

## RESUME

Resources for the Future  
Washington, DC

**David N. Wear**

e-mail: wear@rff.com

Tel: 919/316-9620

## RESEARCH FOCI

- Policy design for natural resource services including climate change mitigation
- Influence of markets on land use and forest conditions
- Distributive effects of natural resource policy
- Risk mitigation in natural resource systems

## PROFESSIONAL EXPERIENCE

- 2019-present     ***Nonresident Senior Fellow***, Resources for the Future, Washington D.C.
- 2012-2019       ***Senior Scientist (ST) and Project Leader***, Center for Integrated Forest Science. U.S. Forest Service, Research Triangle Park, NC, and NC State University.
- 1991-present    ***Adjunct Professor***, North Carolina State University, College of Natural Resources.
- 2017-2019       ***Executive Board***, Southern Research Station. US Forest Service.
- 2004-2019       ***Lead Specialist***, U.S. RPA Forest Assessment. U.S. Forest Service.
- 2014-2018       ***Senior Research Fellow***. Institute for the Environment, University of North Carolina at Chapel Hill.
- 1995-2012       ***Project Leader and Research Forest Economist***: Forest Economics and Policy. U.S. Forest Service, Research Triangle Park, NC.
- 1987-1995       ***Research Forest Economist***, Economics of Forest Protection and Management. U.S. Forest Service, Research Triangle Park, NC.
- 1988-2012       ***Adjunct Professor***, Duke University, Nicholas School of the Environment and Earth Sciences.
- 1983-1987       ***Information Manager and Operations Research Analyst***, Lolo and Bitterroot National Forests, U.S. Forest Service, Missoula, Montana.

## EDUCATION

- Ph.D.     University of Montana, Forest Management (emphasis in forest economics), 1987
- M.F.     Duke University, School of Forestry and Environmental Studies, Forestry (Resource Systems Science), 1983
- B.A.     University of Montana, Botany (with honors), 1981

## PUBLICATION SYNOPSIS

Authored more than 175 publications since 1989 in four areas of research: (1) economics of forest management, (2) forest policy, (3) land use, and (4) interdisciplinary assessment.

## BOOKS AND MONOGRAPHS

Wear, D.N., and J.G. Greis (editors). 2013. The Southern Forest Futures Project: Technical Report. USDA Forest Service, General Technical Report SRS-178, 542 pp.

Wear, D.N. and J.G. Greis. 2012. The Southern Forest Futures Project: Summary Report. USDA Forest Service. General Technical Report SRS-168, 54 pp.

Wear, D.N., and J.G. Greis (editors). 2002. The Southern Forest Resource Assessment: Technical Report. USDA Forest Service, General Technical Report SRS-53, 635 pp.

Wear, D.N. and J.G. Greis. 2002. The Southern Forest Resource Assessment: Summary Report. USDA Forest Service. General Technical Report SRS-54, 103 pp.

## JOURNAL ARTICLES WITH MORE THAN 100 CITATIONS (GOOGLE SCHOLAR)

Wear, D.N., and B.C. Murray. 2004. Federal Timber Restrictions, Interregional Spillovers, and the Impact on U.S. Softwood Markets **Journal of Environmental Economics and Management** 47(2): 307-330. [https://doi.org/10.1016/S0095-0696\(03\)00081-0](https://doi.org/10.1016/S0095-0696(03)00081-0)

Turner, M.G., S.M. Pearson, P. Bolstad, and D.N. Wear. 2003. Effects of Land-Cover Change (1950-1990) on Spatial Pattern of Forest Communities in the Southern Appalachians. **Landscape Ecology** 18:449-464. <https://doi.org/10.1023/A:1026033116193>

Johnsen, K.H., D.N. Wear, R. Oren, R.O. Teskey, F. Sanchez, R. Will, J. Butnor, D. Markewitz, D. Richter, T. Rials, H.L. Allen, J. Seiler, D. Ellsworth, C. Maier, G. Katul, and P.M. Dougherty. 2001. Meeting Global Policy Commitments: Carbon sequestration and southern pine forests. **Journal of Forestry** 99(4):14-21. <https://doi.org/10.1093/jof/99.4.14>

Clark, J.S., S. Carpenter, M. Barber, S. Collins, A. Dobson, J. Foley, D. Lodge, M. Pascual, R. Pielke Jr., W. Pizer, C. Pringle, W. Reid, K. Rose, O. Sala, W. Schlesinger, D. Wall, and D. Wear. 2001. Ecological Forecasts: an emerging imperative. **Science** 293(27):657-660. <https://doi.org/10.1126/science.293.5530.657>

Prestemon, J.P. and D.N. Wear. 2000. Linking Harvest Choices to Timber Supply. **Forest Science** 46(3): 377-389. <https://doi.org/10.1093/forestscience/46.3.377>

Hardie, I., P. Parks, P. Gottlieb, and D. Wear. 2000. Responsiveness of Rural and Urban Land Uses to Land Rent Determinants in the South. **Land Economics** 76(4): 659-673. <https://doi.org/10.2307/3146958>

Wear, D.N. 1999. Challenges to Interdisciplinary Discourse. **Ecosystems** 2(4): 299-301. <https://doi.org/10.1007/s100219900080>

- Wear, D.N., J.M. Foreman, R. Liu, and R. Sheffield. 1999. The Effects of Population Growth on Timber Management and Inventories in Virginia. **Forest Ecology and Management** 118:107-115. [https://doi.org/10.1016/S0378-1127\(98\)00491-5](https://doi.org/10.1016/S0378-1127(98)00491-5)
- Wear, D.N., and P. Bolstad. 1998. Land Use Changes in Southern Appalachian Landscapes: Spatial Analysis and Forecast Evaluation. **Ecosystems** 1(6):575-594. <https://doi.org/10.1007/s100219900052>
- Wear, D.N., M.G. Turner, and R.J. Naiman. 1998. Land Cover Along an Urban-Rural Gradient: Implications for water quality. **Ecological Applications** 8(3):619-630. [https://doi.org/10.1890/1051-0761\(1998\)008\[0619:LCAAUR\]2.0.CO;2](https://doi.org/10.1890/1051-0761(1998)008[0619:LCAAUR]2.0.CO;2)
- Swallow, S.K. P. Talukdar, and D.N. Wear. 1997. Harvest Rotations in Forest Ecosystem Management: Spatial and Temporal Specialization among stands under sole ownership. **American Journal of Agricultural Economics** 79(2):311-326. <https://doi.org/10.2307/1244132>
- Wear, D.N., M.G. Turner, and R.O. Flamm. 1996. Ecosystem Management in a Multi-ownership Setting: Exploring landscape dynamics in a Southern Appalachian watershed. **Ecological Applications** 6:1173-1188. <https://doi.org/10.2307/2269600>
- Turner, M.G., D.N. Wear, and R.O. Flamm. 1996. Land Ownership and land cover dynamics in the Southern Appalachian highlands and Olympic Peninsula. **Ecological Applications** 6:1150-1172. <https://doi.org/10.2307/2269599>
- Swallow, S.K. and D.N. Wear. 1993. Spatial Interactions in Multiple-Use Forestry and Substitution and Wealth Effects for the Single Stand. **Journal of Environmental Economics and Management** 25(2):103-120. <https://doi.org/10.1006/jeem.1993.1036>
- Newman, D.H. and D.N. Wear. 1993. The Production Economics of Private Forestry: A comparison of industrial and nonindustrial forest owners. **American Journal of Agricultural Economics** 75:674-684. <https://doi.org/10.2307/1243574>
- Swallow, S. K., P. J. Parks, and D.N. Wear. 1990. Policy Relevant Nonconvexities in the Production of Multiple Forest Benefits. **Journal of Environmental Economics and Management** 19(2):264-280. [https://doi.org/10.1016/0095-0696\(90\)90073-8](https://doi.org/10.1016/0095-0696(90)90073-8)

## RECENT JOURNAL ARTICLES (SINCE 2012)

- Wear, David N. 2022. Working Forests—A path to climate solutions. **National Woodlands** 45(3):9-11.
- Mei, Bin, David N. Wear and Yanshu Li (2022), "Tree Planting Subsidies and Land Use Switching between Forestry and Agriculture in the US South", **Journal of Forest Economics**: Vol. 37: No. 3, pp 237-257. <http://dx.doi.org/10.1561/112.00000546>
- Brooks, E.B., J. W.Coulston, K.H. Riitters, and D.N. Wear. 2020. Using a hybrid demand-allocation algorithm to enable distributional analysis of land use change patterns. **PloS ONE** October 15 <https://doi.org/10.1371/journal.pone.0240097>

- Gorelick, D.E., L. Lin, H.B. Zeff, Y. Kim, J.M. Vose, J.W. Coulston, D.N. Wear, L.E. Band, P.M. Reed, G.W. Characklis. 2019. Accounting for adaptive water supply management when quantifying climate and land cover change vulnerability. **Water Resources Research**. <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019WR025614>
- Wear, D.N. and J.P. Prestemon. 2019. Spatiotemporal downscaling of population and income futures in the United States. **PLoS ONE** 14(7): e0219242 <https://doi.org/10.1371/journal.pone.0219242>
- Haight, R.G, R. Bluffstone, J.D. Kline, J.W. Coulston, D.N. Wear, K. Zook. 2019. Estimating the present value of carbon sequestration in U.S. Forests, 2015-2050, for evaluating climate change mitigation federal policies. **Agricultural and Resource Economics Review**. <https://doi.org/10.1017/age.2019.20>
- Saia, S., Suttles, K., Cutts, B., Emanuel, R., Martin, K., Wear, D.; Coulston, J., Vose, J. 2019. Applying Climate Change Risk Management Tools to Integrate Streamflow Projections and Social Vulnerability. **Ecosystems**. <https://doi.org/10.1007/s10021-019-00387-5>
- Wear, D.N. and J. W. Coulston. 2019. Specifying Forest Sector Models for Forest Carbon Projections. **Journal of Forest Economics**. <http://dx.doi.org/10.1561/112.00000443>
- Mei, B., D.N. Wear, and J. Henderson. 2019. Timberland investment under both financial and biophysical risk. **Land Economics** 95:279-291 <https://doi.org/10.3368/le.95.2.279>
- Kim, T., D.N. Wear, J. Coulston, R. Li. 2018. Forest land use responses to wood product markets. **Forest Economics and Policy** 93:45-52. <https://doi.org/10.1016/j.forpol.2018.05.012>
- Coulston, J.W., Westfall, J.A., Wear, D.N., Edgar, C.B., Prisley, S.P., Treiman, T., Abt, R.C., Smith, W.B. 2018. Annual monitoring of US timber production: rationale and design. **Forest Science**. <https://doi.org/10.1093/forsci/fxy010>
- Prestemon, J.P., D.N. Wear, K. Abt, R. Abt. 2018. Projecting Housing Starts and Softwood Lumber Consumption in the United States. **Forest Science** 64(1):1–14 <https://doi.org/10.5849/FS-2017-020>
- Hwang, T., K.L. Martin, J.M. Vose, D.N. Wear, B. Miles, Y. Kim, and L.E. Band. 2018. Nonstationary Hydrologic Behavior in Forested Watersheds Is Mediated by Climate-Induced Changes in Growing Season Length and Subsequent Vegetation Growth. **Water Resources Research**. <https://doi.org/10.1029/2017WR022279>
- J. K. Costanza, Don Faber-Langendoen, John W. Coulston, David N. Wear. 2018. Classifying forest inventory data into species-based forest community types at broad extents: tradeoffs among supervised and unsupervised approaches. **Forest Ecosystems** 5:8. <https://doi.org/10.1186/s40663-017-0123-x>
- Costanza J.K., Coulston J.W., Wear D.N. 2017. An empirical, hierarchical typology of tree species assemblages for assessing forest dynamics under global change scenarios. **PLoS ONE** 12(9): e0184062. <https://doi.org/10.1371/journal.pone.0184062>

- K.L. Martin, T. Hwang, J. M. Vose, J.W. Coulston, D.N. Wear, B. Miles, and L. E. Band. 2017. Watershed impacts of climate and land use changes depend on magnitude and land use context. **Ecohydrology** <https://doi.org/10.1002/eco.1870>
- S.W. Golladay, K.L. Martin, J.M. Vose, D.N. Wear, A.P. Covich, R.J. Hobbs, K.D. Klepzig, G.E. Likens, R.J. Naiman, and A.W. Shearer. 2016. Achievable Future Conditions as a Framework for Guiding Forest Conservation and Management. **Forest Ecology and Management** 360:80-96. <https://doi.org/10.1016/j.foreco.2015.10.009>
- Wear, D.N., J. Prestemon, and M. Foster. 2016. US forest products in the global economy. **Journal of Forestry** 114(4):483-493. <https://doi.org/10.5849/jof.15-091>
- Wear, D.N. and J. Coulston. 2015. From sink to source: Regional variation in U.S. forest carbon futures. **Scientific Reports** 5: 16518. <https://doi:10.1038/srep16518>
- Coulston, J.W., Wear, D.N. & Vose, J.M. 2015. Complex forest dynamics indicate potential for slowing carbon accumulation in the southeastern United States. **Scientific Reports**. 5, 8002. <https://doi:10.1038/srep08002> .
- Wear, D.N., E. Dixon, R. Abt, and N. Singh. 2015. Projecting potential adoption of genetically engineered freeze tolerant Eucalyptus plantations: a real options analysis. **Forest Science** 61(3):466-480. <https://doi.org/10.5849/forsci.14-089>
- Nepal, P., D.N. Wear, and K. Skog. 2014. Net reduction in carbon emissions with wood energy substitution for fossil fuels in the United States. **Global Change Biology-Bioenergy** 45:251-264. <https://doi.org/10.1111/gcbb.12193>
- Coulston, John, G. Reams, D.N. Wear, and C. Brewer. 2014. An analysis of forest land use, forest land cover and change at policy relevant scales. **Forestry** 87:267-276. <https://doi.org/10.1093/forestry/cpt056>
- Vose, J., D.N. Wear, A. Mayfield and D. Nelson. 2012. Hemlock Woolly Adelgid in the Southern Appalachians: Control Strategies, Ecological Impacts, and Potential Management Responses. **Forest Ecology and Management** 291:209-219. <https://doi.org/10.1016/j.foreco.2012.11.002>

#### HONORS AND AWARDS (SELECTED)

**Society of American Foresters—Award for Forest Science (2016).** For individual research in the quantitative, economic, managerial, and/or social sciences that has resulted in substantial advances in forestry.

**Secretary of Agriculture—Honor Award for Personal and Professional Excellence (2011).** “For exemplary leadership and scientific contributions significantly influencing the policy and management decisions that ensure the sustainability of natural resources in the southern United States and beyond.”

**Distinguished Science Award, USDA Forest Service (2008).** For sustained excellence in developing and executing a research program that addresses the sustainability of multiple resource values.

**Outstanding Paper in the Discipline of Landscape Ecology,** U.S. Chapter of the International Association for Landscape Ecology (2000) for “Land-use changes in southern Appalachian landscapes: spatial analysis and forecast evaluation,” published in *Ecosystems* in 1998.

#### PROFESSIONAL SERVICE

- 2010-2014 Member, Editorial Board, *Forests* (inaugural board)
- 2005-2016 Member, Editorial Board, *Ecosystems*.
- 2003-2008 Associate Editor, *American Journal of Agricultural Economics*.
- 1997-2001 Member, Editorial Board, *Ecosystems* (inaugural board).
- 1996-1999 Associate Editor for Management and Economics, *Southern Journal of Applied Forestry*.
- 1996-1997 Member, Editorial Council, *Journal of Environmental Economics and Management*.
- 1993-1995 Guest Associate Editor: *Forest Science*

#### CONSULTATIONS

- 2012-2014 **USDA Animal and Plant Health Inspection Service (APHIS).** Led an analysis of the potential economics and adoption of a genetically modified freeze tolerant Eucalyptus hybrid in the United States in support of the APHIS Environmental Impact Statement for a petition for nonregulated status of this GMO by ArborGen LLC.
- 2011-2013 **US Global Climate Change Program.** Contributing author to the National Climate Assessment Forest Report and Southeast Region Chapter of the US National Climate Assessment Report.
- 2012-2013 **Indo-U.S. Workshop on Developing Reference Baselines and Scenarios for Forest Sector Inventories and Carbon Estimations for REDD Plus.** Led workshops focused on building capacity for developing foundational analysis for India’s participation in REDD Plus.
- 2010-2012 **European Union, COST (European Cooperation in Science and Technology).** Invited to communicate the experiences of the Southern Forest Futures Project in developing forecasts of products and services and to participate in the development of initial scenarios for futuring analysis (Vienna 2010, Helsinki 2012).

- 2007 **U.S. Department of Defense. Sustainable Ranges Initiative.** Served as expert on forest changes in the southeastern United States. Prepared a background paper for and participated in a workshop on sustainability issues and research needs regarding DOD bases in the South.
- 2005 **FAS-Forest Policy Review, Peoples Republic of China.** Scientific cooperative exchange visit (2 weeks) under USDA Foreign Agricultural Service International Cooperation and Development (ICD) Scientific Cooperation Exchange program. Member of an expert team on forest resources and policy visiting the PRC to discuss and evaluate forest policy research.
- 2004-2005 **Southern Group of State Foresters.** Organized a rapid assessment of changes in timber markets in the southeastern United States to address concerns regarding trends in trade, forest ownership, and prices. Delivered report and provided a full day briefing for State Foresters.
- 2001 **USFS Northern Region, Montana.** Rapid economic assessment of timber salvage options following the Bitterroot Fires of 2000.
- 2000-2001 **U.S. Global Change Research Program (USGCRP Strategic Plan Steering Committee on Land-Use/Land-Cover Change).** Member of team tasked with drafting a land use/cover change program element for the USGCRP.
- 2000 **Ecological Society of America/National Science Foundation.** Invited participant in workshop held at the National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, to evaluate the needs for a developing methods for ecological forecasting.
- 1996 **USFS Southern Region, Southern Appalachian National Forests.** I revised timber supply and demand analysis procedures for forest planning for these National Forests.
- 1995 **USFS Sustainability Criteria and Indicators Team.** I participated on a team that provided initial estimates of sustainability indicators for the United States as defined by the Santiago Declaration on sustainable forestry.

#### LONG-TERM SPECIAL ASSIGNMENTS

- 2005-2019 **RPA Timber and Forest Assessment, USDA Forest Service.** I led a team to redesign and implement the congressionally mandated national RPA Forest Assessment to provide comprehensive projections of forest conditions and ecosystem services throughout the United States. Addressing climate change, disturbance, and socioeconomic dynamics, the project required theoretical and computational innovations to provide high resolution forecasts of conditions over a long (50 year) time horizon.
- 2007- **Southern Forest Futures Project.** I served as co-director (with J. Greis) of this

- 2013 effort to evaluate future scenarios for forests in the southeastern United States. The effort was chartered by the Southern Research Station and the Southern Region of the US Forest Service in partnership with the Southern Group of State Foresters. I co-lead a team of 40+ scientists and developed projection models for the project.
- 2007 **Forest Service Special Assistant to the Undersecretary of Agriculture** for Natural Resources and the Environment. I served as the liaison between the Undersecretary and the Chief of the US Forest Service (2 months). Served as coordinator for all USFS national media interactions and coordinator for various events, meetings, and information distribution for the Undersecretary.
- 1999-2002 **Southern Forest Resource Assessment.** I served as co-director (with J. Greis) of a multi-agency effort to evaluate the overall sustainability of forests in the southeastern United States. Designed and implemented assessment approaches, interacted with print, radio, and television media (more than 30 interviews, including the New York Times, Washington Post, Wall Street Journal, and National Public Radio), provided testimony to state legislatures in Virginia and Tennessee, and gave presentations to various interested parties including state and federal government agencies, Congress, forest industry groups, landowner associations, and conservation and environmental groups.
- 1995-1996 **U.S.-Canada Lumber Trade Consultations.** International Trade Administration, Department of Commerce. In support of these consultations, I (1) consulted with staff of the ITA on the structure of southern timber markets and on the effects of recent trade policy, (2) gave a formal presentation on southern timber markets to trade ambassadors and U.S. and Canada industry representatives, and (3) consulted with the ITA during subsequent trade negotiations.
- 1994-1996 **Southern Appalachian Assessment.** USFS, TVA, EPA, and other agencies. I led a team investigating the supply and demand of timber products and the role of national forests in the region's timber economy. I led public meetings, interacted with print, radio and television media, wrote reports, and gave presentations.
- 1993-1994 **Offsetting Greenhouse Gas emissions with Forestry Activities.** Battelle Institute and Department of Energy. Designed the initial set of reporting procedures for carbon-sequestering forestry activities as mandated by the Energy Policy Act of 1992 (section 1605[b]). Coordinated a workshop of experts, wrote reports, and participated in public involvement workshops.

END