

RICHARD G. LATHROP JR.

Johnson Family Chair in Water Resources and Watershed Ecology  
Director – Walton Center for Remote Sensing & Spatial Analysis  
Faculty Director Rutgers Ecological Preserve and Natural Teaching Area  
Professor I - Dept. of Ecology, Evolution, & Natural Resources  
School of Environmental & Biological Sciences, Rutgers University  
New Brunswick, NJ 08903-0231  
PH: (848) 932-1580 Fax: (732) 932-2587  
e-mail: lathrop@crssa.rutgers.edu  
website: www.crssa.rutgers.edu

**EDUCATION:**

1988 Ph.D. Environmental Monitoring      University of Wisconsin-Madison  
1986 M.S. Forestry      University of Wisconsin-Madison  
1985 M.S. Environmental Monitoring      University of Wisconsin – Madison  
1981 B.A. Biology      Dartmouth College

**PROFESSIONAL EXPERIENCE:**

2009-Present Director, Rutgers Ecological Preserve and Natural Teaching Area  
2006-Present Professor I, Department of Ecology, Evolution, & Natural Resources,  
1999-Present Director, Walton Center for Remote Sensing & Spatial Analysis  
1995-2006 Associate Professor, Department of Ecology, Evolution, & Natural Resources,  
1989-1995 Assistant Professor, Department of Natural Resources, Rutgers University.  
1988-1989 Post-doctoral Research Scientist, NASA/Ames Research Center, California.

**PROFESSIONAL COMMITTEES/ORGANIZATIONS:**

1998-Present Chair (since 2017), NJ Endangered and Nongame Wildlife Advisory Committee  
2017-Present Member, NJ Fish & Game Council  
2000-Present Chair, New Jersey Pinelands Commission Science Advisory Board  
2015-Present Member, Highlands Water Protection and Planning Council Natural Resources  
Technical Advisory Committee  
1998-Present Member, Science Advisory Committee of the Jacques Cousteau NERR  
1996-Present Member, Science and Technical Advisory Committee, Barnegat Bay NEP  
2009-2012 President, American Littoral Society  
2004-2011 Associate Editor, Forest Science

**PUBLICATIONS:**

**Note: \* names in *italics* represent student coauthors**

**\*\* Corresponding author.**

- Lathrop, R.G.**, J. Bognar, E. Buenaventura, M. Ciappi, E. Green, T. Belton. 2017. Establishment of marine protected areas to reduce water craft impacts in Barnegat Bay, NJ. *Journal of Coastal Research* SI (In Press).
- Lathrop, R.G.**, J. Odell, T. MacDonald, K. Vilacoba, J. Bognar, J. Trimble, C. Bruce, G. Crichton, D. Seminara, J. Herb, M. Campo. 2017. The role of Mid-Atlantic Ocean Data Portal in supporting ocean planning. *Frontiers Marine Science* 08 August 2017. <https://doi.org/10.3389/fmars.2017.00256>
- Lathrop, R.G.**, L. Auermuller, J. Herb, and M. Kaplan. 2017. Integrated Assessment of Risk and Vulnerability. The Use of Online Decision-Support Tools to Communicate Coastal Vulnerability and Promote Adaptation Planning. *GI\_Forum* 2017, Issue 1:352-359. DOI: 10.1553/giscience2017\_01\_s352 <http://hw.oeaw.ac.at/0xc1aa500e%20x00369db5.pdf>
- Virzi, T., J.L. Lockwood, **R.G. Lathrop Jr.**, S.M. Grodsky, and D. Drake. 2017. Predicting American Oystercatcher (*Haematopus palliatus*) Breeding Distribution in an Urbanized Coastal Ecosystem using Maximum Entropy Modeling. *Waterbirds* 40 (Special Publication 1): 104-122.
- Kennish, M.J., **R.G. Lathrop**, A. Spahn, G.P. Sakowicz, and R. Sacatelli. 2016. The JCNERR Sentinel Site: Research and Monitoring Applications. *Bulletin of the NJ Academy of Sciences* 61(1):1-8.
- Skowronski, N.S., S. Haag, J. Trimble, K.L. Clarke and **R.G. Lathrop\*\***. 2015. Structure-level fuel load assessment in the wildland-urban interface: A fusion of airborne laser scanning and spectral remote sensing methodologies. *International Journal of Wildland Fire* 25(5) 547-557.
- Lathrop, R.G.**, S.M. Haag, D. Merchant, M.J. Kennish and B. Fertig. 2014. Comparison of remotely-sensed surveys vs. In Situ Plot-based Assessment of Seagrass Condition in Barnegat Bay-Little Egg Harbor, New Jersey USA. *Journal of Coastal Conservation* 18:299-308.
- Lathrop, R.G.**, L. Auermuller, J. Trimble, and J. Bognar. 2014. The Application of WebGIS Tools for Visualizing Coastal Flooding Vulnerability and Planning for Resiliency: The New Jersey Experience. *ISPRS Int J of Geo-Information* 3:408-429.
- Zhang, Y., E. Green, T. Farrell, and **R.G. Lathrop\*\***. 2013. Organic carbon storage in New Jersey Forest Lands. *Bulletin of the New Jersey Academy of Science* 58(2):1-7.
- La Puma I.P.*\*, **R.G. Lathrop**, N.S. Keuler. 2013. A large-scale fire suppression edge-effect on Forest composition in the New Jersey Pinelands, *Landscape Ecology: Volume 28(9)*: 1815-1827.
- Schwarz, K.\*, K. C. Weathers, S. T. A. Pickett, **R. G. Lathrop**, R. V. Pouyat and M. L. Cadenasso. 2013. A comparison of three empirically based, spatially explicit predictive models of residential soil Pb concentrations in Baltimore, Maryland, USA: understanding the variability within cities. *Environmental Geochemistry and Health*. 35(4):495-510.

- Lathrop, R.G.**, L. Auermuller, S. Haag and W. Im. 2012. The StormWater Management Planning Tool: Coastal Water Quality Enhancement Through the Use of an Internet-based Geospatial Tools. *Coastal Management* 40(4):339-354.
- Schwarz, K.\* , S.T.A. Pickett, **R.G. Lathrop**, K.C. Weathers, R.V. Pouyat, M.L. Cadenasso. 2012. The effects of the urban built environment on the spatial distribution of lead in residential soils. *Environmental Pollution* 163: 32-39.
- Lathrop, R.G.**(editor). 2011. *The Highlands: Critical Resources, Treasured Landscapes*. Rutgers University Press, New Brunswick, NJ. 366 p.
- Lathrop, R. G.** 2011. Agricultural and Urban Land Use Patterns. In: *The Highlands: Critical Resources, Treasured Landscape*. Ed: R. Lathrop. Rutgers University Press, New Brunswick, NJ. pp. 259-273.
- Lathrop, R. G.** , M.L. Tyrell, and M. Hall. 2011. Future Vision of the Highlands. In: *The Highlands: Critical Resources, Treasured Landscapes*.\_ Ed: R. Lathrop. Rutgers University Press, New Brunswick, NJ. pp. 316-330.
- Zhang, Y.\* , Z. Miao,\* J. Bognar, and **R.G. Lathrop Jr.**\*\* 2011. Landscape Scale Modeling of The Potential Effect of Groundwater-level Declines on Forested Wetlands in the New Jersey Pinelands. *Wetlands* 26:1112-1122. \*\*Corresponding author
- Struwe, L., P. E. Smouse, E. Heiberg, S. Haag, & **R. G. Lathrop**. 2011. Spatial Evolutionary And Ecological Vicariance Analysis (SEEVA), a Novel Approach to Biogeography and Speciation Research, with an Example from Brazilian Gentianaceae. *Journal of Biogeography* 38(10):1841-1854. <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2699.2011.02532.x/pdf>
- Miao, Z.\* **R. G. Lathrop Jr.** \*\* , M. Xu, I. P. LaPuma\* , K. L. Clark, J. Hom, N. Skowronski, and S. Van Tuyl. 2011. Simulation and sensitivity analysis of carbon storage and fluxes in the New Jersey Pinelands. *Environmental Modelling & Software* 26(9):1112-1122.
- McCarthy, K.\* and **R.G. Lathrop**. 2011. Stormwater Basins of the New Jersey Coastal Plain: Subsidies or Sinks for Frogs and Toads? *Urban Ecosystems* 14:395-413. <http://www.springerlink.com/content/b5g5802012wn664n/fulltext.html> ).
- R. G. Lathrop. 2009. Vegetation and Wildlife. In: *Mapping New Jersey: An Evolving Landscape*. Ed. M. Lurie and P. Wacker. Rutgers University Press, New Brunswick, NJ. pp. 34-37.
- Miao, Z.\* M. Xu, **R.G. Lathrop**, and Y. Wang. 2009. Comparison of A-Cc curve fitting Methods in determining maximum ribulose 1.5-biphosphate carboxylase/oxygenase carboxylation rate, potential light saturated electron transport rate and leaf dark respiration. *Plant, Cell and Environment*. 32(2):109-122. <http://www3.interscience.wiley.com/cgi-bin/fulltext/121475052/PDFSTART>
- Niles, L.J., H. P. Sitters, A.D. Dey, P.W. Atkinson, AL.J. Baker, K.A. Bennett, R. Carmona, K.E. Clark, C. Espoz, P.M. Gonzalez, B.A. Harrington, D.E. Hernandez, K.S. Kalasz, **R.G. Lathrop**, R.N. Matus, C.D.T. Minton, R.I.G. Morrison, M.K. Peck, W. Pitts, R.A. Robinson, and I.L Serrano. 2008. Status of the Red Knot (*Calidris canutus rufa*) in the Western Hemisphere. *Studies in Avian Biology*: 36. 204 p.
- Burne, M.R. and **R.G. Lathrop**. 2008. Remote and field identification of vernal pools. In: *Science and Conservation of Vernal Pools in Northeastern North America*. Ed. A. J.K. Calhoun and P.G.deMaynadier. CRC Press, Boca Raton, FL. pp. 55-68.

- Zampella, R.A., N.A. Procopio, **R.G. Lathrop** and C.L. Dow. 2007. Relationship of land-use/land-cover patterns and surface-water quality in the Mullica River Basin. *Journal American Water Resources Association* 43(3): 594-604.
- Lathrop, R.G.**, D. Tulloch, C. Hatfield. 2007. Consequences of Land Use Change in the New York-New Jersey Highlands, USA: Landscape Indicators of Forest and Watershed Integrity. *Landscape and Urban Planning* 79(2):150-159.
- Lathrop, R.G.** 2006. The application of a ratio estimator to determine confidence limits on land use change mapping. *International Journal of Remote Sensing*. 27(10):2033-2038.
- Lee, S\*. and **R. G. Lathrop**. 2006. Sub-pixel analysis of Landsat ETM using Self-Organizing Map (SOM) neural networks. *IEEE GeoScience and Remote Sensing* 44(6):1642-1654
- Lathrop, R.G.**, M. Cole, N. Senyk and B. Butman. 2006. Seafloor habitat mapping of the New York Bight incorporating sidescan sonar data. *Estuarine, Coastal and Shelf Science* 68:221-230.
- Lathrop, R.G.**, P. Montesano, and S. Haag. 2006. A multi-scale segmentation approach to mapping seagrass habitats using airborne digital camera imagery. *Photogrammetric Engineering & Remote Sensing* 72(6):665-675.
- Lathrop, R.G.** and J.Hasse\*. 2006. Tracking New Jersey's Changing Landscape. In: *New Jersey's Environments: Past, Present, and Future*. Ed: N. Maher. Rutgers University Press, New Brunswick, NJ. pp.. 111-127.
- Lee, S\*. and **R. G. Lathrop**. 2005. Sub-pixel estimation of urban land cover components with linear mixture model analysis and Landsat Thematic Mapper imagery. *International Journal of Remote Sensing*. 26(22):4885-4905.
- R.G. Lathrop**, P. Montesano, J. Tesauro, and B. Zarate. 2005. Statewide mapping and assessment of vernal pools: A New Jersey case Study. *Journal of Environmental Management* 76:230-238.
- Conway, T.\* and **R.G.Lathrop**. 2005. Modeling the Future Ecological Consequences of Land Use Policies in an Urbanizing Region. *Environmental Management* 35(3): 278-291.
- Conway, T. \* and **R.G.Lathrop**. 2005. Alternative Land Use Regulation and Environmental Impacts: Assessing Future Pathways for a Suburbanizing Coastal Watershed. *Landscape and Urban Planning* 71(1):1-15.
- Downes Gastrich, M., **R.G. Lathrop**, S. Haag, M.P. Weinstein, M. Danko, D.A. Caron, and R. Schaffner. 2004. Assessment of brown tide blooms, caused by Aureococcus anophagefferens, and contributing factors in New Jersey coastal bays: 2000-2002. *Harmful Algae* 3:305-320.
- Lathrop, R.G.**, and D. Tulloch, C. Hatfield, P. Parks, C. Phillipuk, J. Bognar, R. Pirani, M. Phelps and M. Hoppe. 2004. GIS-based Conservation Values Assessment of the New York-New Jersey Highlands. In: *Message from the Tatra: Geographical Information Systems and Remote Sensing in Mountain Environmental Research*. Ed. W. Widacki, A. Bytnerowicz and A. Riebau.. Jagiellonian University Press and USDA Forest Service. pp. 201-216.
- Hasse, J.\* and **R.G. Lathrop**. 2003. Land Resource impact indicators of urban sprawl. *Applied Geography*. 23:159-175.
- Hasse, J.\* and **R.G. Lathrop**. 2003. A Housing-Unit Level Approach to Characterizing Residential Sprawl. *Photogrammetric Engineering and Remote Sensing* 69(9):1021-1030.
- Bunnell, J.F\*., R.A. Zampella, **R.G. Lathrop** and J.A. Bognar. 2003. Landscape Changes in the Mullica River Basin of the Pinelands National Reserve, New Jersey. *Environmental Management* 31(6):696-708.
- Lathrop, R.G.**, L. Windham and P. Montesano. 2003. Does Phragmites Expansion Alter the Structure and Function of Marsh Landscapes? Patterns and Processes Revisited. *Estuaries* 28(2B):423-435.
- Tulloch, D. L., J. Hasse\*, J. Myers\*, P. Parks, and **R. Lathrop**. 2003. The Challenge Of Automating Public Farmland Preservation Techniques. *Landscape and Urban Planning*, 63:33-48.
- Royle, D.D.\* and **R.G. Lathrop**. 2002. Discriminating Tsuga canadensis Hemlock Forest Defoliation Using Remotely Sensed Change Detection. *Journal of Nematology* 34(3):213-221.

- Liu, X.\** and **R.G. Lathrop**. 2002. Urban Change Detection Based on an Artificial Neural Network. *International Journal of Remote Sensing*. 23:2513-2518.
- Lathrop, R.G.** and J.A. Bognar. 2001. Habitat Loss and Alteration in the Barnegat Bay Region. *Journal of Coastal Research SI* 32:212-228.
- Lathrop, R.G.,** R. Styles, S. Seitzinger and J. Bognar. 2001. Use of GIS Mapping and Modeling Approaches to Examine the Spatial Distribution of Seagrasses in Barnegat Bay, New Jersey. *Estuaries* 24:904-916.
- Lathrop, R.G.,** *M. B. Cole,\** and *R.D. Showalter\*.* 2000. Quantifying the habitat structure and spatial pattern of New Jersey (USA) salt marshes under different management regimes. *Wetlands Ecology and Management* 8:163-172.
- Weathers, K. C.\*,* G. M. Lovett, G. E. Likens, and **R. Lathrop**. 2000. The effect of four landscape features on Atmospheric deposition to the Hunter Mountain region, Catskill Mountains, New York. *Ecological Applications* 10:528-540.
- Windham, L.M.\** and **R.G. Lathrop**. 1999. Effects of *Phragmites australis* (Common Reed) invasion on aboveground biomass and soil properties in brackish tidal marsh of the Mullica River, New Jersey. *Estuaries* 22:927-935.
- R.A. Zampella, K.J. Laidig, **R.G. Lathrop** and J.A. Bognar. 1999. Size-class Structure and Hardwood Recruitment in Atlantic White Cedar Swamps of the New Jersey Pinelands. *Journal of the Torrey Botanical Society*, Vol. 126, pp. 260-265.
- Lathrop, R.G.** and J.A. Bognar. 1998. Applying GIS and landscape ecological principles to evaluate conservation alternatives. *Landscape and Urban Planning* 41:27-41.
- Royle, D.D\*,* and **R.G. Lathrop**. 1997. Monitoring hemlock forest health in New Jersey using Landsat TM data and change detection techniques. *Forest Science* 43:327- 335.
- Zampella, R.A. and **R. G. Lathrop**. 1997. Landscape changes in Atlantic white cedar (*Chamaecyparis thyoides*) wetlands of the New Jersey Pinelands. *Landscape Ecology* 12:397-408.
- Lathrop, R.G.,** J.D. Aber, and J.A. Bognar. 1995. Spatial variability of digital soil maps and its impact on regional ecosystem modeling. *Ecological Modelling* 82:1-10.
- Aber, J.D., S.V. Ollinger, C.A. Federer, P.B. Reich, M.L. Goulden, D.W. Kicklighter, J.M. Melillo, and **R.G. Lathrop**. 1995. Predicting the effects of climate change on water yield and forest production in the northeastern United States. *Climate Research*, 5:207-222.
- Xu, J.\**, and **R.G. Lathrop**. 1995. Improving simulation accuracy of spread phenomena in a raster-based GIS. *International Journal of Geographical Information Systems*, 9:153-168.
- Lathrop, R.G.** 1994. Satellite remote sensing of Pinelands ecosystems. *Bartonia* 58:1-9.
- Luque, S.S.\**, **R.G. Lathrop** and J. Bognar. 1994. Temporal and spatial changes in an area of the New Jersey Pine Barrens Landscape. *Landscape Ecology* 9:287-300.
- Lathrop, R.G.,** J.D. Aber, J.A. Bognar, S.V. Ollinger, S. Casset, and J.M. Ellis. 1994. GIS development to support regional simulation modeling of northeastern (USA) forest ecosystems. In *Environmental Information Management and Analysis*. Eds. W.K. Michener, J.W. Brunt and S.G. Stafford. Taylor and Francis, London. pp. 431-451.
- Lathrop, R.G.,** and J.A. Bognar. 1994. Development and validation of AVHRR-derived regional forest cover data for the northeastern USA. *International Journal of Remote Sensing*, 14:2695-2702.
- Lathrop, R.G.** 1994. Impacts of the 1988 wildfires on the water quality of Yellowstone and Lewis Lakes, WY. *International Journal of Wildland Fire*, 4:169-175
- Lathrop, R.G.,** J. Vande Castle, and J. Brass. 1994. Monitoring the changes in Greater Yellowstone lake water quality following the 1988 wildfires. *Geocarto International*, 3:49-57.
- Xu, J.\** and **R.G. Lathrop**. 1994. Improving spread path tracing in a raster data format. *Computers & Geosciences*, 20:1455-1465.
- Aber, J.D., C. Driscoll, C.A. Federer, **R.G. Lathrop**, G. Lovett, J. Mellilo, P. Steudler, and J. Vogelmann. 1993. A System for the Regional Analysis of the Effects of Physical and Chemical Climate Change on Biogeochemical Cycles in Northeastern U.S. Forests. *Ecological Modeling*,

67:37-47.

Ollinger, S.V., J.D. Aber, G.M. Lovett, S.E. Millham, **R.G. Lathrop** and J.M. Ellis. 1993. A Spatial Model of Atmospheric Deposition for the Northeastern U.S. *Ecological Applications*, 3:459-472.

Wartenberg, D., M. Greenberg and **R.G. Lathrop**. 1993. Identification and Characterization of Populations Living Near High Voltage Transmission Lines: A Pilot Study. *Environmental Health Perspectives*, 101:626-632.

**Lathrop, R.G.** and D.L. Peterson. 1992. Identifying Structural Self-similarity in Mountainous Landscapes. *Landscape Ecology*, 6:233-238.

**Lathrop, R.G.** 1992. Landsat Thematic Mapper Monitoring of Turbid Inland Water Quality. *Photogrammetric Engineering and Remote Sensing*, 58:465-470.

**Lathrop, R.G.** and L.L. Pierce. 1991. Ground-based Canopy Transmittance and Satellite Remotely Sensed Measurements for Estimation of Coniferous Forest Canopy Structure. *Remote Sensing Of Environment*, 36:179-188.

**Lathrop, R.G.**, T.M. Lillesand, and B. Yandell. 1991. Testing the Utility of Simple Multi-date Thematic Mapper Calibration Algorithms for Monitoring Turbid Inland Waters. *Int. J. of Remote Sensing*, 12:2045-2064.

**Lathrop, R.G.**, John Vande Castle, and T.M. Lillesand. 1990. Monitoring River Plume Transport and Mesoscale Circulation in Green Bay, Lake Michigan Through Satellite Remote Sensing. *J. of Great Lakes Research*. 16:471-484.

**Lathrop, R.G.** and T.M. Lillesand. 1989. Monitoring Water Quality and River Plume Transport in Green Bay, Lake Michigan with SPOT-1 Imagery. *Photogrammetric Engineering and Remote Sensing*. 55:349-354.

**Lathrop, R.G.** and T.M. Lillesand. 1987. Calibration of Thematic Mapper Data for Water Surface Temperature Mapping: Case Study on the Great Lakes. *Remote Sensing of Environment*. Vol 22, pp. 297-307.

**Lathrop, R.G.** and T.M. Lillesand. 1986. Use of Thematic Mapper Data to Assess Water Quality in Green Bay and Central Lake Michigan. 1986. *Photogrammetric Engineering and Remote Sensing*. 52(5): 671-680.

#### **Other Publications:**

**Lathrop, R.G.** 2010. Frozen frogs underfoot. *The Trail Walker*. January-February, 2010.

Hasse, J. and **R. G. Lathrop**. 2011. A vision for Sustainable Growth. In: *New Jersey 2021: The Future of the Garden State*. *New Jersey Monthly*, January 2011.

#### **Book Reviews:**

Review of [Satellite Monitoring of the Earth](#), 1988, K.H. Szekiolda. *Soil Science*. 1991, Vol. 151, pp. 328.

Review of [Geographic Information Systems: An Introduction](#), 1990, J. Starr and J. Estes. *Photogrammetric Engineering and Remote Sensing*. 1991, Vol. 57, pp. 405-406.

#### **Educational Materials:**

James, C. and **R.G. Lathrop**. 1995. [Not Alone on the Ice: Designing a Community](#). In: *Design Connections Through Science and Technology*, National Science & Technology Week 1996, National Science Foundation, Arlington VA. pp34-43.

Lathrop, R.G. and C. James. 1994. *Global Change: Where Land, Air and Water Meet*. *Global Change Teaching Activities for grades 4-6*. U.S. Geological Survey, Reston VA.

Lathrop, R.G. and C. James. 1991. *Eyes on the Earth: Frontiers of Remote Sensing*. National Science and

**Technical Reports:**

- Giri, R.G., D. Krasnuk, **R.G. Lathrop**, S.J. Malone and J. Herb. 2016. State of the Raritan Report: Volume 1. <http://raritan.rutgers.edu/2016-state-of-the-raritan-report/>
- Lathrop, R.G.**, J. Bognar, and Hasse, J.E. 2016. Changing Landscapes in the Garden State: Land Use Change in NJ 1986 through 2012. [http://crssa.rutgers.edu/projects/lc/download/reports/NJ\\_Urb\\_Growth\\_III\\_executive\\_summary\\_2012\\_LathropHasse.pdf](http://crssa.rutgers.edu/projects/lc/download/reports/NJ_Urb_Growth_III_executive_summary_2012_LathropHasse.pdf)
- Lathrop, R.G.**, and J. Bognar, E. Buenaventura, J. Rovito and J. Trimble. 2014. New Jersey Coastal Flood Exposure. <http://nebula.wsimg.com/371031cafb163d05b7f380c712c8ed54?AccessKeyId=ACB457C88AE224CE0A00&disposition=0&alloworigin=1>
- Lathrop, R.G.**, and J. Bognar, 2014. Modeling the Fate of New Jersey's Salt Marshes Under Future Sea Level Rise. <http://nebula.wsimg.com/df899331cab9414c8148a60776b886a6?AccessKeyId=ACB457C88AE224CE0A00&disposition=0&alloworigin=1>
- Baker, R.J., Wieben, C.M., **Lathrop, R.G.**, and Nicholson, R.S., 2014. Concentrations, loads, and yields of total nitrogen and total phosphorus in the Barnegat Bay-Little Egg Harbor watershed, New Jersey, 1989–2011, at multiple spatial scales: U.S. Geological Survey Scientific Investigations Report 2014–5072, 64 p., <http://dx.doi.org/10.3133/sir20145072>.
- Kennish, M. D. Fertig, and **R. Lathrop**. 2012. Assessment of Nutrient Loading and Eutrophication in Barnegat Bay-Little Egg Harbor, New Jersey in Support of Nutrient Management Planning. Rutgers University Institute of Marine & Coastal Sciences. Prepared for New England Interstate Water Pollution Control Commission. 596 pp.
- Lathrop, R.G.** and S. Haag. 2011. Assessment of Seagrass Status in the Barnegat Bay-Little Egg Harbor Estuary System: 2003-2009. CRSSA Technical Report, Rutgers University, New Brunswick, NJ, 56 p. <http://crssa.rutgers.edu/projects/coastal/sav/downloads.htm>
- Hasse, J., and **R. Lathrop**. 2010. Changing Landscapes in the Garden State: Urban Growth and Open Space Loss 1986 through 2007. New Brunswick, NJ: Center for Remote Sensing and Spatial Analysis, Rutgers University. [http://www.crssa.rutgers.edu/projects/lc/NJ\\_Urb\\_Growth\\_III\\_executive\\_summary\\_0801\\_2010.pdf](http://www.crssa.rutgers.edu/projects/lc/NJ_Urb_Growth_III_executive_summary_0801_2010.pdf)
- Hasse, J. and **R.G. Lathrop**. 2008. Tracking New Jersey's Dynamic Landscape: Urban Growth and Open Space Loss 1986-1995-2002. CRSSA Technical Report, Rutgers University, New Brunswick, NJ, 66 p. [http://www.crssa.rutgers.edu/projects/lc/download/urbangrowth86\\_95\\_02/HasseLathrop\\_njluc\\_final\\_report\\_07\\_14\\_08.pdf](http://www.crssa.rutgers.edu/projects/lc/download/urbangrowth86_95_02/HasseLathrop_njluc_final_report_07_14_08.pdf)
- Lathrop, R.G.** and S. Haag. 2007. Assessment of Land Use Change and Riparian Zone status in the Barnegat Bay and Little Egg Harbor Watershed: 1995-2002-2006. CRSSA Technical Report, Rutgers University, New Brunswick, NJ, 27 p. [http://crssa.rutgers.edu/projects/coastal/riparian/report/CRSSA\\_BB\\_LULCC\\_Riparian\\_study\\_2007\\_revised.pdf](http://crssa.rutgers.edu/projects/coastal/riparian/report/CRSSA_BB_LULCC_Riparian_study_2007_revised.pdf)
- Lathrop, R.G.**, and A.A. Love. 2007. Vulnerability of New Jersey's coastal habitat to sea level rise. CRSSA Technical Report, Rutgers University, New Brunswick, NJ, 17 p. <http://crssa.rutgers.edu/projects/coastal/sealevel/report/Vulnerability%20of%20New%20Jersey%20coastal%20habitats.pdf>
- Lathrop, R.G.**, and A.A. Love. 2007. New Jersey coastal conservation & restoration targets. CRSSA Technical Report, Rutgers University, New Brunswick, NJ, 47 p. [http://crssa.rutgers.edu/projects/coastal/assess/report/CRSSAreport2007-01\\_Coastal\\_Data\\_Summary\\_v5.pdf](http://crssa.rutgers.edu/projects/coastal/assess/report/CRSSAreport2007-01_Coastal_Data_Summary_v5.pdf)

- Love, A.A. and **R.G. Lathrop**. 2007. Mapping & characterizing the natural & cultural resources of the Delaware Bayshore region: Spatial data report. CRSSA Technical Report, Rutgers University, New Brunswick, NJ, 34 p.  
[http://crssa.rutgers.edu/projects/bayshore/files/SJBC\\_Spatial\\_Data\\_Report\\_P1\\_20070727.pdf](http://crssa.rutgers.edu/projects/bayshore/files/SJBC_Spatial_Data_Report_P1_20070727.pdf)
- Lathrop, R.G.**, M. Allen and A. Love. 2006. Mapping and assessing critical horseshoe crab spawning habitats of Delaware Bay. CRSSA Technical Report, Rutgers University, New Brunswick, NJ, 37 p.  
[http://crssa.rutgers.edu/projects/coastal/hcrab/report/ALS\\_DelBay\\_hcrab\\_report\\_20060718.pdf](http://crssa.rutgers.edu/projects/coastal/hcrab/report/ALS_DelBay_hcrab_report_20060718.pdf)
- Lathrop, R.G.**, M. Kennish, and P. Bologna. 2005. Submerged Aquatic Vegetation. In: Barnegat Bay National Estuary Program: 2005 State of the Bay Technical report. Barnegat Bay Estuary Program, Toms River, NJ. pp. 1-9.
- Lathrop, R.G.** 2005. Land Use/Land Cover In: Barnegat Bay National Estuary Program: 2005 State of the Bay Technical report. Barnegat Bay Estuary Program, Toms River, NJ. pp. 43-48.
- Lathrop, R.G.** 2004. Measuring Land Use Change in New Jersey: Land Use Update to Year 2000. CRSSA Technical Report #17-2004-1. Rutgers University, New Brunswick, NJ, 32 p.  
[http://crssa.rutgers.edu/projects/lc/reports/landuse\\_upd.pdf](http://crssa.rutgers.edu/projects/lc/reports/landuse_upd.pdf)
- Lathrop, R.G.** and S. Haag. 2004. Brown Tide Assessment Project: Developing Indicators of Brown Tide Blooms in NJ Coastal Waters: 2003 Update. CRSSA Technical Report #17-2004-2. Rutgers University, New Brunswick, NJ, 20 p.
- Lathrop, R.G.**, C. Hatfield and D. Tulloch. 2003. Section 2: Land Resources. In: New York-New Jersey Highlands Regional Study Technical Report. Ed. M. Hoppe. USDA Forest Service NA-TP-04-03, Newtown Square, PA. pp. 45-219.  
[http://www.fs.fed.us/na/highlands/atechnical\\_report/index.html](http://www.fs.fed.us/na/highlands/atechnical_report/index.html)
- Lathrop, R.G.** and J. Hasse. 2003. New Jersey Digital Land Dataset Comparison and Integration Analysis. New Jersey Department of Environmental Protection, Trenton, NJ. 74 p.
- Zampella, R.A., C.L. Dow, **R.G. Lathrop**, J.A. Bognar, J.F. Bunnell, K.J. Laidig, and N.R. Procopio. 2002. Using Multiple regression to quantify the effect of land use on surface-water quality and aquatic communities in the New Jersey Pinelands. Pinelands Commission Long-term Environmental Monitoring Program, New Lisbon, NJ. 48 p.
- Lathrop, R.G.** 2001. Chapter 6: Habitat and Living Resources & Chapter 7: Habitat Loss and Alteration. In: The Scientific Characterization of the Barnegat Bay Little Egg Harbor Estuary and Watershed. Ed. M. Kennish. Barnegat Bay Estuary Program, Toms River, NJ.
- Hasse, J. and **Lathrop, R.G.** 2001. Measuring Urban Growth in New Jersey. Center for Remote Sensing & Spatial Analysis, Rutgers University, New Brunswick, NJ, 4 p.  
<http://www.crssa.rutgers.edu/projects/lc/urbangrowth/index.html>
- Lathrop, R.** and T. Conway. 2001. A Build-out Analysis for the Cohansey Watershed. CRSSA Technical Report 2001-03, Center for Remote Sensing & Spatial Analysis, Rutgers University, New Brunswick, NJ, 11 p.
- Lathrop, R.** and T. Conway. 2001. A Build-out Analysis for the Barnegat Bay Watershed. CRSSA Technical Report 2001-02, Center for Remote Sensing & Spatial Analysis, Rutgers University, New Brunswick, NJ, 10 p.  
[http://www.crssa.rutgers.edu/projects/runj/buildout\\_report.pdf](http://www.crssa.rutgers.edu/projects/runj/buildout_report.pdf)
- Hughes, M. and **R. Lathrop**. 2001. A Methodology for Defining and Characterizing the Health Of Riparian Areas in the Musconetcong and the Pohatcong Watershed using Geographic Information Systems (GIS) . CRSSA Technical Report 2001-01, Center for Remote Sensing & Spatial Analysis, Rutgers University, New Brunswick, NJ, 23 p.
- Bunnell, J.F., R.A. Zampella, **R.G. Lathrop** and J.A. Bognar. 2001. Landscape Changes in the Mullica River Basin. NJ Pinelands Commission report. New Lisbon, NJ. 20 p.
- Lathrop, R.G.** 2000. New Jersey Land Cover Change Analysis Project. CRSSA Technical Report 2000- 01, Center for Remote Sensing & Spatial Analysis, Rutgers University, New



- Brunswick, NJ, 16 p. <http://www.crssa.rutgers.edu/projects/lc/data/dataframe.html>
- Lathrop, R.G.** 1998. Delaware Bay/Cape May Coastal Plain Landscape Habitat/Land Cover Characterization Project, CRSSA Technical Report #17-98-01, Center for Remote Sensing & Spatial Analysis, Rutgers University, New Brunswick, NJ, 15 p.
- Lathrop, R.G.** and J.A. Bognar. 1997. A Barnegat Bay Gap Analysis: A Geographic Approach To Evaluating Coastal Habitat Protection. In: Final Report Submitted to the Trust for Public Land for the Habitat Research Component of the Barnegat Bay Initiative. Rutgers University Institute of Marine & Coastal Sciences, New Brunswick, NJ. Pp. 46-63.
- Able, K.W., **R.G. Lathrop**, and M.P. DeLuca. 1996. Background for Research and Monitoring in the Mullica River-Great Bay Estuary. Institute of Marine and Coastal Sciences Report #96-07, Rutgers University, New Brunswick, NJ. 63 p.
- De Luca, M, S. Whitney, **R.G. Lathrop**, K. Able, E. Haynes, J. McDonnell, N. Psuty, C. Cafagna. 1996. Proposed Mullica River- Great Bay National Estuarine Research Reserve in New Jersey: Draft Environmental Impact Statement and Draft Management Plan. Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ. 141 p.
- R.G. Lathrop.** 1995. Landscape Ecological Analysis of the Sterling Forest. Center for Remote Sensing and Spatial Analysis Report #17-95-1, Rutgers University, New Brunswick, NJ.42 p.
- R.G. Lathrop.** 1995. The Status of Forest Fragmentation in the NY-NJ Highlands. Center for Remote Sensing and Spatial Analysis Report #17-95-2, Rutgers University, New Brunswick, NJ. 19 p.
- R.G. Lathrop**, N. Psuty, M. DeLuca, and S. Whitney. 1993. A National Estuarine Research Reserve for New Jersey: A report and preliminary recommendations. Technical Report, Institute of Marine & Coastal Sciences, New Brunswick, NJ. 29 p.

#### **Invited Workshops:**

NOAA Regional Data Management and Portal Development. Charleston SC June 27-28, 2012.

National Academies Keck Futures Initiative. Ecosystem Services: Charting a Path to Sustainability. November 10-13, 2012. Irvine CA.

#### **Invited talks:**

Design and Development of Sea Level Rise WebGis. Sea Level Rise Workshop, Waquoit Bay National Estuarine Research Reserve. Falmouth, MA. March 12, 2015.

NJ Coastal Hazards: Risk and Vulnerability Assessment. NJ Geospatial Forum, Trenton, NJ, Dec, 5 2014.

Coastal Hazards: Risk and Vulnerability Assessment. The Reinvestment Fund, Philadelphia, PA Nov 7, 2014.

Coastal Hazards Risk and Vulnerability Assessment: Leveraging national Assets for Local Application. Restore America's Estuaries, Washington, DC, Nov 4, 2014.

Vernal Pool Mapping in New Jersey. MidAtlantic Vernal Pool Mapping Workshop. Smyrna, DE. Oct 24, 2014.

Geological Association of New Jersey Annual Conference. Keynote Speaker. The Highlands: Critical Resources, Treasured Landscapes. Basking Ridge, New Jersey. October 12, 2012.

Pinelands Science-Policy Forum –Effects of Groundwater Withdrawal. Presenter and facilitator on the topic of Ecological Impacts. Lakehurst Naval Air Station, Lakehurst, NJ. March 13, 2012.

American Association of Geography Annual Meeting: Special session on future of Academic Remote Sensing Centers. New York City, NY. February 25, 2012.

The Highlands Coalition – The Highlands: Critical Resources, Treasured Landscapes. Merrill Creek, NJ. October 5, 2011.

State of the Bay Conference. Land Use/land Cover Change in the Barnegat Bay Watershed. Ocean County College. May 12, 2011.

American Water Resources Association Annual Meeting. The Potential Effect of Groundwater-level Declines on Forested Wetlands in the New Jersey Pinelands. Philadelphia, PA. November 4, 2010.

Jacques Cousteau National Estuarine Research Reserve. Preparing Your Community in the face of a Changing Climate. Presenter and panel member. A Status Update on Local Indicators of Sea Level Rise. Tuckerton New Jersey. April 1, 2010.

Rutgers University Bloustein School for Planning and Policy seminar series. Assessing the Vulnerability of the New Jersey Coast to Climate and Landscape Change. New Brunswick, NJ, March 25, 2010.

Pinelands Science-Policy Forum - Protecting Water Quality in the Pinelands: Reversing the Barnegat Bay crisis. Presenter and facilitator on the topic of Land Use. Lakehurst Naval Air Station, Lakehurst, NJ. March 16, 2010.

Society for Ecological Restoration – Mid-Atlantic Chapter: Ecological Restoration: Why Bother? Establishing Restoration Priorities in New Jersey’s Coastal Zone. Rutgers University, New Brunswick, NJ February 19, 2010.

NJ American Association of Landscape Architects. Climate change, Impacts and Interventions for Coastal Landscapes. Atlantic City, NJ January 24, 2010.

NJ Society of American Foresters. Issues pertaining to Forest Carbon in New Jersey. Assessing the Potential of New Jersey’s Forests for Carbon Sequestration. Hamilton, NJ. January 22, 2010.

Coastal and Estuarine Research Federation Annual Meeting: Special Session on Applying Innovative Land Use Technology in Coastal Communities.

Coastal Water Quality Enhancement Through the Use of an Internet-based Geospatial Tools for Planning Stormwater Management Systems. Portland, OR. November 5, 2009.

MidAtlantic Region National Resources Conservation Service Annual Meeting. Assessing the Vulnerability of the New Jersey Coast to climate and Landscape Change. Avalon, NJ. October 14, 2009.

Climate Change Impacts on New Jersey Wildlife. Wildlife Caught in the Headlights: The Intersection of Climate and Land Use change in the Garden State. Rutgers EcoComplex, NJ. October 2, 2009.

Dupont Clear into the Future Seminar series. Assessing the Impact of Land-Use Change and Sea-Level Rise on New Jersey’s Southern Coasts. Cumberland County College. May 5, 2009

“Pinelands Communities and Habitats: the landscape Perspective.” Pinelands Science Forum. Rutgers EcoComplex Center, Bordentown NJ. Feb 4, 2009.

“Awash in a Sea of Pixels: Making Sense of High Spatial Resolution Imagery.” NJASLA Annual Meeting, Atlantic City, NJ January 27, 2009.

Vulnerability of New Jersey’s Coastal Habitats to Sea Level Rise. Planning for Sea Level Rise: Regional and Local Considerations for Coastal Areas. Jacques Cousteau Coastal Center, Tuckerton, NJ. Dec 9, 2008.

Coastal Applications of LiDAR. MAC URISA Fall Meeting/LiDAR Symposium. Rutgers EcoComplex Center, Bordentown, NJ. Oct 21, 2008.

Land-use changes in the Barnegat Bay Watershed. Barnegat Bay National Estuary Program State of the Bay Conference, Georgian Court College, Lakewood, NJ. Oct 16, 2008.

Mapping Sprawl: A Convergence of Art and Science Jersey City Museum, Jersey City, NJ.. May 15, 2008

NJ Landscape Change Program: Remote Sensing and Spatial Modeling to Track New Jersey's Dynamic Landscape.. New Jersey Institute of Technology, Newark, NJ. April 16, 2008

Ecoregional Assessments and Marine Spatial Planning. Improving Regional and Ecosystem-based ocean management approaches in New Jersey. Monmouth University. April 14, 2008

*Barnegat Bay Watershed: Land Use Changes Throughout Time. Changing Landscape of the Barnegat Bay Coastal System*. Ocean County College, Toms River, NJ. June 30, 2007.

Optimizing Geospatial Access. 21<sup>st</sup> Annual Meeting of the Northeast Map Organization. Fashion Institute of Technology. New York City, NY. June 7, 2007.

*A landscape ecological perspective as the basis for land use planning in the Highlands.* Special Symposium: Putting theory into practice: application of landscape ecology principles into environmental decision-making. US International Landscape Ecology Meeting, Tucson, Arizona. April 11, 2007.

*Integrating Landscape Change and Ecosystem Modeling of the Wildland/Urban Interface: Case Study of the New Jersey Pinelands.* NASA-MSU Golley-Odum Symposium: Integrating remote sensing of forest disturbances with models at broad scales. US International Landscape Ecology Meeting, Tucson, Arizona. April 11, 2007.

*A landscape ecological perspective as the basis for land use planning in the Highlands of the MidAtlantic USA.* CEMAGREF Research Institute for Agriculture and Forestry, Grenoble, France. March 29, 2007.

*Landscape Level Indicators to Assess Forested Watershed Integrity.* Columbia University. Lamont Doherty Earth Observatory, Palisades, NY. September 22, 2006.

*From Watersheds to Seagrass Beds: Remote Sensing & Spatial Modeling to Assess coastal Environmental Integrity.* Institute of Remote Sensing, Chinese National Academy of Sciences, Beijing, China. August 14, 2006.

*Tracking New Jersey's Changing Landscape.* Special Colloquium on New Jersey's Environments: Past, Present, and Future. New Jersey Institute of Technology, Newark, NJ. April 26, 2006.

*Remote Sensing Analysis of Urban Land Cover Components at Multiple Scales.* Baltimore Ecosystem Annual Meeting, Baltimore, MD. October 19, 2005.

*Applying Geospatial Technology to Coastal Environmental Assessments.* Maurice River Watershed Association. Milville, NJ. September 14, 2005.

*New York-New Jersey Highlands Regional Study.* U.S. Forest Service Workshop. Hunter College, New York City. September 13, 2005.

Highlands Environmental Research Institute, Sterling Forest. September 8, 2005.

*GIS and Planning Tools for Coastal Zone Management.* Workshop on Storm Water Management for Educating Municipal Officials. Mt. Laurel, New Jersey. August 16, 2005.

*A multi-scale segmentation approach to mapping seagrass habitats using airborne digital camera imagery.* eCognition User's Group Meeting, Baltimore, MD. March 5, 2005.

*GIS Profile of the Highlands.* New Jersey Highlands Council, Chester, NJ. January 20, 2005.

*Garden State Greenways.* New Jersey Planning Officials Days of Planning at the NJ League of Municipalities Convention. Atlantic City, NJ. November 17, 2004.

*Land use change in the New York-New Jersey Highlands.* USDA Forest Service Centennial Forum. Open Spaces to Crowded Places: Changing Land Use along the I-95 Corridor. Philadelphia, PA. November 15, 2004.

*Tracking New Jersey's Changing Landscape.* American Planning Association, NJ Chapter, Annual Meeting. New Brunswick, NJ November 5, 2004.

*The Highlands Database.* 18<sup>th</sup> Annual New Jersey Woodland Conference. New Brunswick, NJ. November 6, 2004.

*Remote Sensing of Coastal Habitat.* Sandy Hook Association for Research and Education GIS and Remote Sensing Workshop. Montclair State University, NJ. Oct 31, 2003.

*Are there potential risks to submerged aquatic vegetation in Barnegat Bay.* NJ DEP Brown Tide Seminar. Trenton, NJ Oct 22, 2003.

*New Jersey's Changing Land Use and Population.* Conference on Science of Sprawl, NJ Center for Environmental Indicators, Trenton, New Jersey, May 1, 2003.

*Tracking New Jersey's Changing Landscape.* New Jersey Department of Environmental Protection, Trenton, NJ March 5, 2003.

*Assessing the Implications of Land Use Change on the NY-NJ Highlands.* Torrey Botanical Club, New York Botanic Gardens, NY, NY. October 2002.

*Integration of Land Cover Mapping.* New Jersey Center for Environmental Indicators. Rutgers University,

NJ. October 25, 2002.  
*Assessing the Implications of Land Use Change on the NY-NJ Highlands*. Enviromount Conference, Zakopane, Poland, Sept 21, 2002.  
*Assessing the Implications of Land Use Change on the NY-NJ Highlands*. Lehigh University Department of Earth and Environmental Sciences Seminar Series, Bethlehem, PA, Sept. 5, 2002.  
*The NY-NJ Highlands Regional Study*. Chesapeake Bay Program, Annapolis, MD. July 18, 2002.  
*The NY-NJ Highlands Regional Study: Assessing the Impacts of Urban Growth in the NYC Metro Area's Back Yard*. Rutgers University Geography series, Piscataway, NJ. March 8 2002.  
*Does Phragmites expansion alter the structure and function of marsh landscapes? Patterns and processes revisited*. Phragmites Forum, Cumberland County College, NJ. Jan. 7, 2002.  
*NY-NJ Highlands revisited: the US Forest Service Regional Study Update*. NY Metro Forest Council, New York City, NY. Dec. 4, 2001.  
*A Build-out Analysis for the Barnegat Bay Watershed*. Prologue of the Barnegat Bay watershed's Future, Toms River, NJ. May 16, 2001.  
*New Jersey Landscape Change*. Earth and Environmental Studies Colloquium series, Montclair State University, NJ April, 2001.

#### **ONGOING RESEARCH PROJECTS:**

NJForestAdapt: Place-based WebGIS Visualization Tool to assist Forest Managers in New Jersey. USDA-NIFA McIntire-Stennis. Principal Investigator. 9/1/2015-8/30/2018. \$321,827.  
Ocean Planning in the Mid-Atlantic Region. Moore Foundation. Co-Principal Investigator. CRSSA Amount \$70,913. 1/1/2013-1/29//2016.  
Decision-making for Coastal Adaptation: Sustaining Coastal Salt Marshes for Ecosystem Services along the Jersey Shore. NOAA COCA. Principal Investigator. \$262,000. 9/1/2014-7/31/2016  
Evaluation of Environmentally Sensitive Areas in Barnegat Bay NJ. NJ Department of Environmental Protection. Principal Investigator. \$140,716. 10/1/2013-9/30/2015  
New Jersey Storm Surge Mapping in NJFloodMapper. New Jersey Department of Environmental Protection. Principal Investigator. \$36,107. 6/1/2014-7/23/2016  
New Jersey Resilient Shorelines Initiative. NOAA; subcontract through the Nature Conservancy. Co-Principal Investigator, CRSSA Amount \$64,250. 4/1/2014-3/30/2016

#### **PAST RESEARCH FUNDING HISTORY:**

The Consequences of Wildland Fire on the Trophic Status of Lake Ecosystems in the Greater Yellowstone Region, NASA-Ames Joint Research Initiative, 7/90-2/91, \$24,000, Co-Principal Investigator. Co-Principal Investigator: James Brass.  
Nitrogen Saturation in Forest Ecosystems: A Regional Assessment of Effects on Nitrous Oxide and Methane Fluxes, National Aeronautics & Space Administration, 1/91-12/93, \$75,000, Co-Investigator. Principal Investigator: John Aber.  
Temporal Changes in Landscape Patterns and Conditions and their Relation with Human Impact and Natural Disturbances, NASA Global Change Fellowship Training Grant, 7/1/91-6/30/94, \$66,000. Co-Investigator. Principal Investigator: Sandra Luque.  
Regional Estimation of Nitrous Oxide and Methane Flux from Subalpine Boreal Soils of the Northeastern United States, National Science Foundation, subcontract University of New Hampshire, 9/91-8/92, \$25,000, Co-Investigator. Principal Investigator: John Aber.  
Evaluation of the Mullica River-Great Bay Estuary System as a National Estuarine Research Reserve, Marine and Estuarine Management Division, NOAA, 10/91-6/93, \$24,965, Co-Principal Investigator. Co-Principal Investigator: M. DeLuca, Co-Investigators: J. Frederick Grassle, Steve Whitney.

Provide Computerized Geographic Information Systems and Remote Sensing Education to the Kenya Wildlife Service for Use in African Wildlife Ecology and Park Management, The Educational Foundation of America, \$79,000, 12/91-12/92, Co-Investigator. Principal Investigator: Scott Madry.

Pollutant transport, Distribution and Accumulation Rates in Barnegat Bay, NJ DEP Office of Science and Research, 8/92-6/94, \$138,520, Co-Principal Investigator. Co-Principal Investigator: J. Frederick Grassle.

Wetland Buffer Delineation in the New Jersey Pinelands, EPA 2/1/93-1/31/95, \$15,000, Co-Principal Investigator. Co-Principal Investigator: Robert Zampella.

Long Term Sustainability of Atlantic White Cedar Swamps in the Pinelands Biosphere Reserve, National Science Foundation and the US Man and the Biosphere Program, 2/93-2/95, \$22,500, Co-Principal Investigator. Co-Principal Investigator: Robert Zampella.

Ecological Analysis of the Sterling Forest, New York, Palisades Interstate Parks Commission, 6/1/94-9/30/94, \$12,833, Principal Investigator.

Draft Management Plan for the Mullica River-Great Bay National Estuarine Research Reserve, NOAA and NJ DEP, 7/1/94-6/30/95, \$100,000, Co-Investigator. Principal Investigator: M. DeLuca. Co-Investigators: J. Frederick Grassle, K. Able.

Change Detection in New Jersey's Outer Coastal Plain along a Gradient of Human Disturbance, NOAA, 9/1/94-6/30/96, \$79,000, Principal Investigator. Co-Investigator: Kenneth Able.

Digital Data Development for EPA Region II Site Discovery and Oil Spill Response/Planning Programs, Environmental Protection Agency, 10/1/94-12/31/95, \$99,788, Principal Investigator.

Barnegat Bay Habitat Gap Analysis, Trust for Public Land, 6/13/95-6/17/97, \$200,000, Co-Principal Investigator. Co-Principal Investigators: Kenneth Able, Joanna Burger.

Mapping Hemlock Decline in New Jersey, U.S. Forest Service, 3/1/96-9/30/97, \$17,000, Principal Investigator. Co-Investigator: Denise Royle.

Land Cover/Habitat Analysis of New Jersey Delaware Bay Landscape U.S. Fish & Wildlife Service and NJ Department of Fish, Game & Wildlife, 9/1/96-3/30/98, \$20,000, Principal Investigator.

Development of an Empirically-based Model to Quantify land Use Impacts, NJ Pinelands Commission, 7/98-6/00

Data Synthesis Effort for the Barnegat Bay National Estuary Program. U.S. EPA. 2/15/98-12/31/00, Co-Principal Investigator. Co-Principal Investigators: Sybil Seitzinger, Mike Kennish, Eric Evenson.

Monitoring Land Cover Changes Over Time: New Jersey Land Cover Classification and Trend Analyses from the 1970's to the 1990's, 4/1/98-6/31/00, NJ Department of Environmental Protection, Principal Investigator.

Pinelands Landscape Monitoring, NJ Pinelands Commission, 7/10/95-6/31/00, Principal Investigator.

New Jersey Digital Land Dataset Comparison and Integration Analysis, NJDEP, 1/1/01-8/30/02, \$5,000. Principal Investigator.

Characterizing Hunterdon County's Riparian Corridors, Hunterdon County, 4/1/02-12/31/02, \$7800. Principal Investigator.

Developing Community-based Geospatial Technology Tools for Farmland Preservation Program, USDA CERES program, 7/1/99 – 8/30/02, \$145,000. Co-Principal Investigators: David Tulloch, Peter Parks.

New York – New Jersey Highlands Regional Study Update, U.S Forest Service, 4/1/01-12/31/02, \$175,000 + \$10,000 continuation funding. Principal Investigator.

Bottom Habitat Classification and Mapping of the New York Bight, NOAA CMER program, 10/99-9/02, \$60,000. Principal Investigator.

GIS Management for the Jacques Cousteau National Estuarine Research Reserve, NOAA, 10/1/01-9/30/02, \$40,000, Co-Investigator. Principal Investigator: Mike DeLuca,

Mapping NJ Vernal Pools, NJDEP, 9/1/2001-8/31/2003, \$44,000. Principal Investigator.

Development of a Pumpout Guide for New Jersey, NJ DEP, 7/1/02-6/30/03, \$20,834. Principal Investigator.

Remote Sensing of Sugar Cane Production in the Sao Paulo area of Brazil, M&M Mars Co., 8/1/02-1/31/03, \$31,1000. Principal Investigator.

Remotely Sensed Indices for Land Use Intensity for Watershed Level Monitoring, NOAA CICEET program, 9/1/00-8/30/03, \$182,133.

New Jersey 2002 Land Cover Update, New Jersey Department of Environmental Protection, 7/1/2002-4/30/004, \$75,680. Principal Investigator.

Internet-based GIS Tools for Land Use Planning in the New Jersey Highlands, Geraldine R. Dodge Foundation, 12/1/02- 5/31/04, \$45,000. Principal Investigator.

Mapping Submerged Aquatic Vegetation and Benthic Habitat in the Barnegat Bay Estuary using remotely sensed imagery. USEPA, 12/1/02-8/30/04, \$81,650. Principal Investigator.

New York – New Jersey Highlands Regional Study Update, U.S Forest Service, 4/1/01-12/31/04, \$175,000 + \$40,000 continuation funding. Principal Investigator.

Monitoring Hemlock Forest Health in the Mid-Atlantic States Using Remotely Sensed Change Detection Techniques, U.S. Forest Service, 3/15/01-8/14/04, \$102,660. Principal Investigator.

Development of Indicators of Harmful Brown Tide Blooms in New Jersey, NJDEP, 4/1/02-9/31/05, subcontract through NJMSC, \$36,000. Principal Investigator.

Assessment of Northern New Jersey Forest Resources. NJ Agricultural Experiment Station & McIntire Stennis. 10/1/2002-9/30/2005. \$222,582. Co-Investigators: R. Lathrop, E. Green, J. Lashomb and M. Sukhdeo.

Environmental Assessment to Support NJ Highlands Master Plan. New Jersey Highlands Council. 8/1/05-7/31/06. \$176,000. Principal Investigator. Co-Investigator: David Tulloch.

Assessment of New Jersey Atlantic Coastal Conservation and Restoration Targets. American Littoral Society, 6/1/2005- 8/31/2006, \$29,000. Principal Investigator.

GIS Development & Modeling to Support the Eastern LANDFIRE Prototype, Northern Global Change Program, U.S Forest Service, 6/1/04-5/31/06, \$180,000. Principal Investigator. Co-Investigator: M. Xu.

Feasibility of using the EAARL LiDAR system to monitor Submerged Aquatic Vegetation habitat within Key New Jersey Coastal Estuaries. NOAA CICEET Proof of Concept grant, 6/1/2005-5/31/2006, \$25,000. Principal Investigator.

Pennsylvania-Connecticut Highlands Regional Study, U.S Forest Service, 5/15/05-12/31/06, \$17,000 Principal Investigator.

Examination and Transfer of Hydrologic and Hydraulic Data Collected in Soil Conservation Districts. NJ Dept. of Agriculture, 4/1/2005-5/31/2006, \$140,000. Co-Investigator.

GIS-based Tool for Riparian Zone Health Assessment. US EPA-Barnegat Bay Estuary Program. 6/15/2005-9/31/2007, \$29,370. Principal Investigator.

Mapping the Critical Horseshoe Crab Spawning Habitats of Delaware Bay, Mushett Family and Frankenburg Foundations in collaboration with American Littoral Society, 9/1/2004 9/31/2005, \$25,000. Principal Investigator.

PA-CT Highlands Regional Assessment Data Dissemination. US Forest Service. Principal Investigator, \$55,000, 7/1/2008 -6/30/2009

“Development of an Interactive Volunteer Survey Wildlife Sightings Web site.” Endangered & Nongame Species Program, NJDEP. 7/1/2008-6/30/09. \$31,5000.

“Spatial Literacy Initiative.” Donation to Rutgers Foundation from Dr. & Mrs. Charlesworth. \$55,000.

Maintaining Ecologically Sustainable Electric Transmission Right-of-Ways. New Jersey Pinelands Commission. 9/1/05-9/31/07. \$178,802. Principal Investigator. Co-Investigator: Jason Grabosky.

Impact of Groundwater Withdrawals from the Kirkwood Cohansey Aquifer on Aquatic Systems of the NJ Pinelands. State of New Jersey, Co-Principal Investigator, \$395,297, 3/1/2005-12/31/2009.

Lidar-Based Terrain Analysis of the New Jersey Highlands. New Jersey Highlands Council. Principal Investigator, \$106,000, 10/20/2008-3/31/2010

Assessing the Potential of New Jersey Forests to Sequester Carbon and Contribute to Green House Gas Emissions Reduction. New Jersey Department of Environmental Protection. Principal Investigator, \$100,000, 6/1/2008 -3/31/2010.

The StormWater Management Information System: Coastal Water Quality Enhancement Through the Use of GeoSpatial Tools. NOAA CICEET Environmental Technology Development. Principal Investigator, \$242,519, 9/1/2007 -4/1/2010

Remote Sensing Survey of Submerged Aquatic Vegetation in Barnegat Bay Estuary. Barnegat Bay National Estuary Program. Principal Investigator, \$65,000, 2/1/2009 -8/15/2010

Making Rutgers Engineering Soil Survey maps of New Jersey web-accessible, NJ Department of Transportation, Principal Investigator, \$183,712, 8/1/2009-2/01/2011

Place-based Decision Support System to Assess Vulnerability of New Jersey's Coast to Sea Level Rise. NOAA CICEET Environmental Technology Development. Principal Investigator, \$272,971, 07/1/2009 -9/30/2012

Effects of Nutrient Enrichment from Urbanizing Areas on the Structure and Function of a Shallow Lagoonal Estuary: Case Study of Barnegat Bay-Little Egg Harbor, New Jersey, US EPA, Co-Principal Investigator, \$474,613, 01/01/2010—12/31/2012.

High Resolution Fuel Bed and Defensible Space Mapping and Analysis in the Wildland Urban Interface of the New Jersey Pine Barrens. U.S. Forest Service. Principal Investigator. \$70,000. 07/1/2009-9/30/2012.

Application of LiDAR Data to Support Science-based Management of Salt Marsh and Barrier Island Habitat in Marine Protected Networks. National Fish and Wildlife Foundation. Principal Investigator, \$38,374, 5/1/201-12/31/2012.

Promoting New Jersey Coastal Resiliency: Geospatial and Analytical Support for Post-Sandy Recovery. New Jersey Recovery Fund. Co-Principal Investigator. \$150,000. 7/1/2013-6/30/2014.

Coastal Strategic Recovery Planning. NOAA CINAR. Co-Principal Investigator. \$26,431 1/1/2014-1/3/2015

Development of a Mapping and Decision Support Portal for Implementation of Coastal and Marine Spatial Planning in the Mid-Atlantic. NOAA Regional Ocean Partnership. Co-principal Investigator. Rutgers portion \$331,678, 1/1/2012-12/30/2015.

New Jersey Fireshed Mapping. NJ Division of Parks and Forestry. Principal Investigator. CRSSA Amount: \$50,000. 4/1/2014-9/30/2015