

## **CHRISTOPHER NEILL**

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### **EDUCATION:**

1992 Ph.D. University of Massachusetts, Amherst, MA.

1988 M.S. University of Massachusetts, Amherst, MA.

1980 B.S. Cornell University, Ithaca, NY.

### **EXPERIENCE:**

August 2004 – present. Associate Scientist, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA

June 2005 – present. Associate Professor (MBL), Brown University, Providence, RI

June 2002 – present. Co-lead the Hands-on Environmental Laboratory for MBL's Science Journalism Program.

September 2004 – present. Teach terrestrial ecology to undergraduates in MBL's Semester in Environmental Science.

May 1997 – July 2004. Assistant Scientist. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA

July 1994 - May 1997. Research Associate. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.

November 1991 - July 1994. Post-Doctoral Research Associate, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.

June – August during 1991 and 1993. Graduate Faculty, Masters of Science in Environmental Studies Program, Bard College, Annandale-on-Hudson, NY. Taught *Ecosystem Ecology*.

September 1985 - October 1991. Graduate Research Assistant and Instructor, University of Massachusetts, Amherst, MA.

### **RESEARCH INTERESTS:**

Terrestrial ecosystem biogeochemistry, ecosystem responses to deforestation and other land use changes, soil carbon and nutrient dynamics and trace gas exchanges, ecosystem restoration, tropical agriculture, wetland plant ecology and biogeochemistry, use of stable isotopes in ecosystem research

### **RECENT PROFESSIONAL ACTIVITIES**

2007. Fulbright Fellowship, Brazil. Residence at University of São Paulo, Piracicaba, January to June 2007

2007. Organizer and guest editor, Special issue of *Biological Conservation* on the ecology and management of coastal New England sandplains

- 2000-2006. Science team, NASA Large-Scale Biosphere-Atmosphere (LBA) Experiment in Amazônia
2006. Organizer and guest editor, Special LBA issue of *Hydrological Processes*
2006. Leader of LBA small watershed synthesis activity
- 2002-2007. Subject editor, *Plant and Soil*
- 1998-present. Teach in MBL's Semester in Environmental Science undergraduate semester
- 2000-present. Supervise Research Experience for Undergraduates as part of "Coastal Bays of New England" REU site
- 1994-present. Co-advised 4 PhD students and 1 MS student at CENA/USP
- 2000-present. Co-direct the environmental section of MBL's hands-on science writers program that brings working journalists to MBL for a week of intensive science training
- 2003-present. Board of Directors, Association to Preserve Cape Cod
- 2002-present Board of Directors, Falmouth Citizens Concerned with Estuaries and Salt Ponds
- 2006-present. President, Coonamessett River Trust land trust
- 1994-present. Write monthly op-ed column on natural history and environmental issues for The Enterprise newspaper in Falmouth, MA
2002. Review team for International Center for Tropical Agriculture, Amazon Program, Cali, Colombia, April 8-12.

## **PUBLICATIONS:**

### Refereed Journal Articles and Book Chapters

- In press. Chaves, J., C. Neill, S. Germer, S. Gouveia Neto, A. V. Krusche, A. Castellanos Bonilla and H. Elsenbeer. Nitrogen losses in Amazon forest and pasture soils. *Ecosystems*.
- In press. Neill, C., M. O. Bezerra, R. McHorney and C. B. O'Dea. Distribution, species composition and management implications of seed banks in southern New England coastal plain ponds. *Biological Conservation*.
- In press. Ballester, M. V. R., R. L. Victoria, A. V. Krusche, M. Bernardes, C. Neill, L. A. Deegan and J. E. Richey. Physical and human controls on the carbon composition of organic matter in tropical rivers: An integrated analysis of landscape properties and river isotopic composition. International Atomic Energy Agency, Vienna, Austria.
- In press. Kniffin, M., C. Neill, R. M. McHorney and G. Gregory. Nutrient limitation of periphyton and phytoplankton in Cape Cod coastal plain ponds. *Northeastern Naturalist*.
2009. Germer, S., C. Neill, T. Vetter, J. Chaves, A. V. Krusche and H. Elsenbeer. Implications of long-term land-use change on the hydrology and solute budgets of small catchments in Rondônia (Brazil). *Journal of Hydrology* 364: 349-363. doi:10.1016/j.jhydrol.2008.11.013.
2008. Zimmermann, A., S. Germer, C. Neill., A. V. Krusche, J. Chaves and H. Elsenbeer. Spatio-temporal patterns of throughfall water and solute deposition in an open tropical rain forest, south-western Amazonia, Brazil. *Journal of Hydrology* 360: 87-102, doi: 10.1016/j.jhydrol.2008.07.028.
2008. Davidson, E. A., G. P. Asner, T. Stone, C. Neill and R. O. Figueiredo. Objective indicators of pasture degradation from spectral mixture analysis of Landsat imagery. *Journal of Geophysical Research* 113: G00B03, doi:10.1029/2007JG000622.

2008. Chaves, J., C. Neill, H. Elsenbeer, A. Krusche, S. Germer and S. Gouveia Neto. Land management impacts on runoff sources in small Amazon watersheds. *Hydrological Processes* 22: 1766-1775.
2007. Germer, S., C. Neill, A. V. Krusche, S. Gouveia Neto and H. Elsenbeer. Seasonal and within-event dynamics of rainfall and throughfall chemistry in an open tropical rainforest in Rondônia, Brazil. *Biogeochemistry* 86: 155-174.
2007. Neill, C., W. A. Patterson, III and David W. Crary, Jr. Responses of soil carbon, nitrogen and cations to the frequency and seasonality of prescribed burning in a Cape Cod oak-pine forest. *Forest Ecology and Management* 250: 234-243.
2007. McHorney, R. M. and C. Neill. Alteration of water levels in a Massachusetts coastal plain pond subject to municipal ground water withdrawals. *Wetlands* 27:366-380.
2007. Neill, C. The challenge of managing disturbance regimes, terrestrial communities and rare species in a suburbanizing region: the Northeastern U.S. coastal sandplain. *Biological Conservation* 136: 1-3.
2007. Neill, C., B. Von Holle, K. Kleese, K. R. Ivy, A. R. Collins, C. Treat and M. Dean. Historical influences on the vegetation and soils of the Martha's Vineyard, Massachusetts coastal sandplain: Implications for conservation and restoration. *Biological Conservation* 136: 17-32.
2007. Piccolo, M. C. and C. Neill. Mineralização e nitrificação do nitrogênio do solo sob floresta e pastagem na amazônia brasileira. Pages 581-634 in T Yamada, S. R. Stipp and A. G. C. Vitte (eds), *Nitrogênio e enxofre na agricultura Brasileira*. International Plant Nutrition Institute, Piracicaba, SP, Brazil.
2006. Neill, C., H. Elsenbeer, A. V. Krusche, J. L. Lehmann, D. Markewitz and R. O de Figueiredo. Hydrological and biogeochemical processes in a changing Amazon: Results from small watershed studies and the Large-Scale Biosphere-Atmosphere Experiment. *Hydrological Processes* 20: 2467-2476.
2006. Neill, C., L. A. Deegan, S. M. Thomas, C. L. Hauptert, A. V. Krusche, V. M. Ballester and R. L. Victoria. Deforestation alters channel hydraulic and biogeochemical characteristics of small lowland Amazonian streams. *Hydrological Processes* 20: 2563-2580.
2006. Neill, C., M. C. Piccolo, C. C. Cerri, P. A. Steudler and J. M. Melillo. Soil solution and nitrogen oxide losses during clearing of lowland Amazon forest for cattle pasture. *Plant and Soil* 281: 233-245.
2006. Lezberg, A. L., K. Buresch, C. Neill and T. Chase. Mechanical land clearing to promote establishment of coastal sandplain grassland and shrubland communities. *Restoration Ecology* 14:220-232.
2005. Cerri, C. C., J. M. Melillo, B. J. Feigl, M. C. Piccolo, C. Neill, P. A. Steudler, M. da C. S. Carvalho, V. P. Godinho, C. E. P. Cerri and M. Bernoux. Recent history of agriculture of the Brazilian Amazon Basin: Prospects for sustainable development and a first look at the biogeochemical consequences of pasture reformation. *Outlook on Agriculture* 34:215-233.
2005. Krusche, A. V., M. V. R. Ballester, R. L. Victoria, M. C. Bernardes, N. K., L. Hanada, R. Marcondes, D. C. Victoria, A. M. Toledo, J. P. Ometto, M. Z. Moreira, A. M. Toledo, M. A. Boloso, S. G. Neto, N. Bonelli, L. A. Deegan, C. Neill, S. M. Thomas, A. Aufdenkampe and

- J. E. Richey. As mudanças no uso da terra e a biogeoquímica dos corpos d'água na Amazônia. *Acta Amazonica* 35: 197-205.
2005. do Carmo, J. B., C. Neill, D. C. Garcia-Montiel, M. C. Piccolo, C. C. Cerri, P. A. Steudler, C. A. Andrade, C. C. Passianoto, B. J. Feigl and J. M. Melillo. Nitrogen dynamics during till and no-till pasture reformation sequences in Rondônia, Brazil. *Nutrient Cycling in Agroecosystems* 71:213-225.
2005. Neill, C., P. A. Steudler, D. C. Garcia-Montiel, J. M. Melillo, B. J. Feigl, M. C. Piccolo, C. C. Cerri. Rates and controls of nitrous oxide and nitric oxide emissions following conversion of forest to pasture in Rondônia. *Nutrient Cycling in Agroecosystems* 71:1-15.
2004. Davidson, E. A., C. Neill, A. V. Krusche, D. Markewitz, R. de O. Figueiredo and M. V. R. Ballester. Loss of nutrients from terrestrial ecosystems to streams and the atmosphere following land use change in Amazonia. Pages 147-158 in G. Asner and R. DeFries (eds.), *Ecosystems and Land Use Change*, American Geophysical Union Monographs Series 153.
2004. Garcia-Montiel, J. M. Melillo, P. A. Steudler, H. Tian, C. Neill, D. W. Kicklighter, B. Feigl and C. C. Cerri. Emissions of N<sub>2</sub>O and CO<sub>2</sub> from terra firme forests in Rondônia, Brazil. *Ecological Applications* 14: S214-S220.
2004. Thomas, S. M., C. Neill, L. A. Deegan, A. V. Krusche, R. Victoria and M. V. Ballester. Influences of land use and stream size on particulate and dissolved materials in a small Amazonian stream network. *Biogeochemistry* 68:135-151.
2003. Garcia-Montiel, D. C., P. A. Steudler, M. Piccolo, C. Neill, J. M. Melillo and C. C. Cerri. Nitrogen oxide emissions following wetting of dry soils in forest and pastures in Rondônia, Brazil. *Biogeochemistry* 64: 319-336.
2003. Peterson, G. G. and C. Neill. Using soil  $\delta^{13}\text{C}$  to detect the historic presence of little bluestem (*Schizachyrium scoparium*) grasslands on Martha's Vineyard. *Restoration Ecology* 11:116-122.
2002. Garcia-Montiel, D. C., J. M. Melillo, P. A. Steudler, H. Tian, C. Neill, D. W. Kicklighter and C. C. Cerri. Nitrous oxide emissions from the Amazon Basin as estimated by soil respiration. *Geophysical Research Letters* 29:14-1 to 14-3.
2002. Steudler, P. A., D. C. Garcia-Montiel, M. C. Piccolo, C. Neill, J. M. Melillo, B. J. Feigl and C. C. Cerri. Trace gas responses to N and P fertilization of tropical forest and pasture soils. *Global Biogeochemical Cycles* 16: 7-1 to 7-12.
2001. Melillo, J. M., P. A. Steudler, B. J. Feigl, C. Neill, D. Garcia, M. C. Piccolo, C. C. Cerri and H. Tian. Nitrous oxide emissions from forests and pastures of various ages in the Brazilian Amazon. *Journal of Geophysical Research* 106:34,179-34,188.
2001. Garcia-Montiel, D. C., P. A. Steudler, M. C. Piccolo, J. M. Melillo, C. Neill and C. C. Cerri. Controls on soil nitrogen oxide emissions from forest and pastures in the Brazilian Amazon. *Global Biogeochemical Cycles* 15:1021-1030.
2001. Neill, C., L. A. Deegan, S. M. Thomas and C. C. Cerri. Deforestation for pasture alters nitrogen and phosphorus in soil solution and streamwater of small Amazonian watersheds. *Ecological Applications* 11: 1817-1828.
2001. Cornelissen, J. H. C., T. V. Callaghan, J. M. Atalalo, A. Michelsen, E. Graglia, A. E. Hartley, D. S. Hik, S. E. Hobbie, M. C. Press, C. H. Robinson, G. H. R. Henry, G. R. Shaver, G. K. Phoenix, D. Gwynn Jones, S. Jonasson, F. S. Chapin, III, U. Molau, C. Neill, J. A. Lee,

- J. M. Melillo, B. Sveinbjörnsson and R. Aerts. Global change and arctic ecosystems: is lichen decline a function of increases in vascular plant biomass? *Journal of Ecology* 89:984-994.
2000. Garcia-Montiel, D., C. Neill, J. M. Melillo, S. M. Thomas, P. A. Steudler and C. C. Cerri. Soil phosphorus transformations after forest clearing for pasture in the Brazilian Amazon. *Soil Science Society of America Journal* 64:1792-1804.
2000. Neill, C. and E. A. Davidson. Soil carbon accumulation or loss following deforestation for pasture in the Brazilian Amazon. Pages 197-211 in R. Lal, J. M. Kimble and B. A. Stewart (eds.), *Global Climate Change and Tropical Ecosystems*, CRC Press, NY.
1999. Hartley, A. E, C. Neill, R. Crabtree, J. M. Melillo and F. P. Bowles. Plant performance and soil N mineralization in response to simulated climate change in subarctic dwarf shrub heath. *Oikos* 86:331-343.
1999. Neill, C., M. C. Piccolo, J. M. Melillo, P. A. Steudler and C. C. Cerri. Nitrogen dynamics in Amazon forest and pasture soils measured by  $^{15}\text{N}$  pool dilution. *Soil Biology and Biochemistry* 31:567-572.
1998. Bernoux, M., C. Cerri, C. Neill and J. F. L. Moraes. The use of stable isotopes for estimating soil organic matter turnover rates. *Geoderma* 82:43-58.
1997. Neill, C., J. M. Melillo, P. A. Steudler, C. C. Cerri, J. F. L. Moraes, M. C. Piccolo and M. Brito. Soil organic matter stocks following forest clearing for pasture in the southwestern Brazilian Amazon. *Ecological Applications* 7:1216-1225.
1997. Neill, C., C. C. Cerri, J. M. Melillo, B. J. Feigl, P. A. Steudler, J. F. L. Moraes and M. C. Piccolo. Soil carbon stocks and dynamics following deforestation for pasture in Rondônia. Pages 9-28 in R. Lal, J.M. Kimble, R. F. Follett and B. A. Stewart (eds.), *Soil Processes and the Carbon Cycle*. CRC Press, NY.
1997. Neill, C., M. C. Piccolo, C. C. Cerri, P. A. Steudler, J. M. Melillo and M. Brito. Net nitrogen mineralization and net nitrification rates in soils following deforestation for pasture across the southwestern Brazilian Amazon Basin landscape. *Oecologia* 110:243-252.
1996. Piccolo, M. C., C. Neill, J. M. Melillo, C. C. Cerri and P. A. Steudler.  $^{15}\text{N}$  natural abundance in forest and pasture soils of the Brazilian Amazon Basin. *Plant and Soil* 182:249-258.
1996. Fry, B., R. Garritt, K. Tholke, C. Neill, R. H. Michener, F. J. Mersch and W. Brand. Cryoflow: cryofocusing nanomole amounts of  $\text{CO}_2$ ,  $\text{N}_2$  and  $\text{SO}_2$  from an elemental analyzer for stable isotopic analysis. *Rapid Communications in Mass Spectrometry* 10:953-958.
1996. Steudler, P. A., J. M. Melillo, B. J. Feigl, C. Neill, M. C. Piccolo and C. C. Cerri. Consequence of forest-to-pasture conversion on  $\text{CH}_4$  fluxes in the Brazilian Amazon Basin. *Journal of Geophysical Research* 101:18,547-18,554.
1996. Neill, C., B. Fry, J. M. Melillo, P. A. Steudler, J. L. Moraes and C. C. Cerri. Forest- and pasture-derived carbon contributions to carbon stocks and microbial respiration of tropical pasture soils. *Oecologia* 107:113-119.
1995. Neill, C. Seasonal flooding, nitrogen availability and nitrogen utilization in a prairie marsh. *Biogeochemistry* 30:171-189.
1995. Cornwell, J. C., C. Neill and C. Stevenson. Biogeochemical origin of  $\delta^{34}\text{S}$  signatures in a prairie marsh. *Canadian Journal of Fisheries and Aquatic Sciences* 52:1816-1820.

1995. Neill, C., M. C. Piccolo, P. A. Steudler, J. M. Melillo, B. Feigl and C. C. Cerri. Nitrogen dynamics in soils of forests and active pastures in the western Brazilian Amazon Basin. *Soil Biology and Biochemistry* 27:1167-1175.
1995. Moraes, J. L., C. C. Cerri, J. M. Melillo, D. Kicklighter, C. Neill, D. L. Skole and P. A. Steudler. Soil carbon stocks of the Brazilian Amazon basin. *Soil Science Society of America Journal* 59:244-247.
1994. Turner, R. E., J. M. Lee and C. Neill. Backfilling canals to restore wetlands: empirical results in coastal Louisiana. *Wetlands Ecology and Management* 3:63-78.
1994. Piccolo, M. C., C. Neill and C. C. Cerri. <sup>15</sup>N abundance in soils along forest-to-pasture chronosequences in the western Brazilian Amazon Basin. *Oecologia* 99:112-117.
1994. Piccolo, M. C., C. Neill and C. C. Cerri. Net nitrogen mineralization and net nitrification along a tropical forest-to-pasture chronosequence. *Plant and Soil* 162:61-70.
1994. Neill, C. Seasonal flooding and primary production in prairie marshes harvested for wild hay. *Canadian Journal of Botany* 72:801-807.
1994. Day, J. W., F. H. Sklar, C. Neill, W. H. Conner, C. S. Hopkinson, G. P. Kemp and R. Costanza. Modeling of Louisiana swamp forests (USA). Pages 95-128, in B. C. Patten (ed.), *Wetlands and Shallow Continental Waterbodies, Volume 2*. SBD Academic Publishing, The Hague, Netherlands.
1994. Neckles, H. A. and C. Neill. Hydrologic control of litter decomposition in seasonally flooded prairie marshes. *Hydrobiologia* 286:155-165.
1993. Neill, C. Growth and resource allocation of whitetop (*Scolochloa festucacea*) along a water depth gradient. *Aquatic Botany* 46:235-246.
1993. Neill, C. Seasonal flooding, soil salinity and primary production in northern prairie marshes. *Oecologia* 94:499-505.
1992. Neill, C. Comparison of biomass cores and ingrowth techniques for measuring belowground production. *Ecology* 73:1918-1921.
1992. Neill, C. Life history and population dynamics of shoots of whitetop (*Scolochloa festucacea*) under different levels of flooding and nitrogen supply. *Aquatic Botany* 42:241-252.
1992. Neill, C. and J. C. Cornwell. Stable carbon, nitrogen and sulfur isotopes in a prairie marsh food web. *Wetlands* 12:217-224.
1990. Neill, C. Effects of nutrients and water levels on emergent macrophyte biomass in a prairie marsh. *Canadian Journal of Botany* 68:1007-1014.
1990. Neill, C. The effect of nitrogen additions on species composition in prairie whitetop (*Scolochloa festucacea*) marshes. *Canadian Journal of Botany* 68:1015-1020.
1990. Neill, C. Nutrient limitation of hardstem bulrush (*Scirpus acutus* Muhl.) in a Manitoba Interlake Region marsh. *Wetlands* 10:69-76.
1987. Neill, C. and R. E. Turner. Backfilling canals to mitigate wetland dredging in Louisiana coastal marshes. *Environmental Management* 11:853-836.
1987. Neill, C. and R. E. Turner. Comparison of fish communities in open and plugged backfilled canals in Louisiana coastal marshes. *North American Journal of Fisheries Management* 7:57-62.

1987. Neill, C. and C. A. S. Hall. Shale oil. Pages 221-228, in C. A. S. Hall, C. J. Cleveland, and R. Kaufmann. Energy, Resource Quality, and Economic Systems. J. Wiley and Sons, NY.
1986. Neill, C. and L. A. Deegan. The effect of Mississippi River delta lobe development on the habitat composition and diversity of Louisiana coastal wetlands. *American Midland Naturalist* 116:296-303.
1984. Deegan, L. A., H. M. Kennedy and C. Neill. Natural factors and human modifications contributing to marsh loss in Louisiana's Mississippi River deltaic plain. *Environmental Management* 8:519-528.
1984. Costanza, R. and C. Neill. Energy intensities, interdependence, and value in ecological systems: a linear programming approach. *Journal of Theoretical Biology* 106:41-57.
1983. Turner, R. E., K. L. McKee, W. B. Sikora, J. P. Sikora, C. Neill, S. G. Leibowitz, and F. Pedrazini. The impact and mitigation of man-made canals in coastal Louisiana. *Water, Science and Technology* 16:497-504.

Non-Technical Articles, Published Proceedings and Reports:

- Present –1994. More than 100 columns on ecology, birds and conservation issues for *The Enterprise* newspaper, Falmouth, MA.
2004. Coyotes and the food chain. *Bird Observer* 32:172-173.
2003. Anatomical and physiological changes in birds. *Bird Observer* 31:229-230.
2003. Neill, C. Tracking ospreys with transmitters. *Bird Observer* 31:23-25.
2001. Hinckley, E.-L. S., C. Neill, R. McHorney and A. Lezberg. Dissolved nitrogen dynamics under a coastal Massachusetts forest. *Biological Bulletin* 201:288-290.
2001. Hauxwell, A. M., C. Neill, I. Valiela and K. D. Kroeger. Small-scale heterogeneity of nitrogen concentrations in groundwater at the seepage face of Edgartown Great Pond. *Biological Bulletin* 201:290-292
1998. Neill, C. Rondônia redux: Will Rondônia retrace New England forest history? *Sanctuary Magazine*, September-October.
1993. Turner, R. E., J. M. Lee and C. Neill. Backfilling canals as a wetland restoration technique in coastal Louisiana. U.S. Department of Interior, Minerals Management Service, Gulf of Mexico OCS Regional Office, New Orleans, LA.
1988. Turner, R. E., I. A. Mendelsohn, K. L. McKee, R. Costanza, C. Neill, J. P. Sikora, W. B. Sikora and E. Swenson. Backfilling canals in coastal Louisiana. Pages 135-143, in J. A. Kusler, M. L. Quammen and G. L. Brooks, eds., *Proceedings of the National Wetlands Symposium: Mitigation of Impacts and Losses*. Association of State Wetland Managers, Berne, NY.
1987. Larson, J. S. and C. Neill, eds. *Mitigating Freshwater Wetland Alterations in the Glaciated Northeastern United States: An Assessment of the Science Base*. The Environmental Institute, University of Massachusetts., Amherst. 143 p.
1987. Neill, C. and R. E. Turner. Restoration of dredge canals in coastal marshes (Louisiana). *Restoration and Management Notes* 5:32.
1985. Deegan, L. A. and C. Neill. New life on the Mississippi. *Natural History*, June 1994, pp. 60-71.

1985. Neill, C. and R. E. Turner. Atlas of Louisiana backfilled canals. Coastal Management Division, Louisiana Department of Natural Resources, Baton Rouge.
1983. Turner, R. E. and C. Neill. Revisiting impounded marshes after 70 years. Pages 309-321, in R. J. Varnell, ed., Water Quality and Wetland Management Conference Proceedings, New Orleans, LA.
1983. Costanza, R., C. Neill, S. G. Leibowitz, J. R. Fruci, L. M. Bahr, Jr., and J. W. Day, Jr. Ecological characterization of the Mississippi Deltaic Plain Region. Data collection and presentation. U.S. Fish and Wildlife Service, Office of Biological Services. FWS/OBS-82/69.
1983. Bahr, L. M., Jr., J. W. Day, Jr., S. E. Bayley, R. Costanza, C. Neill, S. G. Leibowitz, and J. R. Fruci. Ecological characterization of the Mississippi Deltaic Plain Region. A narrative. U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D. C. FWS/OBS-82/68.
1983. Turner, R. E., S. G. Leibowitz, and C. Neill. A study design for the application of the U.S. Fish and Wildlife Service geographical information system in a study of the impacts of dredged spoil levees on habitat changes in coastal Louisiana. National Coastal Ecosystems Team, Office of Biological Services, U.S. Fish and Wildlife Service, Washington, D.C.
1982. Neill, C. Louisiana acts to save its wetlands. *Not Man Apart* 12(2):11.
1981. Cleveland, C. J., C. Neill, and J. W. Day, Jr. The impact of artificial canals on land loss in the Barataria Basin, Louisiana. Pages 425-434, in W. J. Mitsch, R. W. Bosserman, and J. M. Klopatek, eds., *Energy and Ecological Modelling*. Elsevier Scientific Publ. Co., NY.
1981. Costanza, R. and C. Neill. The energy embodied in the products of the biosphere. Pages 745-756, in W. J. Mitsch, R. W. Bosserman, and J. M. Klopatek, eds., *Energy and Ecological Modeling*. Elsevier Scientific, NY.

#### **FUNDING HISTORY:**

2009. Coupled social and natural drivers of deforestation and ecosystem change at the Amazon cropland frontier. Brown University Environmental Change Institute, \$13,000 (C. Neill and L. VanWey).
- 2007-2009. Sandplain grassland restoration at Herring Creek. The Nature Conservancy, \$60,000 (C. Neill).
2008. Land use change, carbon offsets and carbon sequestration: a case study in Essex and Middlesex Counties, MA. Hubbard Brook Research Foundation, \$10,000 (C. Neill).
- 2008-2011. IPY: Improving the public's understanding of polar research through hands-on fellowships for science journalists in the Arctic and Antarctic. National Science Foundation, Informal Science Education, \$365,289 (C. Neill, H. Ducklow, J. Hobbie, G. Shaver, B. Peterson).
- 2007-2010. Collaborative research: Influence of land use on watershed hydrology and biogeochemistry at the Amazon agricultural frontier. National Science Foundation, Ecosystem Studies Program, \$831,395 (C. Neill, H. Elsenbeer, A. Krusche, E. Davidson).
- 2004-2007. Building the scientific base for coastal plain pond conservation. Massachusetts Environmental Trust, \$61,340 (C. Neill, R. McHorney).

- 2004-2006. Overland flow in the humid tropics under distinct land uses. German Government DADD. (Collaboration with Helmut Elsenbeer)
- 2004-2007. Science journalism program for the arctic. National Science Foundation Office of Polar Programs. \$45,864 (J. E. Hobbie, C. Neill, K. Foreman, P. Clapp).
- 2004-2005. Scientific and practitioner network for sandplain conservation. The Kohlberg Foundation. \$25,000. (C. Neill)
- 2003-2006. Nitrogen movement from uplands to streams in forested and deforested tropical watersheds. National Science Foundation, Ecosystems Studies Program. \$600,000. (C. Neill, H. Elsenbeer, A. V. Krusche, P. A. Steudler, J. M. Moraes).
2003. Hydrological science to support biodiversity conservation in Massachusetts. The Nature Conservancy, Massachusetts Chapter. \$95,000 (C. Neill)
- 2002-2003. The Nature Conservancy-MBL sandplain restoration and conservation experiment. Massachusetts Environmental Trust. \$20,389. (C. Neill)
- 2002-2005. Key connections in Amazonian stream corridors. NASA LBA Program. \$754,661. (L. A. Deegan, C. Neill, R. L. Victoria, A. V. Krusche, M. V. Ballester).
2002. \$240,000. Controlled environment facilities for examination of the effects of climate change and human land use on terrestrial and aquatic ecosystems. NSF Field Stations and Marine Laboratories Program (G. R. Shaver and C. Neill).
- 2000-2003. \$900,000. The biogeochemical consequences of agricultural intensification in the Amazon. NASA LBA Program. (J. M. Melillo, C. Neill, P. A. Steudler and C. C. Cerri).
2000. \$173,889. An analytical laboratory for examination of land use change and its consequences for aquatic ecosystems. NSF Field Stations and Marine Laboratories Program (A. E. Giblin, C. Neill).
- 1998-2001. \$477,000. Linking soil biogeochemistry to surface water chemistry in small drainage basins of the Amazon. NASA LBA Program. (L. A. Deegan, C. Neill, R. A. Victoria).
- 1996-1999. \$900,000. Trace gas fluxes associated with land-use and land-cover changes in the Brazilian Amazon Basin. NASA (J. M. Melillo, P. A. Steudler and C. Neill).
- 1996-1997. \$50,000. Biogeochemical consequences of land use change in the Amazon Basin. National Science Foundation Inter-American Institute for Global Change Research (J. Melillo, C. Neill and P. Steudler).
- 1996-1998. \$290,000. Links between soil nutrient dynamics and surface water biogeochemistry following deforestation for pasture agriculture in Amazonia. National Science Foundation Environmental Geochemistry and Biogeochemistry Program (L. Deegan and C. Neill).
- 1988-1990. \$30,700. Flooding, primary production and plant resource allocation in prairie marshes. North American Wildlife Foundation, through the Delta Waterfowl and Wetlands Research Station, Portage la Prairie, Manitoba (C. Neill).
1989. \$600. Sigma Xi Grant-in-Aid of Research. Flooding, primary production and resource allocation in prairie marshes (C. Neill).
- 1986-1987. \$25,700. Control of the primary production of emergent macrophytes in prairie marshes: effects of water depth and nutrient availability. North American Wildlife Foundation (C. Neill).

**TEACHING:**

1997-present. Teach ecosystem ecology in the Ecosystems Center's Semester in Environmental Science Program. Developed and present lectures on photosynthesis, scaling of production measurements, ecosystem water budgets, nitrogen cycling, ecosystems disturbance, tropical deforestation, land-water nitrogen movement. Developed and teach laboratories on biomass in terrestrial ecosystems, primary productivity, soil nutrient stocks and cycling, water budgets and land-water nutrient fluxes.

2000-present. Teach the Environmental Science component of the Marine Biological Laboratory's Hands-On Science Writing Laboratory, a 1-week immersion fellowship program for working science journalists. The program leads journalists through research questions, field data collection, laboratory water chemistry analysis, data analysis and public data presentation. focusing on arctic global change at Toolik Field Station, Alaska.

2000. Taught science writing seminar in Ecosystems Center Semester in Environmental Science Program.

1991-1993. Graduate Faculty, Masters of Science in Environmental Studies Program, Bard College, Annandale-on-Hudson, NY. Taught Ecosystem Ecology.

1989-1990. Department of Forestry and Wildlife Management, University of Massachusetts, Amherst, MA. Taught introductory course in the wildlife biology major, Wildlife and Fisheries Biology 197, "Fauna of New England Ecosystems."

#### **PROFESSIONAL MEMBERSHIPS AND PAST AWARDS:**

American Association for the Advancement of Science

American Institute of Biological Sciences

Ecological Society of America

Society of Conservation Biology

Society for Ecological Restoration

Society of Wetland Scientists

Soil Science Society of America

NASA LBA-Ecology science team

1987-1988. Graduate Fellowship, University of Massachusetts.

1985. MacMillan Fellowship, Delta Waterfowl and Wetlands Research Station, Delta, Manitoba.

#### **LOCAL SERVICE:**

1994 - present. Write monthly op-ed column on environmental issues for *The Enterprise*, local newspaper in Falmouth, MA.

2004. Outstanding achievement award, Massachusetts Chapter of the Sierra Club.

2003- present. Board of Directors. Falmouth Associations Concerned with Estuaries and Salt Ponds, a local community group.

2003- present. Board of Directors and Science Advisory Board, Association to Preserve Cape Cod, a local environmental group

2002-present. Coonamessett River Park Coalition, Steering Committee.

1996-2003. Chairman, Cape Cod Group of the Sierra Club.

2001-present. 300 Committee Land Trust: Communications Committee, Capital Campaign Planning Committee.

1998 - 2000. Member of Executive Committee, Massachusetts Chapter of the Sierra Club.

1987 - 1989. Chairman, Solid Waste Planning Committee, Town of Wendell, MA.

1986-1989. Associate Member, Conservation Commission, Town of Wendell, MA