wetlands Managers, Berne, N.Y.

## 1992

218. Lugo, A.E. Tropical forest uses. Pages 126-132 in T.E. Downing, S.B. Hecht, H.A. Pearson, and G. Garcia-Downing, editors. Development or Destruction. The Conversion of Tropical Forest to Pasture in Latin America. Westview Press Inc. Boulder, CO. 405 p.

219. Waide, R.B. and A.E. Lugo. A research perspective on disturbance and recovery of a tropical montane forest. Pages 173-190 in J. Goldammer, editor. Tropical Forests in Transition. Ecology of Natural and Anthropogenic Disturbance Processes. Berkhauser-Verlag, Switzerland 270 p.

220. Lugo, A.E. Comparison of tropical tree plantations with secondary forests of similar age. Ecological Monographs 62(1):1-41.

221. Lugo, A.E. and B. Bayle, editors. Wetlands Management in the Caribbean and the Role of Forestry and Wetlands in the Economy. Institute of Tropical Forestry and Caribbean National Forest, USDA Forest Service, Southern Forest Experiment Station, New Orleans, LA. 115 p.

222. Lugo, A.E. Tree plantations for rehabilitating damaged forest lands in the tropics. Pages 247-255 in M.K. Wali, editor. Ecosystem Rehabilitation, volume 2. SPB Academic Publishing by, The Hague, The Netherlands 388 p.

223. Basnet, K., G.E. Likens, F.N. Scatena, and A.E. Lugo. Hurricane Hugo: damage to a tropical rain forest in Puerto Rico. Journal of Tropical Ecology 8(1):47-55.

224. Reyes, G., S. Brown, J. Chapman, and A.E. Lugo. Wood Densities of Tropical Tree Species. USDA Forest Service, Southern Forest Experiment Station General Technical Report SO-88. New Orleans, LA. 115 p.

225. Wisniewski, J. and A.E. Lugo. Natural Sinks of CO<sub>2</sub>. Workshop statement. Kluwer Academic Publishers. The Netherlands. 6 p.

226. Gillespie, A.J.R., S. Brown, and A.E. Lugo. Tropical forest biomass estimation from truncated stand tables. Forest Ecology and Management 48:69-87.

227. Brown, S. and A.E. Lugo. Above ground biomass estimates for tropical moist forests of the Brazilian Amazon. Interciencia 17(1):8-18.

228. Wisniewski, J. and A.E. Lugo, editors. Natural sinks of CO<sub>2</sub>. Kluwer Academic Publishers. Dordrecht, The Netherlands. 466 p. Also: Water, Air, and Soil Pollution 64(1-2).

229. Lugo, A.E. The search for carbon sinks in the tropics. Water, Air, and Soil Pollution 64:3-9.

230. Brown, S. and A.E. Lugo, and L.R. Iverson. Processes and lands for sequestering carbon in the tropical forest landscape. *Water, Air, and Soil Pollution* 64:139-155.
231. Lugo, A.E. and J. Wisniewski. Natural sinks of CO<sub>2</sub> conclusions, key findings and research recommendations from the Palmas del Mar workshop. *Water, Air, and Soil Pollution* 64:455-459.
232. Frangi, J.L. and A.E. Lugo. Biomass and nutrient accumulation in ten year old bryophyte communities inside a floodplain in the Luquillo Experimental Forest, Puerto Rico. *Biotropica* 24(2):106-112.
233. Brown, S., A.E. Lugo, and J. Wisniewski. Missing carbon dioxide. *Science* 257:11.
234. Brown, S. and A.E. Lugo. Biomass of brazilian amazonian forests: the need for good science. *Interciencia* 17(4):201-203.
235. Lugo, A.E. and F.N. Scatena. Epiphytes and climate change research in the Caribbean: a proposal. *Selbyana* 13:123-130.
236. Lugo, A.E. and S. Brown. Tropical forests as sinks of atmospheric carbon. *Forest Ecology and Management* 54:239-255.
237. Brown, S. and A.E. Lugo. Biomass estimates for Brazil's Amazonian moist forests. Pages 46-52 *in* Forest '90: Anais do primeiro simposio internacional de estudos ambientais em florestas tropicais umidas. Biosfera-Sociedade Brasileira para a Valorizaçao do Meio Ambiente. Rio de Janeiro. 508 p.
238. Lugo, A.E. Tropical forest management -- time to do something about it. Pages 382-391 *in* American Forestry: An Evolving Tradition. Proceedings of the Society of American Foresters, 1992 National Convention. October 25-28, 1992, Richmond, VA. Society of American Foresters, Bethesda, MD.
239. Lugo, A.E. More on exotic species. *Conservation Biology* 6(1):6. Reprinted in p 187-188 *in* D. Ehrenfeld, editor. Readings from Conservation Biology: Plant Conservation. Society for Conservation Biology and Blackwell Science Inc. Cambridge, MA; and in p 48-49 *in* D. Ehrenfeld, editor. Readings from Conservation Biology: Wildlife and forests. Society for Conservation Biology and Blackwell Science Inc. Cambridge, MA.

### **1993**

240. Harwood, R.R., M.E. Carter, R. Gomaz, S.P. Gliesman, A. Gómez-Pompa, L.S. Hardin, W.A. Hill, R. Lal, G. Levine, A.E. Lugo, A.G. Power, V.W. Ruttan, P.A. Sánchez, E.A. Serrão, and P.C. Wright. Sustainable Agriculture and the Environment in the Humid Tropics. National Research Council, National Academy Press, Washington, DC. 702 p.
241. Dale, V.H., R.A. Houghton, A. Grainger, A.E. Lugo, and S. Brown. Emissions of greenhouse gases from tropical deforestation and subsequent uses of the land. Pages 215-260 *in* Harwood, R.R., M.E. Carter, R. Gomaz, S.P. Gliesman, A. Gómez-Pompa, L.S. Hardin, W.A. Hill, R. Lal, G. Levine, A.E. Lugo, A.G. Power, V.W. Ruttan, P.A. Sánchez, E.A. Serrão, and P.C.



- Wright. Sustainable Agriculture and the Environment in the Humid Tropics. National Research Council, National Academy Press, Washington, DC. 702 p.
242. Lugo, A.E. and J.L. Frangi. Fruit fall in the Luquillo Experimental Forest, Puerto Rico. *Biotropica* 25(1):73-84.
243. Lugo, A.E. and S. Brown. Management of tropical soils as sinks or sources of atmospheric carbon. *Plant and Soil* 149:27-41.
244. Brown, S., A.E. Lugo, and A.J.R. Gillespie. Strategies for environmental monitoring and assessment of tropical forest ecosystems. Pages 115-140 in Report of the UNEP/FAO Expert Consultation on Environmental Parameters in Future Global Forest Assessments. GEMS Report Series no. 17. 262 p.
245. Lugo, A.E., J.A. Parrotta, and S. Brown. Loss of species caused by tropical deforestation and their recovery through management. *Ambio* 22(2-3):106-109.
246. Lugo, A.E. The dilemma of conservation in the Brazilian Amazon. *Ecological Economics* 7:178-179 (book review).
247. Basnet, K., F.N. Scatena, G.E. Likens, and A.E. Lugo. Ecological consequences of root grafting in tabonuco (*Dacryodes excelsa*) trees in the Luquillo Experimental Forest, Puerto Rico. *Biotropica* 25(1):28-35.
248. Lugo, A.E. Towards the balance and management of the carbon budget of the biosphere (a foreword). *Water, Air, and Soil Pollution* 70: xi-x. Reprinted in J. Wisniewski and R.N. Sampson, editors. *Terrestrial Biospheric Carbon Fluxes: Quantification of Sinks and Sources of CO<sub>2</sub>*. Kluwer Academic Publishers. Dordrecht, Germany. 696 p.
249. Lugo, A.E. and R.B. Waide. Catastrophic and background disturbances of tropical ecosystems at the Luquillo Experimental Forest. *Journal of Biosciences* 18(4):475-481.
250. Rodríguez Martini, G., A. Hernández, and A.E. Lugo. Sueño en El Yunque. Editorial Universidad de Puerto Rico.
251. J. Wisniewski, R.K. Dixon, J.D. Kinsman, R.N. Sampson, and A.E. Lugo. Carbon dioxide sequestration in terrestrial ecosystems. *Climate Research* 3:1-5.
252. Lugo, A.E. and J.C. Musa. Mangroves of Laguna Joyuda. *Acta Científica* 7:67-90.

## 1994

253. Iverson, L.R., S. Brown, A. Prasad, H. Mitasova, A.J.R. Gillespie, and A.E. Lugo. Use of GIS for estimating potential and actual forest biomass for continental south and southeast Asia. Pages 67-116 in V.H. Dale, editor. *Effects of Land Use Change on Atmospheric CO<sub>2</sub> Concentrations. Southeast Asia as a Case Study*. Springer Verlag, New York.
254. Brown, S., L.R. Iverson, and A.E. Lugo. Land-use and biomass changes of forests in Peninsular Malaysia from 1972 to 1982: a GIS approach. Pages 117-143 in V.H. Dale, editor.

Effects of Land Use Change on Atmospheric CO<sub>2</sub> Concentrations. Southeast Asia as a Case Study. Springer Verlag, New York.

255. Medina, E., E. Cuevas, J. Figueroa, and A.E. Lugo. Mineral content of leaves from trees growing on serpentine soils under contrasting rainfall regimes in Puerto Rico. *Plant and Soil* 158:13-21.
256. Lugo, A.E. Future of tropical forests depends on skills and training. *Forum* 9(1):119.
257. Brown, S. and A.E. Lugo. Rehabilitation of tropical lands: a key to sustaining development. *Restoration Ecology* 2(2):97-111.
258. Wilson, M.H., C.B. Kepler, N.F.R. Snyder, S.R. Derrickson, F.J. Dein, J.W. Wiley, J.M. Wunderle Jr., A.E. Lugo, D.L. Graham, and W.D. Toone. Puerto Rican parrots and potential limitations of the metapopulation approach to species conservation. *Conservation Biology* 8(1):114-123. Reprinted in readings from *Conservation Biology: Genes, Population, and Species*. Society for Conservation Biology and Blackwell Science Inc. Cambridge, MA.
259. Lugo, A.E. Maintaining an open mind on exotic species. Pages 218-220 in G.K. Meffe and R.C. Carroll, editors. *Principles of Conservation Biology*. Sinauer Associates Inc. Sunderland, Massachusetts. 600 p. Pages 245-247 in G.K. Meffe, and C.R. Carroll Second edition in 1997, 673 p. Pages 296-297 in M.J. Groom, G.K. Meffe, and C.R. Carroll third Edition in 2006, 779 p.
260. Lugo, A.E. No cote. *Ecological Engineering* 3(2):87-89.
261. Carey, E.V., S. Brown, A.J.R. Gillespie, and A.E. Lugo. Tree mortality in mature lowland tropical moist and tropical lower montane moist forests of Venezuela. *Biotropica* 26(3):255-265.
262. Lugo, A.E. Preservation of primary forests in the Luquillo Mountains, Puerto Rico. *Conservation Biology* 8(4):1122-1131.
263. Lugo, A.E. San Salvador mangroves: An ecosystem under chronic stress. Pages 60-63 in L.B. Kass, editor. *Proceedings of the 5th Symposium on the Natural History of the Bahamas*. Bahamian Field Station, San Salvador, Bahamas. 107 p.
264. Lugo, A.E., W. Silver, R. Poch, J. Porta, C. Sys, R. Folch, J.M. Camarasa, J. Caldecott, M. Gispert, R. Godshalk, S. Oldfield, K. Redford, and G. Drucker. *Ambit orequatorial dels boscos nebulosos*. Pages 333-412 in R. Folch, Director, *Biosfera 2. Selves tropicals*. Enciclopedia Catalana. Barcelona, Spain. 526 p.
265. Zepeda, G. and A.E. Lugo, editors. Towards sustainable forest resource management in the Caribbean. *Proceedings of the sixth meeting of Caribbean Foresters at Martinique*. International Institute of Tropical Forestry, USDA Forest Service, Río Piedras, PR. 55 p.
266. Lugo, A.E. A conservation strategy for Puerto Rico as it approaches the 21st century. *Acta Científica* 8(3):129-133.
267. Lugo, A.E. Terrenos públicos, fragmentación y la biodiversidad de Puerto Rico. *Acta Científica* 8(1-2):31-35.

268. Ramos, O.M. and A.E. Lugo. Mapa de la vegetación de Puerto Rico. *Acta Científica* 8(1-2):63-66.
269. Morales Cardona, T., B. Ruiz, A.E. Lugo, and G. Morris. Un llamado a la acción para salvaguardar el patrimonio natural y la calidad de vida en Puerto Rico. *Acta Científica* 8(1-2):67-70

## 1995

270. Lugo, A.E. Reconstructing hurricane passages over forests: a tool for understanding multiple scale responses to disturbance. *Trends in Ecology and Evolution* 10(3):98-99.
271. McDowell, W.H., A.E. Lugo, and A. James. Export of nutrients and major ions from Caribbean catchments. *Journal of the North American Benthological Society* 14(1):12-20.
272. Scatena, F.N. and A.E. Lugo. Geomorphology, disturbance, and the soil and vegetation of two subtropical wet steep-land watersheds of Puerto Rico. *Geomorphology* 13(4):199-213. Also in C.R. Hupp, W.R. Osterkamp, and A.D. Howard, editors. *Biogeomorphology, Terrestrial and Freshwater Systems*. Elsevier, The Netherlands 347 p.
273. Lugo, A.E. Tropical forests: their future and our future. Pages 3-17 in A.E. Lugo and C. Lowe, editors. *Tropical Forests: Management and Ecology*. Springer Verlag, New York. 461 p.
274. Lugo, A.E., A. Bokkestijn, and F.N. Scatena. Structure, succession, and soil chemistry of palm forests in the Luquillo Experimental Forest. Pages 142-177 in A.E. Lugo and C. Lowe, editors. *Tropical Forests: Management and Ecology*. Springer Verlag, New York. 461 p.
275. Lugo, A.E. and C. Lowe, editors. *Tropical Forests: Management and Ecology*. Springer Verlag, New York. 461 p.
276. Lugo, A.E. and F.N. Scatena. Ecosystem-level properties of the Luquillo Experimental Forest with emphasis on the tabonuco forest. Pages 59-108 in A.E. Lugo and C. Lowe, editors. *Tropical Forests: Management and Ecology*. Springer Verlag, New York. 461 p.
277. Murphy, P.G., A.E. Lugo, A.J. Murphy, and D.C. Nepstad. The dry forests of Puerto Rico's south coast. Pages 178-209 in A.E. Lugo and C. Lowe, editors. *Tropical Forests: Management and Ecology*. Springer Verlag, New York. 461 p.
278. Lugo, A.E. Fire and wetland management. Pages 1-9 in S.I. Cerulean and R.T. Engstrom, editors. *Fire in Wetlands: A Management Perspective*. Proceedings of the Tall Timbers fire ecology conference, no. 19. Tall Timbers Research Station, Tallahassee, FL. 175 p.
279. Lugo, A.E. A review of Dr. Odum's early publications: from bird migration studies to Scott Nixon's turtle grass model. Pages 3-10 in C.A.S. Hall, editor. *Maximum Power: The Ideas and Applications of H.T. Odum*. University Press of Colorado. Niwot, CO.
280. Lugo, A.E. Contributions of H.T. Odum to tropical ecology. Pages 23-24 in C.A.S. Hall, editor. *Maximum Power: The Ideas and Applications of H.T. Odum*. University Press of Colorado. Niwot, CO.

281. Lugo, A.E. Reminiscences of H.T. Odum with a focus on his educational techniques. Page 359 in C.A.S. Hall, editor. *Maximum Power: The Ideas and Applications of H.T. Odum*. University Press of Colorado. Niwot, CO.
282. Lugo, A.E. Management of tropical biodiversity. *Ecological Applications* 5(4):956-961.
283. Medina, E., A.E. Lugo, and A. Novelo. Contenido mineral del tejido foliar de especies de manglar de la Laguna Sontecomapan (Veracruz, México) y su relación con la salinidad. *Biotropica* 27(3):317-323.
284. Murphy, P.G. and A.E. Lugo. Dry forests of Central America and the Caribbean. Pages 9-34 in S.H. Bullock, H.A. Mooney, and E. Medina, editors. *Seasonally Dry Tropical Forests*. Cambridge University Press, Cambridge, Great Britain. 450 p.
285. Janetos, A.C., A.E. Lugo, H.A. Mooney, and W. Seiler. Atmospheric feedbacks. Pages 417-422 in V.H. Heywood and R.T. Watson, editors. *Global Biodiversity Assessment*. United Nations Environmental Programme and Cambridge University Press, Cambridge, Great Britain. 1140 p.
286. Yocum, C. and A.E. Lugo, editors. *Economics of Caribbean forestry*. Proceedings of the Seventh Meeting of Caribbean Foresters at Jamaica. United States Department of Agriculture, Forest Service, Southern Region Technical Proceedings R8-TP-23. 144 p.
287. Lugo, A.E. Ecología histórica. *Acta Científica* 9(2-3):123-124.
288. Lugo, A.E. Biology in the era of biodiversity. *Acta Científica* 9(2-3):125-127.
289. Lugo, A.E. Comparison of island and continental ecosystems with a focus on disturbance. *Acta Científica* 9(2-3):129-130.
- 1996**
290. Lugo, A.E. Caribbean island landscapes: indicators of the effects of economic growth on the region. *Environment and Development Economics* 1(1):128-136.
291. Lugo, A.E. Ninety years of plant ecology research in Puerto Rico. *Annals of the New York Academy of Sciences* 776:73-87. *The Scientific Survey of Puerto Rico and the Virgin Islands. An Eighty-year Re-assessment of the Island's Natural History*. J.C. Figueroa Colón, editor. 273 p.
292. Lugo, A.E. Los humedales de montaña. *Humedales de Puerto Rico* 2(4):1-8.
293. Lugo, A.E. Monitoring biodiversity at global scales. Pages 189-196 in F. di Castri and T. Younes, editors. *Biodiversity, Science and Development: Towards a New Partnership*. CAB International, Oxon, UK. 646 p.
294. Lugo, A.E. and S. Brown. Management of land and species richness in the tropics. Pages 280-295 in R.C. Szaro and D.W. Johnston, editors. *Biodiversity in Managed Landscapes. Theory and Practice*. Oxford University Press, New York. 778 p.

295. Silver, W.L., S. Brown, and A.E. Lugo. Effects of changes in biodiversity on ecosystem function in tropical forests. *Conservation Biology* 10(1):17-24.
296. Silver, W.L., S. Brown, and A.E. Lugo. Biodiversity and biogeochemical cycles. Pages 49-67 in G. Orians, R. Dirzo, and J.H. Cushman, editors. *Biodiversity and Ecosystem Process in Tropical Forests*. Springer-Verlag, Heidelberg. 229 p.
297. Lugo, A.E., O. Ramos, S. Molina, F.N. Scatena, and L.L. Vélez Rodríguez. A fifty-three year record of land use change in the Guánica forest biosphere reserve and its vicinity. International Institute of Tropical Forestry, USDA Forest Service, Río Piedras, P.R. 13 p + maps + photos.
298. Lugo, A.E. Ecosystem management requires good ecology. Pages 13-21 in E. Korpilahti, H. Mikkilä, and T. Salonen, editors. *Caring for the Forest: Research in a Changing World*. Gummerus Printing, Jyväskylä, Finland. 634 p. Available from IUFRO, Vienna, Austria.
299. Fu, S., C. Rodríguez Pedraza, and A.E. Lugo. A twelve-year comparison of stand changes in a mahogany plantation and a paired natural forest of similar age. *Biotropica* 28(4a):515-524.
300. Lugo, A.E. and F.N. Scatena. Background and catastrophic tree mortality in tropical moist, wet, and rain forests. *Biotropica* 28(4a):585-599.
301. Lugo, A.E. and A.R. García Martínó. Cartilla del agua para Puerto Rico. *Acta Científica* 10(1-3):1-89 .
302. Boyden, S. J. Celecia, I. Sachs, H. Girardet, W. Rusong, A. Lugo, D. Morris, T. Deelstra, H. Aipira, R. Folch, R. Pesci, K.A. Sebti, P. Masure, M. Bonnes, and I. Douglas. The city: so human an ecosystem. *Nature and Resources* 32(2):2-16.
- 1997**
303. Lugo, A.E. Old-growth mangrove forests in the United States. *Conservation Biology* 11(1):11-20.
304. Sánchez, M.J., E. López, and A.E. Lugo. Chemical and physical analyses of selected plants and soils from Puerto Rico (1981-1990). USDA Forest Service, International Institute of Tropical Forestry, Research Note IITF-RN-1. 112 p.
305. Delaney, M., S. Brown, A.E. Lugo, A. Torres Lezama, and N. Bello Quintero. The distribution of organic carbon in major components of forests located in five life zones of Venezuela. *Journal of Tropical Ecology* 13:697-708.
306. Lugo, A.E. The apparent paradox of re-establishing species richness on degraded lands with tree monocultures. *Forest Ecology and Management* 99(100):9-19.
307. Yocum, C. and A.E. Lugo, editors. *Protected Areas Management. Proceedings of the Eighth Meeting of Caribbean Foresters at Grenada*. Puerto Rico Conservation Foundation and International Institute of Tropical Forestry. USDA Forest Service, Río Piedras, P.R. 144 p.

308. Lugo, A.E. and S. Brown. Tropical forests: supporting Latin America and the world into the 21st century. *Acta Científica* 11(1-3):97-102.

309. Lugo, A.E. Mangrove forests: a tough system to invade. Pages 195-198 in K.O. Britton, editor. *Exotic Pests of Eastern Forests*. USDA Forest Service and TN Exotic Pest Plant Council, Nashville, TN.

## 1998

310. Lugo, A.E. Biodiversity and public-policy: the middle of the road. Pages 34-45 in L.D. Guruswamy, and J.A. McNeely, editors. *Protection of Global Biodiversity: Converging Strategies*. Duke University Press, Durham, N.C. 425 p.

311. Delaney, M., S. Brown, A.E. Lugo, A. Torres Lezana, and N. Bello Quintero. The quantity and turnover of deadwood in permanent forest plots in six life zones of Venezuela. *Biotropica* 30(1):2-11.

312. Lugo, A.E. Mangrove ecosystem research with emphasis on nutrient cycling. Pages 279-305 in B. Gopal, P.S. Pathak and K.G. Saxena, editors. *Ecology Today: An Anthology of Contemporary Ecological Research*. International Scientific Publications. New Delhi, India. 500 p. (Also published in 1999. Pages 17-38 in Yáñez Arancibia, A. and A.L. Lara Domínguez, editors. *Mangrove Ecosystems in Tropical America*. Instituto de Ecología. A.C. Xalapa, México; IUCN/Orama, Costa Rica; NOAA-NMFS-USA Silver Springs, MD. 380 p.)

313. Lugo, A.E. and S. Brown. Los trópicos pueden revivir. *Tierramérica* 4(1):6-7, 16.

314. Frangi, J.L. and A.E. Lugo. A flood plain palm forest in the Luquillo Mountains of Puerto Rico five years after Hurricane Hugo. *Biotropica* 30(3):339-348.

315. Lugo, A.E., editor. *Rendimiento y aspectos silviculturales de plantaciones madereras en América Latina*. Serie Forestal No. 9. Oficina Regional de la FAO para América Latina y el Caribe. Santiago, Chile. 155 p.

316. Lugo, A.E., A.J. Gillespie, S. Brown, and J. Chapman. Características de plantaciones arbóreas en los trópicos. Pages 1-61 in Serie Forestal No. 9. Oficina Regional de la FAO para América Latina y el Caribe. Santiago, Chile. 155 p.

317. Cuevas, E. and A.E. Lugo. Dynamics of organic matter and nutrient return from litterfall in stands of ten tropical tree plantation species. *Forest Ecology and Management* 112:263-279.

318. Lugo, A.E., J.K. Francis, and J.L. Frangi. *Prestoea montana* (R. Graham) Nichols. Palmaceae Palm family. Silvics and forest trees of the American tropics. USDA Forest Service Southern Forest Experiment Station SO-IITF-SM-82. 9 p. Also published in: J.K. Francis and C.A. Lowe, editors; S. Trabanino, translator 2000. *Bioecología de árboles nativos y exóticos de Puerto Rico y las Indias Occidentales* p 420-427. USDA Forest Service, International Institute of Tropical Forestry, General Technical Report IITF-15. Río Piedras, PR. 582 p.

319. Dale, V.H., A.E. Lugo, J.A. MacMahon, and S.T.A. Pickett. Ecosystem management in the context of large, infrequent disturbances. *Ecosystems* 1:546-557.

## 1999

320. Silver, W.L., A.E. Lugo, and M. Keller. Soil oxygen availability and biogeochemistry along rainfall and topographic gradients in upland wet tropical forest soils. *Biogeochemistry* 44:301-328.
321. Lugo, A.E. A history of the ecosystem concept in ecology. More than the sum of the parts. *Ecological Economics* 28:467-468 (book review).
322. Lugo, A.E. and L. Mastroantonio. Institute of Tropical Forestry: the first fifty years. USDA Forest Service, International Institute of Tropical Forestry General Technical Report IITF-GTR-7. Río Piedras, P.R. 56 p.
323. Lugo, A.E. Point-counterpoints on the conservation of big-leaf mahogany. USDA Forest Service General Technical Report WO-64. Washington, D.C. 21 p.
324. Ewel, J.J., D.J. O'Dowd, J. Bergelson, C.C. Daehler, C.M. D'Antonio, L.D. Gómez, D.R. Gordon, R.J. Hobbs, A. Holt, K.R. Hooper, C.E. Hughes, M. LaHart, R.R.B. Leakey, W.G. Lee, L.L. Loope, D.H. Lorence, S.M. Louda, A.E. Lugo, P.B. McEvoy, D.M. Richardson, and P.M. Vitousek. Deliberate introductions of species: Research needs. *BioScience* 49(8):619-630.
325. Szaro, R., A.E. Lugo, S.J. Paustian, M.H. Brookes, and D. Imm. Ecosystem processes and functioning. Pages 33-38 *in* N.C. Johnson, A.J. Malk, R.C. Szaro, and W.T. Sexton, editors. *Ecological Stewardship: A Common Reference for Ecosystem Management*. Volume 1. Elsevier Science, Oxford, UK. 285 p.
326. Lugo, A.E., J.S. Baron, T.P. Frost, T.W. Cundy, and P. Dittberner. Ecosystem processes and functioning. Pages 219-254 *in* R.C. Szaro, N.C. Johnson, W.T. Sexton, and A.J. Malk, editors. *Ecological Stewardship: A Common Reference for Ecosystem Management*. Volume 2. Elsevier Science, Oxford, UK. 741 p.
327. Lugo, A.E. Mangrove forests: A tough system to invade but an easy one to rehabilitate. *Marine Pollution Bulletin* 37(8-12):427-430.
328. Lugo, A.E. Will concern for biodiversity spell doom to tropical forest management? *The Science of the Total Environment* 240(1-3):123-131.
329. Lugo, A.E, S.L. Brown, R. Dodson, T.S. Smith, and H.H. Shugart. The Holdridge life zones of the conterminous United States in relation to ecosystem mapping. *Journal of Biogeography* 26:1025-1038.
330. Lugo, A.E. El manglar: un ecosistema al servicio del ser humano. Pages 361-382 *In* S.D. Matteucci, O. Solbrig, J. Morello, and G. Halffter, editors. *Biodiversidad y uso de la tierra. Conceptos y ejemplos de Latinoamérica*. Ceudeba, Centro de Estudios Avanzados. Universidad de Buenos Aires, Buenos Aires, Argentina. 580 p.
331. Lugo, A.E. Metodología para estimar el almacenaje y flujo de nutrientes en hojarasca y suelo de bosques secundarios. *Acta Científica* 13:11-26.

332. Popper, N., C. Domínguez Cristóbal, A. Santos, N. Méndez Irizarry, E. Torres Morales, A.E. Lugo, Z.Z. Rivera Lugo, B. Soto Toledo, M. Santiago Irizarry, I. Loucil Rivera, L.A. Zayas, and C. Colón. A comparison of two secondary forests in the coffee zone of central Puerto Rico. *Acta Científica* 13:27-41.
333. Lugo, A.E., C. Domínguez Cristóbal, A. Santos, and E. Torres Morales. Nutrient return and accumulation in litter of a secondary forest in the coffee region of Puerto Rico. *Acta Científica* 13:43-74.
334. Lugo, A.E., C. Domínguez Cristóbal, and N. Méndez Irizarry. Biomasa y nutrientes en raíces y brinzales de un bosque secundario en la zona cafetalera de Utuado. *Acta Científica* 13:75-87.
335. Lugo, A.E., M. Salgado Herrera, J. Ramírez, and I. Pérez Castro. Estructura y composición del sotobosque de plantaciones en el arboreto del Bosque Experimental de Luquillo. *Acta Científica* 13:89-105.
336. Ruiz Bernard, I. and A.E. Lugo. Stand dynamics of a south coast mangrove forest in Puerto Rico. *Acta Científica* 13:107-119.
- 2000**
337. Lugo, A.E., J. Figueroa Colón, and F.N. Scatena. The Caribbean. Pages 593-622 *In* M.G. Barbour and W.D. Billings, editors. *North American Terrestrial Vegetation*. Cambridge University Press, England. 708 p.
338. Yocum, C. and A.E. Lugo, editors. *Biodiversity in the Caribbean: Management and Benefits*. USDA Forest Service, International Institute of Tropical Forestry. Río Piedras, P.R. 130 p.
339. Lugo, A.E. and S. Brown. Biodiversity in the Caribbean: concepts, assessments, management and monitoring at the landscape scale. Pages 92-98 in C. Yocum and A.E. Lugo, editors. *Biodiversity in the Caribbean: Management and Benefits*. USDA Forest Service, International Institute of Tropical Forestry. Río Piedras, P.R. 130 p.
340. Lugo, A.E. Climate change and tropical forests - uncertainty and fear. *Journal of Environmental Quality* 29(1) (book review).
341. Lugo, A.E., C.S. Rogers, and S.W. Nixon. Hurricanes, coral reefs and rainforests: resistance, ruin, and recovery in the Caribbean. *Ambio* 29(2):106-114.
342. Lugo, A.E. and H. Gucinski. Function, effects, and management of forest roads. *Forest Ecology and Management* 133: 249-262.
343. Lugo, A.E. Tropical dry forest ecosystems. Page 7 in A. Alberts, editor. *West Indian Iguanas. Status Survey and Conservation Action Plan*. IUCN/SSC West Indian Iguana Specialist Group. Gland, Switzerland and Cambridge, UK. 111 p.



344. Lugo, A.E. Effects and outcomes of Caribbean hurricanes in a climate change scenario. *The Science of the Total Environment* 262(3):243-251.
345. Lugo, A.E., T. del M. López, and O.M. Ramos. Zonificación de terrenos en la periferia de El Yunque. USDA Forest Service, International Institute of Tropical Forestry, General Technical Report IITF-16. Río Piedras, PR. 12 p.
346. Silver, W.L., R. Ostertag, and A.E. Lugo. The potential for carbon sequestration through reforestation of abandoned tropical agricultural and pasture lands. *Restoration Ecology* 8(4):394-407.
347. Dunphy, B.K., P.G. Murphy, and A.E. Lugo. The tendency for trees to be multiple-stemmed in tropical and subtropical dry forests: studies of Guánica forest, Puerto Rico. *Tropical Ecology* 41(2):161-167.

## 2001

348. Lugo, A.E., W.L. Silver, S. Brown, F.N. Scatena, and J.J. Ewel. Managed ecosystems deserve greater attention. *Bulletin of the Ecological Society of America* 82(1):91-93.
349. Dale, V.H., L.A. Joyce, S. McNulty, R.P. Neilson, M.P. Ayres, M.D. Flannigan, P.J. Hanson, L.C. Irland, A.E. Lugo, C.J. Peterson, D. Simberloff, F.J. Swanson, B.J. Stocks, and B.M. Wotton. Climate change and forest disturbances. *BioScience* 51(9):723-734. (Received Technical Publication Award 2001 from the East Tennessee Chapter of the Society of Technical Communication – First place in Scholarly/Professional Article.)
350. Lugo, A.E., L. Miranda Castro, A. Vale, T. del M. López, E. Hernández Prieto, A. García Martínó, A.R. Puente Rolón, A.G. Tossas, D.A. McFarlane, T. Miller, A. Rodríguez, J. Lundberg, J. Thomlinson, J. Colón, J.H. Schellekens, O. Ramos, and E. Helmer. Puerto Rican Karst - A Vital Resource. USDA Forest Service, General Technical Report WO-65. 100 p. Translated into Spanish in 2004: El karso de Puerto Rico: un recurso vital.
351. Furniss, M.J., G.E. Grant, H. Gucinski, A.E. Lugo, F.J. Swanson, B. Wemple, and R.R. Ziemer. Introduction and objectives. Pages 1-12 in H. Gucinski, M.J. Furniss, R.R. Ziemer, and M.H. Brookes, editors. *Forest Roads: A Synthesis of Scientific Information*. USDA Forest Service, General Technical Report PNW-GTR-509. Pacific Northwest Research Station, Portland, OR. 103 p.
352. Ding, M.M., S. Brown, and A.E. Lugo. A Continental Subtropical Forest in China Compared with an Insular Subtropical Forest in the Caribbean. USDA Forest Service, General Technical Report IITF-17. International Institute of Tropical Forestry, Río Piedras, PR. 46 p.
353. Lugo, A.E. El manejo de la biodiversidad en el siglo XXI. *Interciencia* 26(10):484-490.
354. Silver, W.L., E. Marín Spiotta, and A.E. Lugo. El Caribe. Pages 155-181 in M. Kappelle and A.D. Brown, editors. *Bosques nublados del neotrópico*. Editorial INBIO, Santo Domingo de Heredia, Costa Rica. 698 p.

355. Genet, J.A., K.S. Genet, T.M. Burton, P.G. Murphy, and A.E. Lugo. Response of termite community and wood decomposition rates to habitat fragmentation in a subtropical dry forest. *Tropical Ecology* 42(1):35-49.

356. Ruiz, B.I., F.H. Wadsworth, J.M. Miller, and A.E. Lugo, editors. Possibilities and Approaches Toward Community Forestry in the Caribbean. USDA Forest Service International Institute of Tropical Forestry. Río Piedras, PR 118 p.

357. Mills, T.J. and A.E. Lugo. 2001. The long-term answer: fight fire with research. *Nature* 409(6819):452.

358. Lugo, S., B. Bryan, L. Reyes, and A.E. Lugo. Riparian vegetation of a subtropical urban river. *Acta Científica* 15(2-3):59-72.

## **2002**

359. Lugo, A.E. What is an urban forest? Pages 12-15 in T.W. Zimmerman, editor. Proceedings of the 5<sup>th</sup> Annual Caribbean Urban Forestry Conference. University of the Virgin Islands Cooperative Extension Service. St. Croix, U.S.V.I. 170 p.

360. Lugo, A.E. Terrestrial global productivity. *The Quarterly Review of Biology* 77(2):219-220 (book review).

361. Lugo, A.E. and B. Ruiz. La utilización de los recursos naturales en Puerto Rico. In S. Ruiz, editor. *Temas en ciencias sociales*. A CD book published by Oficina Publicaciones, Facultad Artes y Ciencias, Universidad de Puerto Rico en Mayagüez. [www.uprm.edu/publications](http://www.uprm.edu/publications).

362. Lugo, A.E. Conserving Latin American and Caribbean mangroves: issues and challenges. *Madera y Bosques* número especial 1:5-25.

363. Lugo, A.E. Can we manage tropical landscapes? – an answer from the Caribbean perspective. *Landscape Ecology* 17:601-615.

364. Lugo, A.E., F.N. Scatena, W. Silver, S. Molina Colón, and P.G. Murphy. Resilience of tropical wet and dry forests in Puerto Rico. Pages 195-225 in L.H. Gunderson and L. Pritchard Jr., editors. *Resilience and the Behavior of Large-scale Systems*. Island Press, Washington, DC. 287 p.

365. Lugo A.E. and J.K. Zimmerman. Ecological life histories. Pages 191-213 in J.A. Vozzo, editor. *Tropical Tree Seed Manual*. Agriculture Handbook 721. USDA Forest Service, Washington, DC. 899 p.

## **2003**

366. Silver, W.L., A.E. Lugo, and D. Farmer. Soil organic carbon in the tropical forests of the United States of America. Pages 363-382 in Kimble, J.M., L.S. Heath, R.A. Birdsey, and R. Lal, editors. *The Potential of U.S. Forest Soils to Sequester Carbon and Mitigate the Greenhouse Effect*. CRC Press, Boca Raton, FL.

367. Lugo, A.E., J.C. Figueroa Colón, and M. Alayón, editors. *Big-leaf Mahogany: Genetics, Ecology, and Management*. Springer, New York. 433 p.
368. Ward, S.E. and A.E. Lugo. Twenty mahogany provenances under different conditions in Puerto Rico and the U.S. Virgin Islands. Pages 29-93 *in* Lugo, A.E., J.C. Figueroa Colón, and M. Alayón, editors. *Big-leaf Mahogany: Genetics, Ecology, and Management*. Springer, New York. 433 p.
369. Medina, E., H.H. Wang, A.E. Lugo, and N. Popper. Growth, water-, and nutrient-related plasticity in hybrid mahogany leaf development under contrasting light regimes. Pages 146-168 *in* Lugo, A.E., J.C. Figueroa Colón, and M. Alayón, editors. *Big-leaf Mahogany: Genetics, Ecology, and Management*. Springer, New York. 433 p.
370. Lugo, A.E. and S. Fu. Structure and dynamics of mahogany plantations in Puerto Rico. Pages 288-328 *in* Lugo, A.E., J.C. Figueroa Colón, and M. Alayón, editors. *Big-leaf Mahogany: Genetics, Ecology, and Management*. Springer, New York. 433 p.
371. Lugo, A.E. Recent literature on big-leaf mahogany. Pages 407-413 *in* Lugo, A.E., J.C. Figueroa Colón, and M. Alayón, editors. *Big-leaf Mahogany: Genetics, Ecology, and Management*. Springer, New York. 433 p.
372. Turner, M.G., S.L. Collins, A.E. Lugo, J.J. Magnuson, T.S. Rupp, and F.J. Swanson. Disturbance dynamics and ecological response: the contribution of long-term ecological research. *BioScience* 53(1):46-56.
373. Lugo, A.E. and J.L. Frangi. Changes in necro mass and nutrients on the forest floor of a palm floodplain forest in the Luquillo Mountains of Puerto Rico. *Caribbean Journal of Science* 39(3):265-272.
374. Van Bloem, S.J., P.G. Murphy, and A.E. Lugo. Subtropical dry forest trees with no apparent damage sprout following a hurricane. *Tropical Ecology* 44(2):137-145.
375. Lugo, A.E. Obituary: Professor H.T. Odum (1924-2002). *Tropical Ecology* 44(2):267-268.
376. Lugo, A.E. and B. Ruiz. La utilización de los recursos naturales de Puerto Rico. *Acta Científica* 17(1-3):11-38.

## 2004

377. Lugo, A.E. and E. Medina. *Curatella americana* L. Dilleniaceae. Pages 268-274 in J.K. Francis, editor. *Wildland Shrubs of the United States and its Territories: Thamnic Descriptions*. USDA Forest Service, International Institute of Tropical Forestry, General Technical Report IITF-GTR-26. Río Piedras, PR. 7p.  
<http://www.fs.fed.us/global/iitf/pdf/shrubs/Curatella%20americana.pdf>.
378. Lugo, A.E. and E. Helmer. Emerging forests on abandoned land: Puerto Rico's new forests. *Forest Ecology and Management* 190(2-3):145-161.

379. Van Bloem, S.J., P.G. Murphy, and A.E. Lugo. Tropical dry forests. Pages 1767-1775 in J. Burley, J. Evans, and J. Youngquist, editors. *Encyclopedia of Forest Sciences*. Elsevier, Oxford.
380. Lugo, A.E., W.L. Silver, and S. Molina Colón. Biomass and nutrient dynamics of restored neotropical forests. *Water, Air and Soil Pollution: Focus* 4:731-746. Also published in R.K. Wieder, M. Novák, and M.A. Vile, editors. *Biogeochemical Investigations of Terrestrial, Freshwater, and Wetland Ecosystems across the Globe*. Kluwer Academic Publishers. Dordrecht, The Netherlands.
381. Lugo, A.E. My recollections of Caribbean Foresters Meetings. Pages 154-155 in T.W. Zimmerman, P.L. Weaver, J.M. Miller, and V. Combie, editors. *The Future of Trees in the Caribbean: Biology, Planning and Management*. University of the Virgin Islands Cooperative Extension Service, Kingshill, St. Croix, Virgin Islands. 205 p.
382. Lugo, A.E. Twenty years of Caribbean forestry with the Caribbean Foresters. Pages 184-193 + CD Rom with 800 photos in T.W. Zimmerman, P.L. Weaver, J.M. Miller, and V. Combie, editors. *The Future of Trees in the Caribbean: Biology, Planning and Management*. University of the Virgin Islands Cooperative Extension Service, Kingshill, St. Croix, Virgin Islands. 205 p.
383. Lugo, A.E. The outcome of alien tree invasions in Puerto Rico. *Frontiers in Ecology and the Environment* 2(5):265-273.
384. Silver, W.L., L.M. Kueppers, A.E. Lugo, R. Ostertag, and V. Matzek. Carbon sequestration and plant community dynamics following reforestation of tropical pasture. *Ecological Applications* 14(4):1115-1127.
385. Lugo, A.E. H.T. Odum and the Luquillo Experimental Forest. *Ecological Modelling* 178(1-2):65-74.
386. Bawa, K.S., W.J. Kress, N.M. Nadkarny, S. Lele, P.H. Raven, D.H. Janzen, A.E. Lugo, P.S. Ashton, and T.E. Lovejoy. Tropical ecosystems into the 21<sup>st</sup> century. *Science* 306:227-228.
387. Lugo, A.E. The homogeocene in Puerto Rico. Pages 366-375 in D.J. Zarin, J.R.R. Alavalapati, F.E. Putz, and M. Schmink, editors. *Working Forests in the Neotropics. Conservation through Sustainable Management?* Columbia University Press, New York, NY. 437 p.
388. Lugo, A.E. Humanity will sustain tropical forests. *Tropical Ecology* 45(2):1-5.
389. Lugo, A.E., T. del M. López, O.M. Ramos González, and L.L. Vélez. Urbanización de los terrenos en la periferia de El Yunque. USDA Forest Service General Technical Report WO-66. 29 p.
390. Lugo, A.E. Estate Thomas Experimental Forest (U.S. Virgin Islands) and Luquillo Experimental Forest (Puerto Rico). Pages 9-14 in M.B. Adams, L. Loughry, and L. Plaughter, compilers. *Experimental Forests and Ranges of the USDA Forest Service*. USDA Forest Service Northeastern Research Station General Technical Report NE-321. 178 p.

391. Lugo, A.E., A. Ramos Álvarez, A. Mercado, D.L.L. Feliciano, G. Cintrón, L. Márquez D'Acunti, R. Chaparro, J. Fernández Porto, S.J. Peisch, and J. Rivera Santana. 2004. Cartilla de la zona marítimo terrestre. *Acta Científica* 18 (1-3):1-148.

## 2005

392. Ostertag, R., W.L. Silver, and A.E. Lugo. Factors affecting mortality and resistance to damage following hurricanes in a rehabilitated subtropical moist forest. *Biotropica* 37(1):16-24.

393. Lugo, A.E. and T. Brandeis. A new mix of alien and native species coexist in Puerto Rico's landscapes. Pages 484-509. In D. Burslem, M. Pinard, and S. Hartley, (Eds.). *Biotic Interactions in the Tropics: Their Role in the Maintenance of Species Diversity*. Cambridge University Press. 564 p.

394. Lugo, A.E. Los bosques. Páginas 395-545 en R.L. Joglar, editor. *Biodiversidad de Puerto Rico: vertebrados terrestres y ecosistemas*. Editorial del Instituto de Cultura Puertorriqueña, San Juan, PR. 563 p.

395. Frangi, J.L., M.D. Barrera, L.L. Richter, and A.E. Lugo. Nutrient cycling in *Nothofagus pumilio* forests along an altitudinal gradient in Tierra del Fuego, Argentina. *Forest Ecology and Management* 217:80-94.

396. Van Bloem, S.J., P.G. Murphy, A.E. Lugo, R. Ostertag, M. Rivera Costa, I. Ruiz Bernard, S. Molina Colón, and M. Canals Mora. The influence of hurricane winds on Caribbean dry forest structure and nutrient pools. *Biotropica* 37(4):571-583.

397. Lugo, A.E. El manejo de la caoba define la agenda de conservación. *Recursos Naturales y Ambiente* 44:6-8.

398. Lugo, A. E. 2005. The ecosystems of the Luquillo Mountains. *Acta Científica* 19:3-5.

399. Suárez, A., I. Vicéns, and A. E. Lugo. 2005. Composición de especies y estructura del bosque kárstico de San Patricio, Guaynabo, Puerto Rico. *Acta Científica* 19:7-22.

400. Lugo, A. E., C. M. Domínguez Cristóbal, and N. Méndez Irizarri. 2005. Efectos del huracán Georges en el crecimiento de árboles en un bosque secundario en el interior de Puerto Rico. *Acta Científica* 19:23-40.

401. Lugo, A. E., C. M. Domínguez Cristóbal, and N. Méndez Irizarri. 2005. Efectos del huracán Georges en la composición de especies y estructura de un bosque secundario en el interior de Puerto Rico. *Acta Científica* 19:41-61.

402. Román Nunci, E., H. Marcano Vega, I. Vicéns, G. Bortolamedi, and A. E. Lugo. 2005. El bosque del Parque Central de la urbanización El Paraíso: estructura, composición de especies y crecimiento de árboles. *Acta Científica* 19:73-81.

403. Lugo, A. E., E. Román Nunci, M. Quiñones, H. Marcano Vega, and I. Vicéns. 2005. El bosque estatal del nuevo milenio antes y después del huracán Georges. *Acta Científica* 19:83-105.

404. Lugo, A. E. 2005. El valor maderero del bosque urbano. *Acta Científica* 19:107-113.

## 2006

405. Lugo, A.E., F.J. Swanson, O. Ramos González, M.B. Adams, B. Palik, R.E. Thill, D.G. Brockway, C. Kern, R. Woodsmith, and R. Musselman. Long-term research at the USDA Forest Service's experimental forests and ranges. *BioScience* 56(1):1-10.

406. Lugo, A.E. Agroforestry and biodiversity conservation in tropical landscapes. *Ecological Restoration* 23(4):294-295 (book review).

407. Hobbs, R.J., S. Arico, J. Aronson, J.S. Baron, P. Bridgewater, V.A. Kramer, P.R. Epstein, J.J. Ewel, C.A. Klink, A.E. Lugo, D. Norton, D. Ojima, D.M. Richardson, E.W. Sanderson, F. Valladares, M. Vilá, R. Zarmora, and M. Zobel. Novel ecosystems: theoretical and management aspects of the new ecological world order. *Global Ecology and Biogeography* 15:1-7.

408. Van Bloem, S.J., A.E. Lugo, and P.G. Murphy. Structural response of Caribbean dry forests to hurricane winds: a case study from Guánica forest, Puerto Rico. *Journal of Biogeography* 33:517-523.

409. Lugo, A.E., E. Medina, J. Carlos Trejo Torres, and E. Helmer. Botanical and ecological basis for the resilience of Antillean dry forests. Pages 359-381 in R.T. Pennington, G.P. Lewis, and J.A. Ratter, editors. *Neotropical Savannas and Seasonally Dry Forests*. Plant Diversity, Biogeography and Conservation. Taylor and Francis Group, Boca Raton, FL.

410. Molina Colón, S. and A.E. Lugo. Recovery of a subtropical dry forest after abandonment of different land uses. *Biotropica* 38(3):354-364.

411. Lugo, A.E. and M. Alayón. Report of the Puerto Rico regional forum. Pages 279-291 in S. Anderson, editor. *Proceedings of the U.S. Forest Service Centennial Congress: A Collective Commitment to Conservation*. Forest History Society, Durham, NC. 494 p.

412. Lugo, A.E., O.J. Abelleira, S. Borges, L.J. Colón, S. Meléndez, and M.A. Rodríguez. Preliminary estimate of earthworm abundant and species richness in *Spathodea campanulata* Beauv. forests in northern Puerto Rico. *Caribbean Journal of Science* 42(3):325-330.

413. Lugo, A.E. Conservación de recursos. Páginas 123-130 en T. del M. López Marrero y N. Villanueva Colón, autoras. *Atlas ambiental de Puerto Rico*. La Editorial Universidad de Puerto Rico, Río Piedras, PR. 160 p.

414. Lugo, A.E. Lecciones ecológicas de una isla que lo ha visto todo. *Ecotrópicos* 19(2):57-71.

## 2007

415. Medina, E., E. Cuevas, and A.E. Lugo. Nutrient and salt relations of *Pterocarpus officinalis* L. in coastal wetlands of the Caribbean: assessment through leaf and soil analyses. *Trees: Structure and Function* 21(3):321-327.

416. Heartsill Scalley, T., F.N. Scatena, C. Estrada, W.H. McDowell, and A.E. Lugo. Disturbance and long-term patterns of rainfall and throughfall nutrient fluxes in a subtropical wet forest in Puerto Rico. *Journal of Hydrology* 333:472-485.
417. Van Bloem, S.J., P.G. Murphy, and A.E. Lugo. A link between hurricane-induced tree sprouting, high stem density and short canopy in tropical dry forest. *Tree Physiology* 27:475-480.
418. Thompson, J., A.E. Lugo, and J. Thomlinson. Land use history, hurricane disturbance and the fate of introduced species in a subtropical wet forest in Puerto Rico. *Plant Ecology* 192:289-301.
419. Zimmerman, J.K., T.M. Aide, and A.E. Lugo. Implications of land use history for natural forest regeneration and restoration strategies in Puerto Rico. Pages 51-74 in V.A. Cramer and R.J. Hobbs, editors. *Old Fields: Dynamics and Restoration of Abandoned Farmland*. Island Press, Washington, DC. 334p.
420. Putz, F.E., J. Ewel, and A.E. Lugo. Forest management versus forest degradation and destruction. *Frontiers in Ecology and the Environment* 5(5):237-238.
421. Lugo, A.E., E. Medina, E. Cuevas, G. Cintrón, E.N. Laboy Nieves, and Y. Schaeffer Noveli. Ecophysiology of a mangrove forest in Jobos Bay, Puerto Rico. *Caribbean Journal of Science* 43(2):200-219.
422. Lugo, A.E. Ecological aspects of idle lands. Pages 66-69 in P.L. Weaver and G.P. Bauer, editors. *Possibilities and Approaches to Idle Lands in the Caribbean*. International Institute of Tropical Forestry. USDA Forest Service, Río Piedras, PR. 79p.
423. Lugo, A.E., E.H. Helmer, and A. Vale. La conservación y vulnerabilidad a la urbanización del karso puertorriqueño. *Acta Científica* 21(1-3):67-79.

## 2008

424. Abelleira Martínez, O. and A.E. Lugo. Post sugarcane succession in moist alluvial sites in Puerto Rico. Pages 73-92 in R.W. Myster, editor. *Post-agricultural Succession in the Neotropics*. Springer Verlag, New York, USA.
425. Lugo, A.E. Visible and invisible effects of hurricanes on forest ecosystems: an international review. *Austral Ecology* 33:368-398.
426. Helmer, E.H.; Brandeis, T.J.; Lugo, A.E.; Kennaway, T. Factors influencing spatial pattern in tropical forest clearance and stand age: implications for carbon storage and species diversity. *Journal of Geophysical Research*. 113: doi:10.1029/2007/JG000568.
427. Crawl, T.A, T.O. Crist, R.R. Parmenter, G. Belovsky, and A.E. Lugo. The spread of invasive species and infectious disease as drivers of ecosystem change. *Frontiers in Ecology and the Environment* 6(5):238-246.
428. Hopkinson, C.S., A.E. Lugo, M. Alber, A.P. Covich, and S.J. Van Bloem. Forecasting effects of sea-level rise and windstorms on coastal and inland ecosystems. *Frontiers in Ecology and the Environment* 6(5):255-263.

429. Harris, N.L., C.A.S. Hall, and A.E. Lugo. Estimates of species- and ecosystem-level respiration of woody stems along an elevational gradient in the Luquillo Mountains, Puerto Rico. *Ecological Modelling* 216:253-264.
430. Rivera Costa, M.M., A.E. Lugo, and S.V. Vázquez. Densidad de artrópodos activos en la superficie del suelo de un bosque novedoso de *Castilla elastica*. *Acta Científica* 22:3-12.
431. Lugo, A.E., J. Fonseca da Silva, and A. Sáez Uribe. Balance de carbono en un bosque de *Castilla elastica*: resultados preliminares. *Acta Científica* 22:13-28.
432. Viera Martínez, C.A., O. Abelleira Martínez, and A.E. Lugo. Estructura y química del suelo en un bosque de *Castilla elastica* en el carso del norte de Puerto Rico: resultados de una calicata. *Acta Científica* 22:29-36.

## 2009

433. Lugo, A.E. Tropical conservation biology. *Environmental Conservation* 35(4):1 (book review).
434. Martinuzzi, S., W.A. Gould, A.E. Lugo, and E. Medina. Conversion and recovery of Puerto Rican mangroves: 200 years of change. *Forest Ecology and Management* 257:75-84.
435. Miller, G.L. and A.E. Lugo. Guide to the ecological systems of Puerto Rico. USDA Forest Service, IITF General Technical Report IITF-GTR-35. Río Piedras, P.R. 437p.
436. Brandeis, T.J., E. Helmer, H. Marcano Vega, and A.E. Lugo. Climate shapes the novel plant communities that form after deforestation in Puerto Rico and the U.S. Virgin Islands. *Forest Ecology and Management* 258(7):1704-1718.
437. Chazdon, R.L., C.A. Peres, D. Dent, D. Sheil, A.E. Lugo, D. Lamb, N.E. Stork, and S.E. Miller. The potential for species conservation in tropical secondary forests. *Conservation Biology* 23(6):1406-1417.
438. Lugo, A.E. The emerging era of novel tropical forests. *Biotropica* 41(5):589-591.
439. Harmon, M.E., W.L. Silver, B. Fasth, H. Chen, I.C. Burke, W.J. Parton, S.C. Hart, W.S. Currie, J. Laundre, J. Wright, J. Yarie, D. Wedin, B. Cintrón, A.E. Lugo, T. Fahey, J. Melillo, J. Anderson, M. McClellan, S. Halstead, J. Blair, P. Sollins, J. Lodge, J. Baron, N. Nankarni, J. Morris, T. Gower, R. Edmonds, C. White, P. Zedler, H. Goholz, and L. Blum. Long-term patterns of mass loss during the decomposition of leaf and fine root litter: an intersite comparison. *Global Change Biology* 15(5):1320-1338.

## 2010

440. Medina, E., E. Cuevas, and A.E. Lugo. Nutrient relations of dwarf *Rhizophora mangle* L. mangroves on peat in eastern Puerto Rico. *Plant Ecology* 207:13-24.



441. Heartsill Scalley, T., F.N. Scatena, A.E. Lugo, S. Moya, and C.R. Estrada Ruiz. Changes in structure, composition, and nutrients during 15 yr of hurricane-induced succession in a subtropical wet forest in Puerto Rico. *Biotropica* 42(4):455-463.
442. Vance Chalcraft, H.D., M.R. Willig, S.B. Cox, A.E. Lugo, and F.N. Scatena. Relationship between aboveground biomass and multiple measures of biodiversity in subtropical forest of Puerto Rico. *Biotropica* 42(3):290-299.
443. Lugo, A.E. and G. González. Changing conditions and changing ecosystems; a long-term regional and transcontinental research approach on invasive species. Pages 121-126 in M.E. Dix and K. Britton, editors. *A Dynamic Invasive Species Research Vision: Opportunities and Priorities 2009-29*. USDA Forest Service General Technical Report WO-79.
444. Abelleira Martínez, O.J., M.A. Rodríguez, I. Rosario, N. Soto, A. López, and A.E. Lugo. Structure and species composition of novel forests dominated by an introduced species in northcentral Puerto Rico. *New Forests* 39:1-18.
445. Lugo, A.E. Let's not forget the biodiversity of the cities. *Biotropica* 42(5):576-577.

## 2011

446. Asner, G.P, R.E. Martin, R. Tupayachi, R. Emerson, P. Martínez, F. Sinca, G.V.N. Powell, S.J. Wright, and A.E. Lugo. Taxonomy and remote sensing of leaf mass per area (LMA) in humid tropical forests. *Ecological Applications* 21(1):85-98.
447. Lugo, A.E., C.M. Domínguez Cristóbal, and N. Méndez. Hurricane Georges accelerated litterfall fluxes of a 26 yr-old novel secondary forest in Puerto Rico. Pages 535-554 in A.R. Lupo, editor. *Recent Hurricane Research: Climate, Dynamics, and Societal Impacts*. InTech, Rijeka, Croatia. 616 p.
448. Molina Colón, S., A.E. Lugo, and O.M. Ramos González. Novel dry forests in southwestern Puerto Rico. *Forest Ecology and Management* 262:170-177. DOI:10.1016/j.foreco.2011.03.020.
449. Lugo, A.E., O.J. Abelleira, A. Collado, C.A. Viera, C. Santiago, D.O. Vélez, E. Soto, G. Amaro, G. Charón, H. Colón, Jr., J. Santana, J.I. Morales, K. Rivera, L. Ortíz, L. Rivera, M. Maldonado, N. Rivera, and N.J. Vázquez. Allometry, biomass, and chemical content of novel African tulip tree (*Spathodea campanulata*) forests in Puerto Rico. *New Forests* 42(3):267-283. DOI:10.1007/s11056-011-9258-8.
450. Lugo, A.E., O.M. Ramos González, and C. Rodríguez Pedraza. The Río Piedras Watershed and its Surrounding Environment. USDA Forest Service, International Institute of Tropical Forestry, Rio Piedras, PR. FS-980. 46p.
451. Davis, M.A., M.K. Chew, R.J. Hobbs, A.E. Lugo, J.J. Ewel, G.J. Vermeij, J.H. Brown, M.L. Rosenzweig, M.R. Gardener, S.P. Carroll, K. Thompson, S.T.A. Pickett, J.C. Stromberg, P.D. Tredici, K.N. Suding, J.G. Ehrenfeld, J.P. Grime, J. Mascaro and J.C. Briggs. Don't judge species on their origins. *Nature* 474:153-154.

452. Peters, D.P.C., A.E. Lugo, S.S. Chapin, III, S.T.A. Pickett, M. Duniway, A.V. Rocha, F.J. Swanson, C. Laney, and J. Jones. Cross-system comparisons elucidate disturbance complexities and generalities. *Ecosphere* 2(7): Article 81. 26p.

453. Lugo, A.E., A. García Martínó, and F. Quiñones Marquez. La Cartilla del Agua (revisada). *Acta Científica* 25:1-138. [www.fs.fed.us/global/iitf/pubs/actav25hires.pdf](http://www.fs.fed.us/global/iitf/pubs/actav25hires.pdf)  
<http://www.treesearch.fs.fed.us/pubs/44177>

## 2012

454. Álvarez Ruiz, M. and A.E. Lugo. Landscape effects on structure and species composition of tabonuco forests in Puerto Rico: Implications for conservation. *Forest Ecology and Management* 266:138-147.

455. Lugo, A.E. Conundrums, paradoxes, and surprises: A brave new world of biodiversity conservation. Pages 1-12 *in* T. Schlichter and L. Montes, editors. *Forests in Development: A Vital Balance*. Springer, New York. 81p.

456. Medina, E., E. Cuevas, S. Molina, A.E Lugo, and O. Ramos. Structural variability and species diversity of a dwarf Caribbean dry forest. *Caribbean Journal of Science* 46(2-3):203-215.

457. Brokaw, N., T.A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R.B. Waide, and M.R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.

458. Lugo, A.E., R.B. Waide, M.R. Willig, T.A. Crowl, F.N. Scatena, J. Thompson, W.L. Silver, W.H. McDowell, and N. Brokaw. 2012. Ecological paradigms for the tropics: old questions and continuing challenges. Pages 3-41 *in* N. Brokaw, T.A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R. B. Waide, and M.R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.

459. McDowell, W.H., F.N. Scatena, R.B. Waide, N. Brokaw, G.R. Camilo, A.P. Covich, T.A. Crowl, G. González, E.A. Greathouse, P. Klawinski, D.J. Lodge, A.E. Lugo, C.M. Pringle, B.A. Richardson, M.J. Richardson, D.A. Schaefer, W.L. Silver, J. Thompson, D.J. Vogt, K.A. Vogt, M.R. Willig, L.L. Woolbright, X. Zou, and J.K. Zimmerman. 2012. Geographic and ecological setting of the Luquillo Mountains. Pages 72-163 *in* N. Brokaw, T.A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R.B. Waide, and M.R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.

460. Scatena, F.N., J.F. Blanco, K.H. Beard, R.B. Waide, A.E. Lugo, N. Brokaw, W.L. Silver, B.L. Haines, and J.K. Zimmerman. 2012. Disturbance regime. Pages 164-200 *in* N. Brokaw, T. A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R.B. Waide, and M.R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.

461. Brokaw, N., J.K. Zimmerman, M.R. Willig, G.R. Camilo, A.P. Covich, T.A. Crowl, N. Fetcher, B.L. Haines, D.J. Lodge, A.E. Lugo, R.W. Myster, C.M. Pringle, J.M. Sharpe, F.N. Scatena, T.D. Schowalter, W.L. Silver, J. Thompson, D.J. Vogt, K.A. Vogt, R.B. Waide, L.R. Walker, L.L.

- Woolbright, J.M. Wunderle, and X. Zou. 2012. Response to disturbance. Pages 201-271 in N. Brokaw, T.A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R.B. Waide, and M.R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.
462. Crowl, T.A., N. Brokaw, R.B. Waide, G. González, K.H. Beard, E.A. Greathouse, A.E. Lugo, A.P. Covich, D.J. Lodge, C.M. Pringle, J. Thompson, and G.E. Belovsky. 2012. When and where biota matter, linking disturbance regime, species characteristics, and dynamics of communities and ecosystems. Pages 272-304 in N. Brokaw, T.A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R.B. Waide, and M.R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.
463. Lugo, A.E., F.N. Scatena, R.B. Waide, E.A. Greathouse, C.M. Pringle, M.R. Willig, K.A. Vogt, L.R. Walker, G. González, W.H. McDowell, and J. Thompson. 2012. Management implications and applications of long-term ecological research. Pages 305-360 in N. Brokaw, T.A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R.B. Waide, and M.R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.
464. Willig, M.R., C.P. Bloch, A.P. Covich, C.A.S. Hall, D.J. Lodge, A.E. Lugo, W.L. Silver, R.B. Waide, L.R. Walker, and J.K. Zimmerman. 2012. Long-term research in the Luquillo Mountains, synthesis and foundations for the future. Pages 361-441 in N. Brokaw, T.A. Crowl, A.E. Lugo, W.H. McDowell, F.N. Scatena, R.B. Waide, and M. R. Willig, editors. *A Caribbean Forest Tapestry: The Multidimensional Nature of Disturbance and Response*. Oxford University Press, New York, NY. 460 p.
465. Harris, N. L., A.E. Lugo, S. Brown, and T. Heartsill Scalley, editors. 2012. *Luquillo Experimental Forest: Research History and Opportunities*. EFR-1, Washington, DC. U.S. Department of Agriculture. 152 p.
466. Lugo, A.E., T.A. Carlo, and J.M. Wunderle Jr. Natural mixing of species: novel plant-animal communities on Caribbean Islands. *Animal Conservation* 15(2012):233-241.
467. Heartsill Scalley, T., F.N. Scatena, S. Moya, and A.E. Lugo. Long-term dynamics of organic matter and elements exported as coarse particulates from two Caribbean montane watersheds. *Journal of Tropical Ecology* 28:127-139. DOI:10.1017/S0266467411000733.
468. Ramjohn, I.A., P.G. Murphy, T.M. Burton and A.E. Lugo. Survival and rebound of Antillean dry forests: role of forest fragments. *Forest Ecology and Management* 284:124-132.
469. Lugo, A.E., E.H. Helmer, and E. Santiago Valentín. Caribbean landscapes and their biodiversity. *Interciencia* 37(9):705-710.
470. Pérez, M.E., I. Sastre-de Jesús, A.E. Lugo, and O.J. Abelleira Martínez. Bryophyte species diversity in secondary forests dominated by the introduced species *Spathodea campanulata* Beauv. in Puerto Rico. *Biotropica* 44(6):763-770.

471. Lugo, A.E. Social silviculture: a new paradigm in the search for sustainable land conservation in the tropics? *Bois et Forêts des Tropiques* 314(4):3-5.
472. Lugo, A.E., O. Abelleira Martínez, and J. Fonseca da Silva. Aboveground biomass, wood volume, nutrient stocks and leaf litter in novel forests compared to native forests and tree plantations in Puerto Rico. *Bois et Forêts des Tropiques* 314(4):7-16.
473. Lugo, A.E., C.M. Concepción, L.E. Santiago Acevedo, T.A. Muñoz Erickson, J.C. Verdejo Ortiz, R. Santiago Bartolomei, J. Forero Montaña, C.J. Nych, H. Manrique, and W. Colón Cortes. In search of an adaptive social-ecological approach to understanding a tropical city. *Acta Científica* 26(1-3):121-134.

## 2013

474. Ewel, J.J., J. Mascaro, C. Kueffer, A.E. Lugo, L. Lach, and M.R. Gardener. Islands: where novelty is the norm. Pages 29-44 in R.J. Hobbs, E.S. Higgs, and C.M. Hall, editors. *Novel Ecosystems. Intervening in the New Ecological World Order*. John Wiley and Sons, Ltd. West Sussex, UK. 368p.
475. Martinuzzi, S., A.E. Lugo, T.J. Brandeis, and E.H. Helmer. Geographic distribution and level of novelty of Puerto Rican forests. Pages 81-87 in R.J. Hobbs, E.S. Higgs, and C.M. Hall, editors. *Novel ecosystems. Intervening in the New Ecological World Order*. John Wiley and Sons, Ltd. West Sussex, UK. 368p.
476. Kennedy, P.L., L. Lach, A.E. Lugo, and R.J. Hobbs. Fauna and novel ecosystems. Pages 127-141 in R.J. Hobbs, E.S. Higgs, and C.M. Hall, editors. *Novel ecosystems. Intervening in the New Ecological World Order*. John Wiley and Sons, Ltd. West Sussex, UK. 368p.
477. Perring, M.P., P. Manning, R.J. Hobbs, A.E. Lugo, E.E. Ramalho, and R.L. Standish. Novel urban ecosystems and ecosystem services. Pages 310-325 in R.J. Hobbs, E.S. Higgs, and C.M. Hall, editors. *Novel ecosystems. Intervening in the New Ecological World Order*. John Wiley and Sons, Ltd. West Sussex, UK. 368p.
478. Lugo, A.E., E.H. Helmer, and O. Ramos González. The Greening of the Caribbean: from the Latinos to the Anthropocene. The 9<sup>th</sup> Annual Public Lecture of the Environmental Foundation of Jamaica in Association with the Jamaica Protected Areas Trust/Forest Conservation Trust and in recognition of the 75<sup>th</sup> Anniversary of the Forestry Department, Kingston, Jamaica. October 13, 2013 Jamaica Pegasus Hotel. 32 p.
479. Laurence, W.F., D.C. Useche, J. Rendeiro, M. Kalka, C.J.A. Bradshaw, S.P. Sloan, S.G. Laurence, M. Campbell, K. Abernethy, A. Lugo, and 156 others. Averting biodiversity collapse in tropical forest protected areas. In 2012 Nature DOI: 10.1038/Nature 11318; Nature 489:290.-294.
480. Lugo, A.E. Foreword: Up, down, and across the mountains: a new look at the Luquillo Mountains. Pages 9-10 in G. González, M.R. Willig, and R.B. Waide, editors. *Ecological gradient analyses in a tropical landscape*. Ecological Bulletins 54. Wiley-Blackwell, Hoboken, N.J.
481. Waide, R.B., D.E Comarazamy, J.R. González, C.A.S. Hall, A.E. Lugo, J.C. Luvall, D.J. Murphy, J.R. Ortiz Zayas, N.D. Ramírez Beltran, F.N. Scatena, and W.L. Silver. Climate variability

at multiple spatial and temporal scales in the Luquillo Mountains, Puerto Rico. Pages 21-41 in G. González, M.R. Willig, and R.B. Waide, editors. *Ecological Bulletins* 54. Wiley-Blackwell, Hoboken, N.J.

482. Harris, N.L., C.A.S. Hall, and A.E. Lugo. A test of the maximum power hypothesis along an elevational gradient in the Luquillo Mountains of Puerto Rico. Pages 233-243 in G. González, M.R. Willig, and R.B. Waide, editors. *Ecological Bulletins* 54. Wiley-Blackwell, Hoboken, N.J.

483. Lugo, A.E. Novel tropical forests: nature's response to global change. *Tropical Conservation Science* 613:325-337.

484. Peters, D.P.C, C.M. Laney, A.E. Lugo, S.L. Collins, C.T. Driscoll, P.M. Groffman, J.M. Grove, A.K. Knapp, T.K. Kratz, M.D. Ohman, R.B. Waide, J.W. Yao. Long-term Trends in Ecological Systems: A Basis for Understanding Responses to Global Change. USDA Agricultural Research Service Technical Bulletin Number 1931. Washington, D.C. 382 p.

485. Peters, D.P.C, C.M. Laney, A.E. Lugo, S.L. Collins, C.T. Driscoll, P.M. Groffman, J.M. Grove, A.K. Knapp, T.K. Kratz, M.D. Ohman, R.B. Waide, J.W. Yao. Long-term trends in ecological systems: An introduction to cross site comparisons and relevance to global change studies. Pages 1-20 in Peters, D.P.C, C.M. Laney, A.E. Lugo, S.L. Collins, C.T. Driscoll, P.M. Groffman, J.M. Grove, A.K. Knapp, T.K. Kratz, M.D. Ohman, R.B. Waide, J.W. Yao, editors. Long-term trends in Ecological Systems: A Basis for Understanding Responses to Global Change. USDA Agricultural Research Service Technical Bulletin Number 1931. Washington, D.C.

486. Driscoll, C.T., P.M. Groffman, J.M. Blair, A.E. Lugo, C.M. Laney and D.P.C. Peters. Cross site comparisons of precipitation and surface water chemistry. Pages 46-50 in Peters, D.P.C, C.M. Laney, A.E. Lugo, S.L. Collins, C.T. Driscoll, P.M. Groffman, J.M. Grove, A.K. Knapp, T.K. Kratz, M.D. Ohman, R.B. Waide, J.W. Yao, editors. Long-term Trends in Ecological Systems: A Basis for Understanding Responses to Global Change. USDA Agricultural Research Service Technical Bulletin Number 1931. Washington, D.C.

487. Peters, D.P.C, A.E. Lugo, F.S. Chapin III, A.J. Tepley, and F.J. Swanson. Disturbance regimes and ecological response across sites. Pages 58-71 in Peters, D.P.C, C.M. Laney, A.E. Lugo, S.L. Collins, C.T. Driscoll, P.M. Groffman, J.M. Grove, A.K. Knapp, T.K. Kratz, M.D. Ohman, R.B. Waide, J.W. Yao, editors. Long-term Trends in Ecological Systems: A Basis for Understanding Responses to Global Change. USDA Agricultural Research Service Technical Bulletin Number 1931. Washington, D.C.

488. McDowell, W.H., R.L. Brereton, F.N. Scatena, J.B. Shanley, N.V. Brokaw, and A.E. Lugo. Interactions between lithology and biology drive the long-term response of a stream chemistry to major hurricanes in a tropical landscape. *Biogeochemistry* 116:175-186. DOI 10.1007/s10533-013-9916-3.

## 2014

489. Lugo, A. Poetic science: aproximaciones artístico, científicas sobre El Yunque Visión doble. <http://www.visiondoble.net/2014/03/15/poetic-science-aproximaciones-artistico-cientificas-sobre-el-yunque/>

490. Robinson, K., J. Bauer; and A.E. Lugo. Passing the Baton From the Tainos to Tomorrow. Forest Conservation in Puerto Rico. USDA Forest Service, International Institute of Tropical Forestry, San Juan, Puerto Rico. FS-862. 196 p.
491. Erickson, H.E., E.H. Helmer, T.J. Brandeis, and A.E. Lugo. Controls on fallen leaf chemistry and forest floor element masses in native and novel forests across a tropical island. *Ecosphere* 5(4): Article 48. 28 p.
492. Ramírez, A., K.G. Rosas, A.E. Lugo, and O.M. Ramos González. Spatio-temporal variation in stream water chemistry in a tropical urban watershed. *Ecology and Society* 19(2):45. <http://dx.doi.org/10.5751/ES-06481-190245>
493. Lugo, A.E. Tropical cities are diverse and deserve more social-ecological attention. *Ecology and Society* 19(3):24. <http://dx.doi.org/10.5751/ES-06618-190324>
494. Muñoz Erickson, T.A., A.E. Lugo, and B. Quintero. Emerging synthesis themes from the study of social-ecological systems of a tropical city. *Ecology and Society* 19(3):23. <http://dx.doi.org/10.5751/ES-06385-190323>
495. Medina, E., E. Cuevas, A.E Lugo, E. Terezo, J. Jiménez-Osornio, P.A Macario Mendoza, and P. Montañez. Conservative nutrient use by big-leaf mahogany (*Swietenia macrophylla* King) planted under contrasting environmental conditions. *Revista Árvore*. 38(3):479-488.
496. Muñoz Erickson, T.A., A.E. Lugo, E. Meléndez Ackerman, L.E Santiago Acevedo, J. Seguinot Barbosa, P. Méndez Lázaro, M. Hall, B. Quintero, A. Ramírez, D. García Montiel, R.G. Jr. Pontius, O.M. Ramos González, R. Santiago Bartolomei, J. Verdejo Ortíz, J.R. Ortíz Zayas, C.M. Concepción, D. Cusack, J. Giusti, W. McDowell, M.L. Cruz-Torres, J. Vallejo, L. Cray, J. Zimmerman, V. Cuadrado Landrau and M. Figueroa. Knowledge to serve the city: insights from an emerging knowledge-action network to address vulnerability and sustainability in San Juan, Puerto Rico. *Cities and the Environment (CATE)*. 7(1): Article 5. <http://digitalcommons.lmu.edu/cate/vol7/iss1/5/>
497. Lugo, A.E. Evolving conservation paradigms for the Anthropocene. Pages 47-59 in V.A. Sample, and R.B. Bixler, editors. Forest conservation and management in the Anthropocene: Adaptation of science policy and practices. Proceedings RMRS-P-71. USDA Forest Service Rocky Mountains Research Station, Fort Collins, CO.
498. Lugo, A.E., B. Eav, G.S. Foster, M. Rains, J. Reaves, D. J. Stouder. Forest Service experimental forests and long-term data sets: stories of their meaning to station directors. Pages 25-57 in D.C. Hayes, S.L. Stout, R.H. Crawford, and A.P. Hoover, editors. USDA Forest Service Experimental Forests and Ranges Research for the Long-term. Springer, New York. 672 p.
499. Vose, J.M., W.T. Swank, M.B. Adams, D. Amataya, J. Campbell, S. Johnson, F.J. Swanson, R. Kolka, A.E. Lugo, R. Musselman, C. Rhoades. The role of experimental forests and ranges in the development of ecosystem science and biogeochemical cycling research. Pages 387-403 in D.C. Hayes, S.L. Stout, R.H. Crawford, and A.P. Hoover, editors. USDA Forest Service Experimental Forests and Ranges Research for the Long-term. New York, NY.

500. Lugo, A.E. and T. Heartsill Scalley. Research in the Luquillo Experimental Forest has advanced understanding of tropical forests and resolved management issues. Pages 435-461 in D.C. Hayes, S.L. Stout, R.H. Crawford, and A.P. Hoover, editors. USDA Forest Service experimental forests and ranges: research for the long-term. Springer, New York. 672 p.
501. Sánchez, M.J., E. López and A.E. Lugo (Compilers). Chemical and physical analyses of selected plants and soils from Puerto Rico. USDA Forest Service, International Institute of Tropical Forestry. General Technical Report IITF GTR-45. 85 p. Tables in CD.
502. Lugo, A.E. and E. Medina. Mangrove forests. Pages 343-352 in Encyclopedia of Natural Resources: Land. Taylor and Francis, New York. <http://dx.doi.org/10.1081/E-ENRL-120047500>.
503. Lugo, A.E. Frederick N. Scatena: A tropical geomorphologist. Forest Ecology and Management 332:134-135.
504. Hobbs, R.J., E. Higgs, C.M. Hall, P. Bridgewater, F.S. Chapin III, E.C. Ellis, J.J. Ewel, L.M. Hallett, J. Harris, K.B. Hulvey, S.T. Jackson, P.L. Kennedy, C. Kueffer, L. Lach, T.C. Lantz, A.E. Lugo, J. Mascaro, S.D. Murphy, C.R. Nelson, M.P. Perring, D.M. Richardson, T.R. Seastedt, R.J. Standish, B.M. Starzomski, K.N. Suding, P.M. Tognetti, L. Yakob, and L. Yung. Managing the whole landscape: historical hybrid and novel ecosystems. *Frontiers in Ecology and the Environment* 12(10):5157-5164. doi:10.1890/130300.
505. Lugo, A.E., E. Medina, and K. McGinley. Issues and challenges of mangrove conservation in the Anthropocene. *Madera y Bosques* 20(número especial): 11-38.