

# REFERENCES

---

- [AFT] American Farmland Trust. 2020. The State of the States Agricultural Land Protection Scorecard Highlight Summary: North Carolina. [accessed 2025 Jan.] [https://storage.googleapis.com/csp-fut2040.appspot.com/state-reports/FUT2040\\_NC.pdf](https://storage.googleapis.com/csp-fut2040.appspot.com/state-reports/FUT2040_NC.pdf).
- [AFT] American Farmland Trust. 2022. Farms Under Threat, 2040 Future Scenarios: North Carolina. [access 2025 Jan.] [https://storage.googleapis.com/csp-fut2040.appspot.com/state-reports/FUT2040\\_NC.pdf](https://storage.googleapis.com/csp-fut2040.appspot.com/state-reports/FUT2040_NC.pdf).
- [AFT] American Farmland Trust. 2025. Farms Under Threat 2040: Choosing an Abundant Future. [accessed 2025 Jan.] <https://farmlandinfo.org/publications/farms-under-threat-2040>.
- [AFWA] Association of Fish and Wildlife Agencies. 2009. Voluntary guidance for states to incorporate climate change into state Wildlife Action Plans & other management plans. Washington (DC): Teaming With Wildlife Committee and Climate Change Committee; [accessed 2015 August]. 50 p. [http://www.fishwildlife.org/files/AFWA-Voluntary-Guidance-Incorporating-Climate-Change\\_SWAP.pdf](http://www.fishwildlife.org/files/AFWA-Voluntary-Guidance-Incorporating-Climate-Change_SWAP.pdf).
- [AFWA] Association of Fish and Wildlife Agencies. 2012. Best practices for state Wildlife Action Plans—voluntary guidance to states for revision and implementation. Washington (DC): Association of Fish and Wildlife Agencies, Teaming With Wildlife. 80 p. [accessed 2025 May] [https://www.fishwildlife.org/application/files/3215/1856/0300/SWAP\\_Best\\_Practices\\_Report\\_Nov\\_2012.pdf](https://www.fishwildlife.org/application/files/3215/1856/0300/SWAP_Best_Practices_Report_Nov_2012.pdf).
- [AFWA] Association of Fish and Wildlife Agencies. 2012. Best practices for developing state Wildlife Action Plans. Washington (DC): Teaming With Wildlife Committee, State Wildlife Action Plan (SWAP) Best Practices Working Group; [accessed 2025 May]. 85 p. <https://www.fishwildlife.org/afwa-informs/state-wildlife-action-plans>.
- [AHG] Aquatic Habitat Guides [Internet]. The Nature Conservancy; [accessed 2025 May]. <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/hg/Pages/default.aspx>.
- [APNEP] Albemarle-Pamlico National Estuary Program. 2012. Comprehensive conservation and management plan 2012–2022. Raleigh, NC.
- [ARMI] Amphibian Research and Monitoring Initiative. 2025. The State of Ampibians in the United States. U.S. Geological Survey (USGS), [accessed 2025 Feb.] <https://armi.usgs.gov/index.php>.
- [CFI] Conservation Fisheries Incorporated. 2025. [Accessed 2025 Feb.] <https://www.conservationfisheries.org>.
- [CITES] Convention on International Trade in Endangered Species of Wild Fauna and Flora. 1975. United Nations Environment Programme, CITES Secretariat. Geneva, Switzerland. Available online <https://cites.org/eng/disc/text.php>.

## References

---

- [CTNC] Conservation Trust for North Carolina. 2014. Protecting Farmland: Preserving Land for Fresh and Local Foods. [accessed 2015 July] <http://www.ctnc.org/protect/info-nc-landowners/land-protection-programs/protecting-farmland>.
- [EBCI] Eastern Band of Cherokee Indians. 2022. EBCI Wildlife Action Plan, A Social-Ecological Framework to Adaptively Manage and Conserve Fish and Wildlife. Natural Resources Program, Fisheries and Wildlife Management Office, Cherokee, NC. 62 pp.
- [FGDC] Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. 2nd ed. FGDC-STD-004-2013. Washington (DC): Wetlands Subcommittee, Federal Geographic Data Committee, and US Fish and Wildlife Service. [Accessed 2024 November] <https://www.fgdc.gov/standards/projects/wetlands/nwcs-2013>.
- [FMCS] Freshwater Mollusk Conservation Society. 2016. A National Strategy for the Conservation of Native Freshwater Mollusks. *Freshwater Mollusk Biology and Conservation* 19(1):1-21. <https://doi.org/10.31931/fmbc.v19i1.2016.1-21>.
- [FMCS] Freshwater Mollusk Conservation Society. 2023. Appendix 1, Summary of changes made in 2023 to the Williams et al. (2017) list. [accessed 2025 March] [https://www.molluskconservation.org/Library/Committees/Names/Appendix\\_1\\_Bivalves\\_Revised\\_Names\\_List\\_20230928\\_draft.pdf](https://www.molluskconservation.org/Library/Committees/Names/Appendix_1_Bivalves_Revised_Names_List_20230928_draft.pdf).
- [FR 2014] Federal Register [internet]. 2014. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Northwest Atlantic Ocean Distinct Population Segment of the Loggerhead Sea Turtle. [accessed 2015 July] <https://www.federalregister.gov/articles/2014/07/10/2014-15725/endangered-and-threatened-wildlife-and-plants-designation-of-critical-habitat-for-the-northwest>.
- Mountaintrue. 2007. Lake Chatuge watershed action plan. Murphy (NC): Hiwassee River Watershed Coalition; [accessed 2025 May]; 88 pp <https://mountaintrue.org/wp-content/uploads/2022/07/Lake-Chatuge-Watershed-Action-Plan.pdf>.
- [ICZN] International Commission on Zoological Nomenclature. 2021. International Code of Zoological Nomenclature, 4th Edition. [2025 May] Online <https://www.iczn.org/the-code/the-code-online>.
- [IPBES ] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. 2024. Summary for Policymakers of the Thematic Assessment Report on the Underlying Causes of Biodiversity Loss and the Determinants of Transformative Change and Options for Achieving the 2050 Vision for Biodiversity of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. O'Brien, K., Garibaldi, L., Agrawal, A., Bennett, E., Biggs, O., Calderón Contreras, R., Carr, E., Frantzeskaki, N., Gosnell, H., Gurung, J., Lambertucci, S., Leventon, J., Liao, C., Reyes García, V., Shannon, L., Villasante, S., Wickson, F., Zinngrebe, Y., and Perianin, L. (eds.). IPBES secretariat, Bonn, Germany. DOI: <https://doi.org/10.5281/zenodo.11382230> [accessed 2025 Jan] <https://zenodo.org/records/14513975>.

- [IUCN CMP] International Union for Conservation of Nature Conservation Measures Partnership. 2012. Classification schemes for threats and conservation actions needed [Internet]. [accessed 2025 May]. <http://www.iucnredlist.org/technical-documents/classification-schemes/threats-classification-scheme>.
- [IUCN] International Union for Conservation of Nature. 2012. IUCN Red List categories and criteria: version 3.1. IUCN Species Survival Commission. Gland (Switzerland): International Union for Conservation of Nature; ISBN: 978-2-8317-1435-6. [accessed 2025 Feb.]. <https://portals.iucn.org/library/node/10315>.
- [IUCN] International Union for Conservation of Nature. 2019. Scope of Assessment: Sub-global/Regional Longleaf Pine Woodland. [accessed 2025 Jan] <https://assessments.iucnrl.org/assessments/357>
- [IUCN] International Union for Conservation of Nature. 2024. Guidelines for the application of IUCN Red List of Ecosystems Categories and Criteria, Version 2.0. Keith, D.A., Ferrer-Paris, J.R., Ghoraba, S.M.M., Henriksen, S., Monyeki, M., Murray, N.J., Nicholson, E., Rowland, J., Skowno, A., Slingsby, J.A., Storeng, A.B., Valderrábano, M. & Zager, I. (Eds.). Gland, Switzerland: IUCN. [accessed 2025 Jan] <https://doi.org/10.2305/CJDF9122>
- [IUCN] International Union for Conservation of Nature. 2025. The Red List of Ecosystems, RLE Database. [accessed 2025 Jan.] <https://www.iucnrl.org/rle-database>.
- [LTLT] Land Trust for the Little Tennessee. 2011. The state of the streams in the upper Little Tennessee watershed. 2nd ed. Franklin (NC): Land Trust for the Little Tennessee.
- [LTWA] Little Tennessee Watershed Association. 2003. The state of the streams in the upper Little Tennessee watershed: a report on water quality and habitat trends, 1990–2002. Franklin (NC): Little Tennessee Watershed Association.
- [MACTEC, NCEP, and WPCG] MACTEC Engineering & Consulting, NC Ecosystem Enhancement Program, and Western Piedmont Council of Governments. 2006. Lower creek watershed management plan: Catawba River Basin, Caldwell and Burke counties, North Carolina. Raleigh (NC): NC Ecosystem Enhancement Program.
- [MDA] Maryland Department of Agriculture. 2010. Forest pest management Hemlock Woodlly Adelgid treatment and suppression plan. 11 pp.
- [MEA] Millennium Ecosystem Assessment. 2005. Ecosystems and human well-being: synthesis. Washington (DC): Island Press.
- [MRLC] Multi-Resolution Land Characteristics. 2011. National land cover database 2011 [online database]. Sioux Falls (SD): US Geological Survey, Earth Resources Observation and Science Center; [accessed ]. [http://www.mrlc.gov/nlcd11\\_leg.php](http://www.mrlc.gov/nlcd11_leg.php).
- [NABCI] North American Bird Conservation Initiative. 2025. The State of the Birds, United States of America, 2025. [accessed 2025 April] [www.StateoftheBirds.org](http://www.StateoftheBirds.org). 11 p.

## References

---

- [NAS] National Audubon Society (2020). The Christmas Bird Count Historical Results [Online]. Available <http://www.christmasbirdcount.org>.
- [NCAC] North Carolina Administrative Code. 15A NCAC 2B.0248 Outstanding resource waters.
- [NCAC] North Carolina Administrative Code. 1979. General Statute Article 19B, Chapter 106, Sections 202.12–202.22: Plant Protection and Conservation Act. Available online [accessed 2025 May] [https://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter\\_106/Article\\_19B.html](https://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter_106/Article_19B.html)
- [NCAC] North Carolina Administrative Code. 1985. General Statute Article 2, Chapter 143B, Sections 49–135.273: Nature Preserves Act. Available online [accessed 2025 May] [https://www.ncleg.gov/EnactedLegislation/Statutes/HTML/ByArticle/Chapter\\_143B/Article\\_2.html](https://www.ncleg.gov/EnactedLegislation/Statutes/HTML/ByArticle/Chapter_143B/Article_2.html).
- [NCAC] North Carolina Administrative Code. 2014. General Statute Article 22, Chapter 14, Sections 126–159.4: Damages and Other Offenses to Land and Fixtures. Available online [accessed 2025 May] [https://www.ncleg.gov/EnactedLegislation/Statutes/HTML/ByArticle/Chapter\\_14/Article\\_22.html](https://www.ncleg.gov/EnactedLegislation/Statutes/HTML/ByArticle/Chapter_14/Article_22.html).
- [NCAC] North Carolina Administrative Code. 2019. 15A NCAC 2B.0225 Water Quality Standards for Outstanding Resource Waters. Readopted November 1, 2019. [accessed 2025 May]. <http://ncrules.state.nc.us/ncac.asp?folderName=\Title%2015A%20-%20Environmental%20Quality>.
- [NCAC] North Carolina Administrative Code. SubChapter 02B Surface Water and Wetland Standards. [accessed 2025 March] <http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2002%20-%20environmental%20management/subchapter%20b/subchapter%20b%20rules.pdf>.
- [NCAC] North Carolina Administrative Code. SubChapter 10I Endangered and Threatened Species. [accessed 2025 March] <http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2010%20-%20wildlife%20resources%20and%20water%20safety/subchapter%20i/subchapter%20i%20rules.pdf>.
- [NCANSMP] North Carolina Aquatic Nuisance Species Management Plan. NC Department of Agriculture and Consumer Services, NC Department of Environmental Quality, and NC Wildlife Resources Commission. October 1, 2015. 96 pp. Online [accessed 2025 May] <https://www.ncwildlife.org/aquatic-nuisance-species-management-plan-finalpdf/open>.
- [NCBP] North Carolina Biodiversity Project. 2025. Taxonomic Groups. North Carolina Division of Parks and Recreation, Raleigh NC. [accessed 2025 Feb.] <https://nc-biodiversity.com/taxonomic-groups>.
- [NCCIA] North Carolina Commission on Indian Affairs, Department of Administration. 2025. [accessed 2025 Jan.] <https://www.doa.nc.gov/divisions/american-indian-affairs>
- [NCCRC] NC Coastal Resources Commission’s Science Panel on Coastal Hazards. 2010. North Carolina sea level rise assessment report. Raleigh (NC): NC Department of Environment and Natural Resources.

- [NCDCM] NC Division of Coastal Management. 2011. State of North Carolina 2007 Coastal and Estuarine Land Conservation Program (CELCP) plan. Raleigh (NC): NC Department of Environment and Natural Resources 63 p.
- [NCDCM] NC Division of Coastal Management. 2015. Section 2: areas of environmental concern. Raleigh (NC): NC Department of Environment and Natural Resources, Raleigh, NC..
- [NCDCM] North Carolina Division of Coastal Management. 2014. Living Shorelines Strategy; with NC Division of Marine Fisheries. North Carolina Department of Environmental Quality, Raleigh NC. [accessed 2025 May] <https://www.deq.nc.gov/documents/estuarine-shorelines/final-living-shorelines-strategy-feb-5-2014/download>.
- [NCDEQ] NC Department of Environmental Quality. 2021. North Carolina Coastal Habitat Protection Plan 2021 Amendment. Department of Environmental Quality, Raleigh, NC. 266 pp. [accessed 2025 March] <https://www.deq.nc.gov/about/divisions/marine-fisheries/habitat-information/coastal-habitat-protection-plan>.
- [NCDEQ] NC Department of Environmental Quality. 2022. 2024 303(d) Listing and Delisting, Draft Integrated Report. NC Division of Water Resources, Water Planning. Raleigh, NC. [accessed 2025 May] <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/modeling-assessment/water-quality-data-assessment/integrated-report-files>.
- [NCDEQ] NC Department of Environmental Quality. 2023. 20-Year Neuse and Tar-Pamlico Nutrient Management Strategy Retrospective (draft). NC Division of Water Resources, Raleigh NC. [accessed 2025 May] [https://lnba.net/system/files/2024-02/DRAFT%2020-Year%20Neuse%20and%20Tar-Pamlico%20NMS%20Retrospective%20Report\\_5\\_16\\_2023.pdf](https://lnba.net/system/files/2024-02/DRAFT%2020-Year%20Neuse%20and%20Tar-Pamlico%20NMS%20Retrospective%20Report_5_16_2023.pdf).
- [NCDEQ] NC Department of Environmental Quality. 2024(a). Animal Feeding Operations, List of Permitted Animal Facilities November 4, 2024. NC Division of Water Resource, Water Quality Permitting. Raleigh, NC. [accessed May 2025] <https://www.deq.nc.gov/about/divisions/water-resources/permitting/animal-feeding-operations/animal-facility-map>.
- [NCDEQ] NC Department of Environmental Quality. 2024. Eno River Hydrilla Management Project. Division of Water Resources, Aquatic Weed Control Program. Raleigh, NC. [accessed May 2025] <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/water-supply-planning/aquatic-weed-control-program/eno-river-hydrilla-management-project>.
- [NCDEQ] NC Department of Environmental Quality. 2025. NC Surface Water Classifications. Division of Water Resources, Raleigh NC. [accessed 2025 May] <https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55/page/Page-1?views=Layers%2CMap-Tools>.
- [NCDEQ] North Carolina Department of Environmental Quality (NCDEQ). 2020. North Carolina Climate Risk Assessment and Resilience Plan - Impacts, Vulnerability, Risks, and Preliminary Actions. Available online [accessed 2025 May] <https://www.deq.nc.gov/energy-climate/climate-change/nc-climate-change-interagency-council/climate-change-clean-energy-plans-and-progress/nc-climate-risk-assessment-and-resilience-plan>.

## References

---

- [NCDMF] NC Division of Marine Fisheries. 2015. Shellfish closure proclamations. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/marine-fisheries/rules-proclamations-and-size-and-bag-limits/polluted-area-proclamations>.
- [NCDMF] North Carolina Division of Marine Fisheries. 2024. 2023 Fishery Management Plan Review. North Carolina Department of Environmental Quality, Raleigh, NC. [accessed 2025 March]  
<https://www.deq.nc.gov/about/divisions/marine-fisheries/managing-fisheries>.
- [NCDMS] NC Division of Mitigation Services. n.d. Watershed planning documents. Raleigh (NC): NC Department of Environment and Natural Resources.
- [NCDPH] NC Division of Public Health. 2014. Occupational and environmental epidemiology: fish consumption advisories. Raleigh (NC): NC Department of Health and Human Services; [accessed 2025 March]. <http://epi.publichealth.nc.gov/oeep/programs/fish.html>.
- [NCDPR] North Carolina Division of Parks & Recreation. 2025. Natural Resources Inventory Database. NC Department of Natural and Cultural Resources. Raleigh, NC. [accessed 2025 May]  
<https://auth1.dpr.ncparks.gov/nrid/public.php>.
- [NCDEQ] NC Division of Water Quality. 2025. Cape Fear River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources, Raleigh, NC. [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/cape-fear>.
- [NCDEQ] NC Division of Water Quality. 2011. French Broad River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources, Raleigh, NC. [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/french-broad>.
- [NCDEQ] NC Division of Water Quality. 2011. French Broad River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; Raleigh, NC.[accessed 2015 May].  
<http://portal.ncdenr.org/web/wq/ps/bpu/basin/frenchbroad/2005>.
- [NCDEQ] NC Division of Water Quality. 2011. New River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/new>.
- [NCDEQ] NC Division of Water Quality. 2006. Total maximum daily load for aquatic weeds for Rockingham City Lake, Roanoke Rapids Lake, Big Lake, Reedy Creek Lake, and Lake Wackena in North Carolina: Yadkin-Pee Dee River Basin, Roanoke River Basin, and Neuse River Basin. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
[https://files.nc.gov/ncdeq/Water%20Quality/Planning/TMDL/FINAL%20TMDLS/Roanoke/AquaticWeedTMDL\\_Final\\_EPA.pdf](https://files.nc.gov/ncdeq/Water%20Quality/Planning/TMDL/FINAL%20TMDLS/Roanoke/AquaticWeedTMDL_Final_EPA.pdf).
- [NCDEQ] NC Division of Water Quality. 2021. Chowan River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].

<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/chowan/chowan-river-basin-water-resources-plan>.

[NCDEQ] NC Division of Water Quality. 2021. Pasquotank River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/pasquotank>

[NCDEQ] NC Division of Water Quality. 2018. Watauga River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May]. Available online:  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/watauga>.

[NCDEQ] NC Division of Water Quality. 2021. White Oak River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May]. Available online:  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/white-oak>.

[NCDEQ] NC Division of Water Quality. 2024. Broad River Basin, basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May]  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/broad>.

[NCDEQ] NC Division of Water Quality. 2022. Yadkin – Pee Dee River Basin, basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2015]  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/yadkin-pee-dee>.

[NCDEQ] NC Division of Water Quality. 2009. Neuse River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/neuse>.

[NCDEQ] NC Division of Water Quality. 2010. Catawba River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/catawba>.

[NCDEQ] NC Division of Water Quality. 2010. Lumber River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/lumber>.

[NCDEQ] NC Division of Water Quality. 2011. French Broad River basinwide water quality plan. Raleigh [NC]: NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/french-broad>.

## References

---

- [NCDEQ] NC Division of Water Quality. 2015. Lake and reservoir assessments Chowan River Basin. Raleigh (NC): NC Department of Environment and Natural Resources 8 p.[accessed 2025 May]  
<https://www.deq.nc.gov/water-quality/bims/reports/chowan-river-basin-2015/download>.
- [NCDEQ] NC Division of Water Quality. 2011. New River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/new>.
- [NCDEQ] NC Division of Water Quality. 2011d. Guide to surface freshwater classifications in North Carolina. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May]  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/classification-standards/classifications>.
- [NCDEQ] NC Division of Water Quality. 2012. Basinwide assessment report: Neuse River Basin. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/neuse>.
- [NCDEQ] NC Division of Water Quality. 2012. Hiwassee River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/hiwassee>
- [NCDEQ] NC Division of Water Quality. 2012. Little Tennessee River basinwide water quality plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/little-tennessee>.
- [NCDEQ] NC Department of Environmental Quality. 2012. Neuse River Basin ambient monitoring system report. Division of Water Quality, Raleigh NC [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/neuse>.
- [NCDEQ] NC Department of Environmental Quality. 2012. Savannah River basinwide water quality plan. Division of Water Quality, Raleigh NC [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans>.
- [NCDWQ] NC Division of Water Quality. n.d. Falls Lake special studies. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May].  
<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/nonpoint-source-planning/falls-lake-nutrient-strategy>
- [NCDEQ] NC Department of Environmental Quality. 2007. Little Tennessee River basinwide water quality plan. Division of Water Quality, Raleigh NC [accessed 2025 May].



- <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans>.
- [NCDEQ] NC Department of Environmental Quality. 2007. Catawba River Basin water resources plan. Division of Water Quality, Raleigh NC [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans>
- [NCDEQ] NC Department of Environmental Quality. 2010a. Aquatic weed control. Division of Water Quality, Raleigh NC [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/water-supply-planning/aquatic-weed-control-program>.
- [NCDEQ] NC Department of Environmental Quality. 2010b. North Carolina aquifers. Division of Water Quality, Raleigh NC [accessed 2025 May]. <https://www.ncwater.org/?page=525>.
- [NCDEQ] NC Department of Environmental Quality. 2010c. Lumber River basinwide water quality plan. Division of Water Quality, Raleigh NC [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans>.
- [NCDEQ] NC Department of Environmental Quality. 2012. Roanoke River basinwide water quality plan. Division of Water Quality, Raleigh NC [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans>.
- [NCDEQ] NC Department of Environmental Quality. 2011. State Water Supply Plan. Division of Water Quality, Raleigh NC [accessed 2025 May]. <https://www.deq.nc.gov/north-carolina-state-water-supply-plan-january-2001>.
- [NCDWR] NC Division of Water Resources. 2014c. Surface water classifications. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2014 November 7]. <http://portal.ncdenr.org/web/wq/ps/csu/classifications>.
- [NCDWR] NC Division of Water Resources. 2014d. Tar-Pamlico River Basinwide Water Resources Management Plan. [updated April 10, 2015]. [accessed 2015 July] <http://www.ncwater.org/basins/Tar-Pamlico/index.php>.
- [NCDWR] NC Division of Water Resources. 2015a. 2014 Integrated Report; Detailed Parameter Categories (305(b) List). Raleigh (NC): NC Department of Environment and Natural Resources; [updated 2015 March 16]. <http://ncdenr.maps.arcgis.com/home/item.html?id=1498920b96d54536ac7b465b3cc5bef0>.
- [NCDWR] NC Division of Water Resources. 2015b. Animal feeding operations program. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2015 march]. <http://portal.ncdenr.org/web/wq/aps/afo/perm>.

## References

---

- [NCDWR] NC Division of Water Resources. 2015c. DWR ORW HQW management areas (polygons). [accessed 2015 March] <http://ncdenr.maps.arcgis.com/home/item.html?id=5f7ed790f988481a9af3e4633d4d8f38>
- [NCDWR] NC Division of Water Resources. 2015d. DWR surface water classifications. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2015 March]. <http://ncdenr.maps.arcgis.com/home/item.html?id=c3dab4ac1eac44bd8fae5c8ecb520494>.
- [NCDEQ] NC Department of Environmental Quality. 2025. Groundwater Management-Data, Tools, Technical Reports. NC Division of Water Resources , Raleigh NC. [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/groundwater-resources/groundwater-management-data-tools-technical-reports>.
- [NCDEQ] NC Department of Environmental Quality. 2025. (web page). Basin Planning Branch: River Basins, Basin Summaries. NC Division of Water Resources , Raleigh NC. [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning-branch>.
- [NCDEQ] NC Department of Environmental Quality. 2025. (web page). NPDES Wastewater. NC Division of Water Resources , Raleigh NC. [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-quality-permitting/npdes-wastewater>.
- [NCDEQ] NC Department of Environmental Quality. 2018. Little Tennessee River Basin Restoration Priorities, amended July 2018. NC Division of Water Resources , Raleigh NC. [accessed 2025 May]. [https://files.nc.gov/ncdeq/Mitigation%20Services/Watershed Planning/Little Tenn River Basin/RBRP-LTN-2018.pdf](https://files.nc.gov/ncdeq/Mitigation%20Services/Watershed%20Planning/Little%20Tenn%20River%20Basin/RBRP-LTN-2018.pdf).
- [NCDWR] NC Division of Water Resources. 2021. Chowan River Basin Water Resources Plan. NC Division of Environmental Quality, Raleigh (NC). [accessed 2025May] <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/chowan/chowan-river-basin-water-resources-plan>.
- [NCDWR] NC Division of Water Resources. 2021. Lake and Reservoir Assessments Neuse River Basin. 41 p. NC Division of Environmental Quality, Water Sciences Section. Raleigh (NC). [accessed 2025 May] <https://www.deq.nc.gov/water-resources/2020-neuse-river-basin-report/open>.
- [NCDWR] NC Division of Water Resources. 2024a. North Carolina Wetlands Information. NC Department of Environmental Quality, Water Sciences Section. Raleigh, NC. [accessed 2024 Oct.] <https://www.ncwetlands.org/learn/aboutncswetlands/types>.
- [NCDWR] NC Division of Water Resources. 2024b. North Carolina Wetlands Threats & Impacts. Raleigh, NC. [Accessed 2024 November] [https://www.ncwetlands.org/wp-content/uploads/Wetland Impacts and Threats\\_ncwetlands.pdf](https://www.ncwetlands.org/wp-content/uploads/Wetland_Impacts_and_Threats_ncwetlands.pdf).
- [NCDWR] NC Division of Water Resources. n.d. Water sciences reports, publications, and data: basin assessment reports [Internet archive]. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. <http://portal.ncdenr.org/web/wq/ess/reports>.

- [NCEEP] NC Ecosystem Enhancement Program. 2003. Mud Creek local watershed plan. Raleigh (NC): ; [accessed 2015 May]. [http://www.nceep.net/services/lwps/Mud\\_Creek/](http://www.nceep.net/services/lwps/Mud_Creek/).
- [NCEEP] NC Ecosystem Enhancement Program. 2004. Catawba River Basin watershed restoration plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. <http://www.nceep.net/services/restplans/catawba-04.pdf>.
- [NCEEP] NC Ecosystem Enhancement Program. 2005. French Broad River Basin watershed restoration plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2015 May]. [http://www.nceep.net/services/restplans/French\\_Broad\\_Plan.pdf](http://www.nceep.net/services/restplans/French_Broad_Plan.pdf).
- [NCEEP] NC Ecosystem Enhancement Program. 2006. Bald Creek Local watershed plan. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2015 May]. [http://www.nceep.net/services/lwps/Bald\\_Creek/Bald\\_Creek\\_Watershed\\_Plan-FINAL4.pdf](http://www.nceep.net/services/lwps/Bald_Creek/Bald_Creek_Watershed_Plan-FINAL4.pdf).
- [NCEEP] NC Ecosystem Enhancement Program. 2007. Lower Catawba River Basin restoration priorities. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. [http://www.nceep.net/services/restplans/LowerCatawbaRBRP\\_Final\\_v20070928.pdf](http://www.nceep.net/services/restplans/LowerCatawbaRBRP_Final_v20070928.pdf).
- [NCEEP] NC Ecosystem Enhancement Program. 2008a. Hiwassee River Basin restoration priorities. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. [http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=ea2df99d-3031-4c7b-87ea-79d56a3e4a1e&groupId=60329](http://portal.ncdenr.org/c/document_library/get_file?uuid=ea2df99d-3031-4c7b-87ea-79d56a3e4a1e&groupId=60329).
- [NCEEP] NC Ecosystem Enhancement Program. 2008b. Little Tennessee River Basin restoration priorities. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. [http://www.nceep.net/services/lwps/Little\\_Tennessee/RBRP\\_LTN\\_2008.pdf](http://www.nceep.net/services/lwps/Little_Tennessee/RBRP_LTN_2008.pdf).
- [NCEEP] NC Ecosystem Enhancement Program. 2008c. Lumber River Basin restoration priorities. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. [http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=717199f1-8604-4487-bd2b-e076bd5a9612&groupId=60329](http://portal.ncdenr.org/c/document_library/get_file?uuid=717199f1-8604-4487-bd2b-e076bd5a9612&groupId=60329).
- [NCEEP] NC Ecosystem Enhancement Program. 2009a. Broad River Basin restoration priorities. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. <http://portal.ncdenr.org/web/eeep/rbrps/broad>.
- [NCEEP] NC Ecosystem Enhancement Program. 2009b. New River Basin restoration priorities. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed ]. [http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=554ebebaf76-4a68-9109-5b83fb16c088&groupId=60329](http://portal.ncdenr.org/c/document_library/get_file?uuid=554ebebaf76-4a68-9109-5b83fb16c088&groupId=60329).
- [NCEEP] NC Ecosystem Enhancement Program. 2009c. Peachtree-Martins Creek local watershed plan. Raleigh (NC): Division of Mitigation Services; [accessed ]. <http://www.nceep.net/services/lwps/Hiwassee/>.
- [NCEEP] NC Ecosystem Enhancement Program. 2010. Franklin to Fontana local watershed plan. Division of Mitigation Services, Raleigh, NC. Available online <http://portal.ncdenr.org/web/eeep/lwps>.

## References

---

- [NCEEP] NC Ecosystem Enhancement Program. 2010. Neuse River Basin restoration priorities. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/neuse>.
- [NCEEP] NC Ecosystem Enhancement Program. 2011. Franklin to Fontana local watershed plan. Raleigh (NC): Division of Mitigation Services; [accessed ]. [http://www.nceep.net/services/lwps/Little Tennessee/](http://www.nceep.net/services/lwps/Little_Tennessee/)
- [NCEEP] NC Ecosystem Enhancement Program. 2018. Neuse River Basin restoration priorities 2010, amended 2018. Raleigh (NC): NC Department of Environment and Natural Resources; [accessed 2025 May]. <https://www.deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/neuse>.
- [NCEEP] NC. Ecosystem Enhancement Program. 2009d. Watauga Basin restoration priorities. N.C. Division of Mitigation Services, Raleigh, NC. Available online: [http://www.nceep.net/services/restplans/Watauga\\_RBRP\\_2009.pdf](http://www.nceep.net/services/restplans/Watauga_RBRP_2009.pdf)
- [NCFMP] NC Floodplain Mapping Program. 2005. Draft basin plan – Broad River Basin. Raleigh (NC): NC Floodplain Mapping Program; [accessed ]. <http://www.ncfloodmaps.com/status/broad.htm>.
- [NCGAP] NC Gap Analysis Project. 2009. Geo-data server online tool. [accessed 2015 March]. <http://www.gapserve.ncsu.edu/ncgap/ncgap/>.
- [NCGIA] National Center for Geographic Information and Analysis. 2011. Project Gigapolis [webpage]. [accessed 2015 July] <http://www.ncgia.ucsb.edu/projects/gig/index.html>.
- [NCGS] NC General Statute. N.d.a. Chapter 113, Article 12. Subchapter Iv. Conservation Of Marine And Estuarine and Wildlife Resources. General Definitions. [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter\\_113/article\\_12.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter_113/article_12.pdf).
- [NCGS] NC General Statute. N.d.a. Chapter 113, Article 13. Jurisdiction of Conservation Agencies. [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter\\_113/article\\_13.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter_113/article_13.pdf).
- [NCGS] NC General Statute. N.d.b. Chapter 113, Article 20. Miscellaneous regulatory provisions. [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter\\_113/article\\_20.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter_113/article_20.pdf).
- [NCGS] NC General Statute. N.d.c. Chapter 113, Article 21. Licenses and permits issued by the Wildlife Resources Commission. [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter\\_113/article\\_21.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter_113/article_21.pdf)
- [NCGS] NC General Statute. N.d.d. Chapter 113, Article 22. Regulation of wildlife. [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter\\_113/article\\_22.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter_113/article_22.pdf).

- [NCGS] NC General Statute. N.d.e. Chapter 113, Article 25. Endangered and threatened wildlife and wildlife species of special concern. [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter\\_113/article\\_25.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter_113/article_25.pdf).
- [NCGS] NC General Statute. N.d.f. Chapter 143, Article 24. Wildlife Resources Commission. [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter\\_143/article\\_24.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/byarticle/chapter_143/article_24.pdf).
- [NCGS] NC General Statute. N.d.g. Chapter 106 -65, Article 24. Definitions. Structural Pest Control Act (1977). [accessed 2025 March]. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/bysection/chapter\\_106/gs\\_106-65.24.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/bysection/chapter_106/gs_106-65.24.pdf).
- [NCGS] NC General Statutes. n.d. Natural and Scenic Rivers Act of 1971. Raleigh (NC): NC General Assembly; [accessed 2015 April]. [http://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter\\_113A/Article\\_3.html](http://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter_113A/Article_3.html).
- [NCMEF] North Carolina Marine & Estuary Foundation. 2025. North Carolina Wildlife Resources Commission, Fisheries Management in Inland & Coastal Waters. [accessed 2025 May] <https://www.ncmefoundation.org/management-map/ncwrc>.
- [NCMNS] North Carolina Museum of Natural Sciences. 2025. Herpetology Collection. North Carolina Department of Natural and Cultural Resources, Raleigh, NC. [accessed 2025 Feb.] <https://naturalsciences.org/research-collections/collections/herpetology-collection>.
- [NCNHP] NC Natural Heritage Program. 2001. Descriptions of the biological themes of North Carolina. 2nd ed. Raleigh (NC): NC Department of Environment and Natural Resources.
- [NCNHP] NC Natural Heritage Program. 2010. North Carolina climate change ecosystem assessment, draft. North Carolina Ecosystem Response to Climate Change: NCDENR Assessment of Effects and Adaptation Measures. NC Natural Heritage Program, Raleigh (NC).
- [NCNHP] NC Natural Heritage Program. 2010. North Carolina ecosystem response to climate change: DENR assessment of effects and adaptation measures. Raleigh (NC): NC Department of Environment and Natural Resources.
- [NCNHP] NC Natural Heritage Program. 2012. List of the rare animal species of North Carolina. Raleigh (NC): NC Department of Environment and Natural Resources, Natural Heritage Program 150 p. [http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=1dc3c5b9-7822-44a8-b3dd-afda38e07bd0&groupId=61587](http://portal.ncdenr.org/c/document_library/get_file?uuid=1dc3c5b9-7822-44a8-b3dd-afda38e07bd0&groupId=61587).
- [NCNHP] NC Natural Heritage Program. 2014a. Geographic Information System (GIS) raster and digital data sets, restricted distribution. Raleigh (NC): NC Department of Environment and Natural Resources.
- [NCNHP] NC Natural Heritage Program. 2014b. List of the rare animal species of North Carolina. Raleigh (NC): Office of Land and Water Stewardship, North Carolina Department of Environment and Natural Resources; [accessed 2015 January]. <http://portal.ncdenr.org/web/nhp/nhp-publications#rare-plant-and-animal-list>.

## References

---

- [NCNHP] NC Natural Heritage Program. 2024. Ecosystem Vulnerability Assessments (draft). Office of Land and Water Stewardship, North Carolina Department of Environment and Natural Resources, Raleigh, NC.
- [NCOEE] NC Office of Environmental Education. 2007. Neuse River Basin. Raleigh (NC): NC Department of Environment and Natural Resources 8 p.
- [NCOEE] NC Office of Environmental Education. 2007. Roanoke River Basin. Raleigh (NC): NC Department of Environment and Natural Resources. [accessed 2015 August]  
<http://www.eenorthcarolina.org/images/River%20Basin%20Images/roanoke.150dpi.pdf>. 8 p.
- [NCOEE] NC Office of Environmental Education. 2025. [web page] River Basin Brochures Raleigh (NC): NC Department of Environment and Natural Resources [accessed 2025 May]  
<https://www.eenorthcarolina.org/resources/river-basin-program>.
- [NCOG] North Carolina Office of the Governor. 2024. Press release: Governor Cooper signs Executive Order setting statewide conservation goals for forests and wetlands. [accessed 2025 Jan]  
<https://governor.nc.gov/news/press-releases/2024/02/12/governor-cooper-signs-executive-order-setting-statewide-conservation-goals-forests-and-wetlands>.
- [NCOSBM] North Carolina Office of State Budget and Management [internet]. 2024. State demographer county and state population estimates and projections. [accessed 2024 Dec.]  
<https://www.osbm.nc.gov/facts-figures/population-demographics/state-demographer/countystate-population-projections>.
- [NCOSBM] North Carolina Office of State Budget and Management [internet]. 2024(a). North Carolina to become 7th most populated state in early 2030s. [Accessed 2024 Dec.].  
<https://www.osbm.nc.gov/blog/2024/01/23/nc-become-7th-most-populated-state-early-2030s>.
- [NCPCP] North Carolina Plant Conservation Program Preserve Steward Manual. 2021. North Carolina Plant Conservation Program and Friends of Plant Conservation. 22 pp. Available online  
[https://www.ncplantfriends.org/uploads/5/7/1/0/57102531/preserve\\_steward\\_manual.pdf](https://www.ncplantfriends.org/uploads/5/7/1/0/57102531/preserve_steward_manual.pdf).
- [NCWRC and USFWS] North Carolina Wildlife Resources Commission and United States Fish and Wildlife Service. 2013. North Carolina's White-nose Syndrome Surveillance and Response Plan. Raleigh, NC. 37 pp. [Accessed 2025 May]. <https://www.ncwildlife.gov/media/1301/download?attachment>.
- [NCWRC] NC Wildlife Resources Commission. 2000. Fisheries and wildlife management plan for the Cheoah River Basin and the Lower Little Tennessee River. Raleigh (NC): NC Wildlife Resources Commission.
- [NCWRC] NC Wildlife Resources Commission. 2005. North Carolina wildlife action plan. Raleigh (NC): NC Wildlife Resources Commission; [accessed 2015 August]; 700 p. [www.ncwildlife.org/plan](http://www.ncwildlife.org/plan).
- [NCWRC] NC Wildlife Resources Commission. n.d. Wildlife conservation land priority habitat management guidelines: rock outcrops. Raleigh (NC): NC Wildlife Resources Commission; [accessed 2013 June]. <http://www.ncwildlife.org/Portals/0/Conserving/documents/RockOutcrop.pdf>.

- [NCWRC] North Carolina Wildlife Resources Commission [internet]. 2005. North Carolina Wildlife Action Plan. Raleigh, NC. 498 pp. [accessed 2015 July] <http://www.ncwildlife.org/plan.aspx>.
- [NCWRC] North Carolina Wildlife Resources Commission [Internet]. 2012. Conservation recommendations for priority terrestrial wildlife species and habitats in North Carolina. [accessed 2015 May].  
<http://www.ncwildlife.org/Portals/0/Conserving/documents/ConservingTerrestrialHabitatsandSpecies.pdf>
- [NCWRC] NC Wildlife Resources Commission. 2002. Guidance memorandum to address and mitigate secondary and cumulative impacts to aquatic and terrestrial wildlife resources and water quality. Raleigh (NC): NC Wildlife Resources Commission.
- [NCWRC] North Carolina Wildlife Resources Commission. 2022. Recovering America's Wildlife Act, Sustaining North Carolina's diverse fish and wildlife resources. 24 pp. Raleigh, NC.  
<https://www.ncwildlife.org/wildlife-habitat/wildlife-action-plan/recovering-americas-wildlife-act>.
- [NCWRC] North Carolina Wildlife Resources Commission. 2025. Restoring Aquatic Species to North Carolina. [accessed 2025 Jan.] <https://www.ncwildlife.org/wildlife-habitat/conservation-restoration-programs/restoring-aquatic-species-north-carolina>.
- [NCWRC]. North Carolina Wildlife Resources Commission [internet]. 2025. Wildlife and Habitat, Species, American Alligator. Detailed overview of American Alligator. Raleigh, NC. [accessed 2025 March] <https://www.ncwildlife.gov/media/1363/open>.
- [NCWRP] NC Wetlands Restoration Program. 2001a. Watershed restoration plan for the Catawba River Basin. Raleigh (NC): NC Wetlands Restoration Program; [accessed ].  
[http://www.nceep.net/services/restplans/catawba\\_2000.pdf](http://www.nceep.net/services/restplans/catawba_2000.pdf)
- [NCWRP] NC Wetlands Restoration Program. 2001b. Watershed restoration plan for the French Broad River Basin. Raleigh (NC): NC Wetlands Restoration Program; [accessed 2015 May].  
<http://www.nceep.net/services/restplans/french%20broad%202001.pdf>.
- [NCWRP] NC Wetlands Restoration Program. 2001c. Watershed restoration plan for the Hiwassee River Basin. Raleigh (NC): NC Wetlands Restoration Program; [accessed ].  
[http://www.nceep.net/services/restplans/hiwassee\\_2001.pdf](http://www.nceep.net/services/restplans/hiwassee_2001.pdf)
- [NCWRP] NC Wetlands Restoration Program. 2001d. Watershed restoration plan for the Savannah River Basin. Raleigh (NC): NC Wetlands Restoration Program; [accessed ].  
[http://www.nceep.net/services/restplans/savannah\\_2001.pdf](http://www.nceep.net/services/restplans/savannah_2001.pdf)
- [NCWRP] NC Wetlands Restoration Program. 2002a. Watershed restoration plan for the Little Tennessee River Basin. Raleigh (NC): NC Wetlands Restoration Program; [accessed ].  
[http://www.nceep.net/services/restplans/Little\\_Tennessee\\_2002.pdf](http://www.nceep.net/services/restplans/Little_Tennessee_2002.pdf)
- [NCWRP] NC Wetlands Restoration Program. 2002b. Watershed restoration plan for the Watauga River Basin. Raleigh (NC): NC Wetlands Restoration Program; [accessed ].  
[http://www.nceep.net/services/restplans/Watauga\\_Plan\\_2002.pdf](http://www.nceep.net/services/restplans/Watauga_Plan_2002.pdf).

## References

---

- [NCWRP] NC Wetlands Restoration Program. 2003. Broad River Basin watershed restoration plan. Raleigh (NC): NC Wetlands Restoration Program; [accessed ].  
[http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=b903e88e-1b42-4920-b237-e5dbee6d11ee&groupId=60329](http://portal.ncdenr.org/c/document_library/get_file?uuid=b903e88e-1b42-4920-b237-e5dbee6d11ee&groupId=60329).
- [NFWPCAS] National Fish, Wildlife, and Plants Climate Adaptation Strategy, draft for public review. 2012. Washington (DC): National Fish, Wildlife, and Plants Climate Adaptation Partnership; [accessed 2012 May 3]. [www.wildlifeadaptationstrategy.gov/public-review-draft.php](http://www.wildlifeadaptationstrategy.gov/public-review-draft.php) .
- [NGA] National Governors Association. 2013. Top Trends in State Economic Development. 17 pp. Available online <http://www.nga.org/cms/center>.
- [NIEPS] Nicholas Institute for Environmental Policy Solutions. 2010. Climate ready estuaries: a blueprint for change. Durham (NC): Nicholas Institute for Environmental Policy Solutions, Duke University 60 pp.
- [NMFIS] National Marine Fisheries Service. 2004. Essential fish habitat: a marine fish habitat conservation mandate for federal agencies. St. Petersburg (FL): National Oceanic and Atmospheric Administration, Habitat Conservation Division, Southeast Regional Office.
- [NOAA] National Oceanic and Atmospheric Administration, Fisheries. 2025. Recovery of Species Under the Endangered Species Act. [accessed 2025 March]  
<https://www.fisheries.noaa.gov/national/endangered-species-conservation/recovery-species-under-endangered-species-act>.
- [NOAA] National Oceanic and Atmospheric Administration. 2014. Habitat conservation: who we are. Silver Spring (MD): Office of Habitat Conservation; [accessed ].  
<http://www.habitat.noaa.gov/aboutus/whoweare.html>.
- [NRI] National Resources Inventory [Internet]. 2010. Washington (DC): US Department of Agriculture, Natural Resources Conservation Service; [accessed 2015 March].  
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/nri>.
- [NWRS] National Wildlife Refuge System. 2015. New refuge in North Carolina. US Fish and Wildlife Service Region 4, Atlanta, GA; [last updated 2015 April 23, accessed 2015 July].  
<http://www.fws.gov/refuges/news/NewRefugeNorthCarolina.html>.
- [NWSRS] National Wild and Scenic Rivers System. 2015. New River (South Fork), North Carolina. Burbank (WA): US Fish and Wildlife Service; [accessed 2015 May]. <http://www.rivers.gov/rivers/new.php>.
- [NWSRS] National Wild and Scenic Rivers System. n.d. North Carolina. Burbank (WA): US Fish and Wildlife Service; [accessed 2015 April]. <http://www.rivers.gov/north-carolina.php>.
- [OBSN] Occaneechi Band of the Saponi Nation. 2025. The Occaneechi Band of the Saponi Nation website <https://obsn.org> [accessed 2025 Feb.].



- [SAFMC] South Atlantic Fishery Management Council. 1998. Final habitat plan for the South Atlantic region: essential fish habitat requirements for fishery management plans of the South Atlantic Fishery Management Council. Charleston (SC): SAFMC. [accessed 2015 July] <http://safmc.net/ecosystem-management/safmc-habitat-plan>.
- [SAMAB] Southern Appalachian Man and the Biosphere. 1996. The Southern Appalachian assessment terrestrial technical report. Report 5 of 5. Atlanta (GA): US Department of Agriculture, Forest Service, Southern Region.
- [SARP] Southeast Aquatic Research Partnership. 2025. Aquatic Connectivity Program. [accessed 2025 Jan.] <https://southeastaquatics.net/sarps-programs/aquatic-connectivity-program-act>.
- [SARP] Southeast Aquatic Resources Partnership. 2024. Comprehensive Aquatic Barrier Inventory v3.17.0 (03/31/2025). <https://southeastaquatics.net/sarps-programs/aquatic-connectivity-program-act>. (downloaded 5/9/2025 from <https://aquaticbarriers.org>). SARP/USFWS.
- [SASRI] Southern Appalachian Spruce Restoration Plan. 2015. Tennessee chapter of The Nature Conservancy. 49pp. [https://southernspruce.org/wp-content/uploads/2018/07/final\\_southern-appalachian-spruce-restoration-plan1.pdf](https://southernspruce.org/wp-content/uploads/2018/07/final_southern-appalachian-spruce-restoration-plan1.pdf)
- [SCO] State Climate Office of North Carolina. 2014. Overview. Raleigh (NC): State Climate Office of NC; [accessed ]. <http://www.nc-climate.ncsu.edu/climate/ncclimate.html>.
- [SEAFWA] Southeast Association of Fish and Wildlife Agencies. 2023. Recommendations to improve the identification, assessment, and prioritization of Species of Greatest Conservation Need (SGCN) in the SEAFWA region. SEAFWA Wildlife Diversity Committee. 50 pp. [accessed 2025 Feb.] [https://georgiabiodiversity.org/sgcn\\_development/supp/SEAFWA\\_SGCN\\_Recommendation\\_Report\\_2022.pdf](https://georgiabiodiversity.org/sgcn_development/supp/SEAFWA_SGCN_Recommendation_Report_2022.pdf).
- [SECAS] Southeast Conservation Adaptation Strategy. 2025. The Southeast Blueprint Indicators. [accessed 2025 May] <https://secassoutheast.org/blueprint-indicators>.
- [SEGAP] Southeast Gap Analysis Project. 2007. Land cover, North Carolina. Raleigh (NC): Southeast Gap Analysis Project; [accessed 2013]. <http://www.basic.ncsu.edu/segap/>.
- [SHR] Southern Highlands Reserve. 2013. The spruce-fir forest icon of the southern Blue Ridge Mountains. <http://www.southernhighlandsreserve.org/wp-content/uploads/2012/08/spruce-fir-forest.pdf>.
- [TNC and SAFC] The Nature Conservancy and Southern Appalachian Forest Coalition. 2000. Southern Blue Ridge ecoregion conservation plan. Durham (NC): The Nature Conservancy.
- [TNC] The Nature Conservancy. 2024. Red Spruce Technical Advisory Board: Red Spruce Restoration Recommendations. 47pp.
- [TVA] Tennessee Valley Authority. n.d. Chatuge Reservoir ecological health rating. Knoxville (TN): Tennessee Valley Authority; [accessed 2015 April]. <http://www.tva.com/environment/ecohealth/chatuge.htm>.

## References

---

- [UNCC] University of North Carolina at Charlotte. 2015. Charlotte population growth: a clearer picture. [accessed 2015 July] <http://ui.uncc.edu/display/charlotte-region-population-growth-census-tract>.
- [UNCW 2008] University of North Carolina Wilmington. 2008. The potential impacts of climate change on coastal North Carolina: a report by the faculty of the University of North Carolina Wilmington for Erskine Bowles President, The University of North Carolina. Wilmington (NC). 124 pp. [accessed 2015 July] <http://www.uncw.edu/aa/documents/UNCW%20Global%20Climate%20Change%20Final%20Report.pdf>.
- [UNEP-WCMC] UN Environment Programme World Conservation Monitoring Centre. 2025. Checklist of CITES species [internet]. Geneva (Switzerland): CITES Secretariat; [accessed 2025 March]. <http://www.cites.org/eng/resources/pub/checklist11/index.html>.
- [USACE] US Army Corps of Engineers. 1987. Corps of Engineers wetlands delineation manual. Technical Report Y-87-1. Vicksburg (MS): Wetlands Research Program 143 p. <http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf>.
- [USACE] US Army Corps of Engineers. 2003. Stream mitigation guidelines. Wilmington district. [www.saw.usace.army.mil/wetlands/mitigation/stream\\_mitigation.html](http://www.saw.usace.army.mil/wetlands/mitigation/stream_mitigation.html).
- [USCB] United States Census Bureau [internet]. 2010. 2010 Census Data Products: United States at a glance (version 2.8). [updated 2015 May, accessed 2015 June] <http://www.census.gov/population/www/cen2010/glance/>.
- [USCB] US Census Bureau. 2010. 2010 Census interactive population search. Washington (DC): US Census Bureau; [accessed 2015 August]. <http://www.census.gov/2010census/popmap/ipmtext.php?fl=37>
- [USCB] US Census Bureau. 2012. American Indian area geography, American Indian tribal subdivision (2010): Eastern Cherokee Reservation. GCS NAD83. Washington (DC): US Census Bureau, Geography Division; [accessed 2015 August]. <http://www.census.gov/cgi-bin/geo/shapefiles2010/main>. [USCB] US Census Bureau. 2014. Annual estimates of resident population change for incorporated places of 50,000 or more in 2012, ranked by percent change: July 1, 2012 to July 1, 2013 U.S. Census Bureau, Population. Available online (January 2015) <http://www.census.gov/popest/data/index.html>.
- [USCB] US Census Bureau. 2015. Metropolitan and micropolitan statistical area population and estimated components of change: April 1, 2010 to July 1, 2014 (CBSA-EST2014-alldata). Population Estimates, Washington (DC): US Census Bureau; [accessed 2015 August] <http://www.census.gov/popest/data/metro/totals/2014/CBSA-EST2014-alldata.html>.
- [USCB] US Census Bureau. 2025. US Metro Areas experienced population growth between 2023 and 2024: April 17, 2025. Resource Library, Washington DC. US Census Bureau [accessed 2025 May] <https://www.census.gov/library/stories/2025/04/metro-area-trends.html>.
- [USDA] United States Department of Agriculture [internet]. 2014. Farmland Information Center. The 2010 NRI: Changes in Land Cover/Use. North Carolina/American Farmland Trust fact sheet. North Carolina: NC/American Trust.

- [USDA] United States Department of Agriculture, Forest Service. 2022. Forests of North Carolina, 2021. Resource Update FS-391. Asheville, NC. 2p. <https://doi.org/10.2737/FS-RU-391>.
- [USDA] United States Department of Agriculture. 2009. Summary Report: 2007 National Resources Inventory, Natural Resources Conservation Service, Washington, DC, and Center for Survey Statistics and Methodology, Iowa State University, Ames, Iowa. 123 pp. [accessed July 2015]  
[http://www.nrcs.usda.gov/technical/NRI/2007/2007\\_NRI\\_Summary.pdf](http://www.nrcs.usda.gov/technical/NRI/2007/2007_NRI_Summary.pdf)
- [USDA] United States Department of Agriculture. 2013. Summary Report: 2010 National Resources Inventory. Washington (DC): Natural Resources Conservation Service; Ames (IA): Iowa State University; [accessed 2015 May]  
[http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1167354.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1167354.pdf).
- [USDA] United States Department of Agriculture. 2020. Summary Report: 2017 National Resources Inventory, Natural Resources Conservation Service, Washington, DC, and Center for Survey Statistics and Methodology, Iowa State University, Ames, IA. [accessed online 2025 Jan].  
[https://publicdashboards.dl.usda.gov/t/FPAC\\_PUB/views/RCADVLandUseDownloadNRI20171/LandUseDownload?%3Aembed=y&%3AisGuestRedirectFromVizportal=y](https://publicdashboards.dl.usda.gov/t/FPAC_PUB/views/RCADVLandUseDownloadNRI20171/LandUseDownload?%3Aembed=y&%3AisGuestRedirectFromVizportal=y)
- [USDHUD] United States Department of Housing and Urban Development. 2013. HUC PD&R Housing Market Profiles, Raleigh-Durham, North Carolina. Office of Policy Development and Research. [accessed 2015 June]  
[http://www.huduser.org/portal/periodicals/USHMC/reg/RaleighNC\\_HMP\\_Nov13.pdf](http://www.huduser.org/portal/periodicals/USHMC/reg/RaleighNC_HMP_Nov13.pdf).
- [USDOI] United States Department of the Interior, Indian Affairs. 2025. Office of the Assistant Secretary for Indian Affairs. [accessed 2025 Jan.] <https://www.bia.gov/as-ia>.
- [USDOI] United States Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. 82 pp.
- [USEPA] US Environmental Protection Agency. 1993. Constructed wetlands for wastewater treatment and wildlife habitat. EPA 832-R-93-005. Washington (DC): US Environmental Protection Agency.
- [USEPA] US Environmental Protection Agency. 1998. Condition of the Mid-Atlantic estuaries. EPA 600-R-98-147. Washington (DC): US Environmental Protection Agency.
- [USEPA] US Environmental Protection Agency. 2010. Overview of climate change adaptation in the Southeastern US with a focus on water and coastal resources. Draft Discussion Paper. Stratus Consulting, Boulder CO. 74 pp. [accessed 2015 July]  
[http://collaborate.coast.noaa.gov/climateadaptation/Lists/Resources/Attachments/52/Overview\\_Climate\\_Change\\_Adaptation\\_in\\_SE\\_US\\_Water\\_CoastalResources\\_Focus\\_January2010.pdf](http://collaborate.coast.noaa.gov/climateadaptation/Lists/Resources/Attachments/52/Overview_Climate_Change_Adaptation_in_SE_US_Water_CoastalResources_Focus_January2010.pdf).
- [USEPA] US Environmental Protection Agency. 2012a. Primer for identifying coldwater refuges to protect and restore thermal diversity in riverine landscapes. EPA 910-C-12-001. Seattle (WA): Office of Water and Watersheds, Water Division 91 p.

## References

---

- [USEPA] US Environmental Protection Agency. 2012b. Coastal watershed factsheets – estuaries and your coastal watershed [web page]; [accessed 2015 August] <http://water.epa.gov/type/oceb/fact5.cfm>
- [USEPA] US Environmental Protection Agency. 2013a. My WATERS Mapper [Internet]. Washington (DC): US Environmental Protection Agency, Office of Water; [accessed 2015 January]. <http://watersgeo.epa.gov/mwm/>.
- [USEPA] US Environmental Protection Agency. 2013b. Water quality models and tools – DFLOW. Washington (DC): US Environmental Protection Agency; [accessed 2015 May]. <http://water.epa.gov/scitech/datait/models/dflow/>.
- [USEPA] US Environmental Protection Agency. 2014a. 303(d) listed impaired waters NHDPlus indexed dataset with program attributes. [accessed 2015 March]. [http://water.epa.gov/scitech/datait/tools/waters/data/downloads.cfm#303\(d\) Listed Impaired Waters](http://water.epa.gov/scitech/datait/tools/waters/data/downloads.cfm#303(d) Listed Impaired Waters).
- [USEPA] US Environmental Protection Agency. 2014b. NHDPlus in waters. [accessed 2015 March] [http://water.epa.gov/scitech/datait/tools/waters/docs/nhd\\_model.cfm](http://water.epa.gov/scitech/datait/tools/waters/docs/nhd_model.cfm).
- [USEPA] US Environmental Protection Agency. 2015. NPDES Wastewater and Stormwater Permits [web page], [last updated 2015, June 30] [accessed 2015 August] <http://www.epa.gov/region9/water/npdes/>.
- [USEPA] US Environmental Protection Agency. 2024. Classification and Types of Wetlands. Last accessed 10/29/2024. <https://www.epa.gov/wetlands/classification-and-types-wetlands#non-tidal>
- [USFWS] United States Fish & Wildlife Service. 2014. Candidate Species: Section 4 of the Endangered Species Act. [accessed 2015 July] [http://www.fws.gov/endangered/esa-library/pdf/candidate\\_species.pdf](http://www.fws.gov/endangered/esa-library/pdf/candidate_species.pdf).
- [USFWS] United States Fish & Wildlife Service. 2021a. Conservation in North Carolina. Threatened, endangered, and at-risk species. Available online <https://www.fws.gov/southeast/north-carolina>.
- [USFWS] United States Fish & Wildlife Service. 2021b. Species with Recovery Plans. Environmental Conservation Online System. Available online <https://ecos.fws.gov/ecp/report/species-with-recovery-plans>.
- [USFWS] United States Fish & Wildlife Service. 2025a. Endangered and threatened species of North Carolina. Raleigh (NC): Eastern North Carolina Ecological Services Field Office; [accessed 2025 Jan]. <https://www.fws.gov/office/eastern-north-carolina-ecological-services/species>.
- [USFWS] United States Fish & Wildlife Service. 2025b. Recovery Plans. [accessed 2025 Jan] <https://www.fws.gov/program/recovery/recovery-plans>.
- [USFWS] United States Fish & Wildlife Service. 2025c. Critical Habitat for Threatened & Endangered Species, MapViewer. [access 2025 Jan] <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>.

- [USFWS] United States Fish & Wildlife Service. 2025d. Southeast At-Risk Species Finder, North Carolina. [accessed 2025 March] [https://experience.arcgis.com/experience/c578e0f4d7ab48a7a9648abe76296ec4/page/At-Risk-List?org=fws#data\\_s=id%3AdataSource\\_4-2%3A411](https://experience.arcgis.com/experience/c578e0f4d7ab48a7a9648abe76296ec4/page/At-Risk-List?org=fws#data_s=id%3AdataSource_4-2%3A411).
- [USFWS] United States Fish and Wildlife Service. 1990. Appalachian Northern Flying Squirrels (*Glaucomys sabrinus fuscus* and *Glaucomys sabrinus coloratus*) recovery plan. Newton Corner, MA. 53 pp. [accessed 2015 June] [http://ecos.fws.gov/docs/recovery\\_plan/900924c.pdf](http://ecos.fws.gov/docs/recovery_plan/900924c.pdf).
- [USFWS] United States Fish and Wildlife Service. 2001. Appalachian Northern Flying Squirrels (*Glaucomys sabrinus fuscus* and *Glaucomys sabrinus coloratus*) recovery plan update. 7 pp. Hadley, MA. [accessed 2015 June] [http://ecos.fws.gov/docs/recovery\\_plan/010906.pdf](http://ecos.fws.gov/docs/recovery_plan/010906.pdf).
- [USFWS] United States Fish and Wildlife Service. 2021. Species status assessment report for the wood stork (*Mycteria americana*) US breeding population Distinct Population Segment, Version 1.0. April 2021. Atlanta, GA.
- [USFWS] United States Fish and Wildlife Service. 2023. Interior Department Applauds Proposed Delisting of the Wood Stork, press release February 14, 2023. [Accessed 2024 Dec.] <https://www.doi.gov/pressreleases/interior-department-applauds-proposed-delisting-wood-stork>.
- [USFWS] United States Fish and Wildlife Service. 2023. Revised Recovery Plan for the Red Wolf (*Canis rufus*). Third Revision, September 2023. U.S. Fish and Wildlife Service, Atlanta, Georgia. 34 pp. [https://www.fws.gov/sites/default/files/documents/20230928\\_fRP\\_RW\\_508%20compliant\\_FINAL.pdf](https://www.fws.gov/sites/default/files/documents/20230928_fRP_RW_508%20compliant_FINAL.pdf).
- [USFWS] United States Fish and Wildlife Service. 2024. Eastern North Carolina Red Wolf Population: Release Plan. 8 pp. [accessed 2025 March] [https://www.fws.gov/sites/default/files/documents/2024-11/20241121\\_enc-rwp\\_release-plan\\_2024-2025.pdf](https://www.fws.gov/sites/default/files/documents/2024-11/20241121_enc-rwp_release-plan_2024-2025.pdf).
- [USFWS] United States Fish and Wildlife Service. 2025. Candidate Conservation Agreements. [accessed 2025 Jan.] <https://www.fws.gov/service/candidate-conservation-agreements-assurances>.
- [USFWS] United States Fish and Wildlife Service. 2025. Safe Harbor Agreements. [accessed 2025 Jan.] <https://www.fws.gov/service/safe-harbor-agreements>.
- [USFWS] US Fish and Wildlife Service. 1977. Final threatened status and critical habitat for five southeastern fishes. Fed Regist 42(175):45526–45530.
- [USFWS] US Fish and Wildlife Service. 2002. Endangered and threatened wildlife and plants; designation of critical habitat for the Appalachian Elktoe. Fed Regist 67(188):188.
- [USFWS] US Fish and Wildlife Service. 2003. Monitoring plan for the American peregrine falcon, a species recovered under the Endangered Species Act. Portland (OR): Divisions of Endangered Species and Migratory Birds and State Programs, Pacific Region.

## References

---

- [USFWS] US Fish and Wildlife Service. 2006. Administrative guidelines for state wildlife grants (2007). FWS/AWSR-FA: 027804. Letter addressed to state fish and wildlife agencies and territory governors dated October 18, 2006. 14p.
- [USFWS] US Fish and Wildlife Service. 2007. Guidance for Wildlife Action Plan (comprehensive wildlife conservation strategy) review and revision. Letter addressed to state fish and wildlife agencies and territory governors dated July 11, 2007. 8 pp.
- [USFWS] US Fish and Wildlife Service. 2008. Revised designation of critical habitat for the wintering population of the piping plover (*Charadrius melodus*) in North Carolina. Federal Register 73:62816-62841.
- [USFWS] US Fish and Wildlife Service. 2011. Tribal Consultation Handbook. Monette DJ, Greenwood K, Gonzales-Rogers P, Durham P. Updated 2018 by Johnson J, Aikin S, Monette DJ. 96 pp.
- [USFWS] US Fish and Wildlife Service. 2012. Two Montgomery County North Carolina dams removed from the Little River Basin. Washington (DC): US Fish and Wildlife Service; [updated 2012 September 13; accessed 2015 March]. <http://www.fws.gov/southeast/news/2012/045.html>.
- [USFWS] US Fish and Wildlife Services. 2013. Endangered and threatened species of North Carolina. Raleigh (NC): Raleigh Ecological Services Field Office; [accessed ]. [http://www.fws.gov/raleigh/es\\_tes.html](http://www.fws.gov/raleigh/es_tes.html).
- [USGS] US Geological Survey. 1995. Ground-water quality protection, why it's important to you. Open-file report 95-376. Nashville (TN). [website]; [accessed 2015 August] <http://pubs.usgs.gov/of/1995/ofr95376/>.
- [USGS] US Geological Survey. 2012a. Groundwater frequently asked questions: Piedmont and Mountains aquifers. Raleigh (NC): South Atlantic Water Science Center; [accessed 2014 August]. [http://nc.water.usgs.gov/about/faq\\_ground.html#mtns](http://nc.water.usgs.gov/about/faq_ground.html#mtns).
- [USGS] US Geological Survey. 2012b. Coastal Carolina Project. [web page] [accessed 2015 August]. <http://nc.water.usgs.gov/ccp>.
- [USGS] US Geological Survey. 2014a. USGS surface-water monthly statistics for North Carolina. National Water Information System; [accessed ]. [http://waterdata.usgs.gov/nc/nwis/monthly/?referred\\_module=sw](http://waterdata.usgs.gov/nc/nwis/monthly/?referred_module=sw).
- [USGS] US Geological Survey. 2014b. [web page] Groundwater depletion. USGS Water Science School. Last updated 2014 March. [accessed 2015 July] <http://water.usgs.gov/edu/gwdepletion.html>.
- [USGS] US Geological Survey. 2023. Mapping grassland bird community distribution across changing landscapes. Fort Collins Science Center. CO. [accessed 2025 Jan] <https://www.usgs.gov/centers/fort-collins-science-center/science/mapping-grassland-bird-community-distribution-across>.
- [USGS] US Geological Survey. n.d. National hydrography dataset [online database]. Washington (DC): US Geological Survey; [accessed ]. <http://nhd.usgs.gov>.

- Abell R, Thieme ML, Revenga C, Bryer M, Kottelat M, Bogutskaya N, Coad B, Mandrak N, Balderas SC, Bussing W, et al. 2008. Freshwater ecoregions of the world: a new map of biogeographic units for freshwater biodiversity conservation. *BioSci* 58(5):403–414.
- Abell RA, Olsen DM, Dinerstein E, Hurley PT, Diggs JT, Erichbaum W, Walters S, Wettengel W, Allnutt T, Loucks CJ, Hedao P. 2000. Freshwater ecoregions of North America: a conservation assessment. *Ecological Economics* 40(2). Washington (DC): Island Press. 368 pp. [https://doi.org/10.1016/S0921-8009\(01\)00262-2](https://doi.org/10.1016/S0921-8009(01)00262-2).
- Abram PK, Boivin G, Moiroux J, Brodeur J. 2017. Behavioural effects of temperature on ectothermic animals: unifying thermal physiology and behavioural plasticity. *Biological Reviews* 92(4):1859–1876.
- Abrams MD. 1992. Fire and the development of oak forests. *Bioscience* 42:346–353.
- Adams MJ, Miller DAW, Muths E, Corn PS, Grant EHC, Bailey LL, Fellers GM, Fisher RN, Sadinski WJ, Waddle HJ, Walls SC. 2013. Trends in amphibian occupancy in the United States. [accessed 2025 Fewb.] *PLoS ONE* 8(5):e64347 <https://doi.org/10.1371/journal.pone.0064347>.
- Adams SB, Warren ML. 2005. Recolonization by warmwater fishes and crayfishes after severe drought in upper coastal plain hill streams. *Trans Am Fish Soc.* [accessed 2015 August];134(5):1173–1192. DOI: <http://dx.doi.org/10.1577/T04-089.1>.
- Adams WF, Alderman JM, Biggins RG, Gerberich AG, Keferl EP, Porter HJ, Van Devender AS. 1990. A report on the conservation status of North Carolina's freshwater and terrestrial molluscan fauna. N.C. Wildlife Resources Commission, Raleigh, NC. [accessed 2015 July] [http://www.fws.gov/raleigh/pdfs/ES/Tar\\_SpinyMussel/Adamsetal\\_AReportOnTheConservationStatusOfNorthCarolina'sFreshwaterAndTerrestrialMolluscanFaunaMay1990.pdf](http://www.fws.gov/raleigh/pdfs/ES/Tar_SpinyMussel/Adamsetal_AReportOnTheConservationStatusOfNorthCarolina'sFreshwaterAndTerrestrialMolluscanFaunaMay1990.pdf).
- Aldrich JR, Fries J, Haddock R, Ivey G, Lawson KJ, Laurenzi A, Lynett K, Myers J, Riordan RM, Vaughn C, et al. 1998. Rivers of life: critical watersheds for protecting freshwater biodiversity. Arlington (VA): The Nature Conservancy.
- Alexander DE, Fairbridge RW, editors. 1999. Encyclopedia of environmental sciences. Kluwer Academic Publishers, Dordrecht The Netherlands, Hingham (MA). 685 pp. Springer. Vol. 20. Springer Science & Business Media.
- Allan JD, Palmer M, Poff NL. 2005. Climate change and freshwater ecosystems. In: Lovejoy TE, Hannah L, editors. Climate change and biodiversity. New Haven (CT): Yale University Press. p. 272–290.
- Altizer S, Harvell D, Friedle E. 2003. Rapid evolutionary dynamics and disease threats to biodiversity. *Trends Ecol Evol.* 18(11):589–596.
- American Rivers. 2007. America's most endangered rivers 2007. Washington (DC): American Rivers; [accessed 2015 March]. <http://www.americanrivers.org/newsroom/resources/americas-most-endangered-rivers-report-2007-edition/>.

## References

---

- American Rivers. 2012. Removing The Milburnie Dam, Neuse River, North Carolina. The River Blog [web page]. [accessed 2015] <http://www.americanrivers.org/blog/removing-the-milburnie-dam-neuse-river-north-carolina/>.
- American Rivers. 2017. Neuse River flows freely after Milburnie Dam removed. [accessed 205 May] <https://www.americanrivers.org/2017/11/neuse-river-flows-freely-after-milburnie-dam-removed>.
- Anderson DM. 1994. Red tides. *Sci Am* 271(2):52–58.
- Anderson JR, Hardy EE, Roach JT, Witmer RE. 1976. A land use and land cover classification system for use with remote sensor data. Geological Survey Professional Paper 964. Washington (DC): US Government Printing Office; [accessed 2015 July]. <http://landcover.usgs.gov/pdf/anderson.pdf>.
- Anderson MG, Barnett A, Clark M, Ferree C, Olivero Sheldon A, Prince J. 2014. Resilient sites for terrestrial conservation in the southeast region. Boston (MA): The Nature Conservancy, Eastern Conservation Science; [accessed 2015 February]. <http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/se/Pages/default.aspx>.
- Anderson MG, Barnett A, Clark M, Ferree C, Sheldon AO, Prince J. 2014. Resilient sites for terrestrial conservation in the southeast region. N.p.: The Nature Conservancy, Eastern Conservation Science; [accessed 2015]; 127 p. [www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/se/Pages/default.aspx](http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/se/Pages/default.aspx).
- Anderson MG, Clark M, and Olivero Sheldon A. 2012. Resilient sites for terrestrial conservation in the northeast and Mid-Atlantic region. Boston (MA): The Nature Conservancy, Eastern Conservation Science. 168 pp.
- Arbogast BS, Browne RA, Weigl PD, Kenagy GJ. 2005. Conservation genetics of endangered flying squirrels (*Glaucomys*) from the Appalachian mountains of eastern North America. *Anim Conserv* 8(2):123–133.
- Archambault JM, Gregory Cope W, Kwak TJ. 2013. Burrowing, byssus, and biomarkers: behavioral and physiological indicators of sublethal thermal stress in freshwater mussels (Unionidae). *Marine and Freshwater Behaviour and Physiology* 46(4):229-250.
- Armstrong DS, Richards TA, Parker GW. 2001. Assessment of habitat, fish communities and streamflow requirements for habitat protection, Ipswich River, Massachusetts, 1998-1999. USGS, Water Resources Investigations Report 01-4161, 72 p. [accessed 2015 July] <http://pubs.usgs.gov/wri/wri01-4161/>.
- Arponen A. 2012. Prioritizing species for conservation planning. *Biodivers Conserv*. 21:875–893.
- Artman VL, Downhower JF. 2003. Wood thrush (*Hylocichla mustelina*) nesting ecology in relation to prescribed burning of mixed-oak forest in Ohio. *Auk* 120(3):874–882.



- Ascher JS et al. 2009. Checklist of World Bees, Apoidea species guide, United States. [accessed 2025 March] [http://www.discoverlife.org/mp/20q?guide=Apoidea\\_species](http://www.discoverlife.org/mp/20q?guide=Apoidea_species).
- Au SY, Lee CM, Weinstein JE, van den Hurk P, Klaine SJ. 2017. Trophic transfer of microplastics in aquatic ecosystems: identifying critical research needs. *Integrated Environmental Assessment And Management* 13(3):505-9.
- Aucott WR. 1996. Hydrology of the Southeastern Coastal Plain aquifer system in South Carolina and parts of Georgia and North Carolina [Report]. US Geological Survey Professional Paper 1410–E. Denver (CO): US Geological Survey 95 p.
- Audubon North Carolina. 2024. “Warwick Mill Bay is Forever Protected for Wildlife Preservation.” [Accessed 2024 Dec.] <https://nc.audubon.org/news/warwick-mill-bay-forever-protected-wildlife-preservation>.
- Augspurger T, Fischer JR, Thomas NJ, Sileo L, Brannian RE, Miller KJG, Rocke TE. 2003. Vacuolar myelinopathy in waterfowl from a North Carolina impoundment. *J Wildl Dis* 39:412–417.
- Bailey MA, Holmes JN, Buhlmann KA. 2004. Habitat management guidelines for amphibians and reptiles of the southeastern United States [Draft]. Partners in Amphibian and Reptile Conservation.
- Bailey RG. 1995. Description of the ecoregions of the United States. 2nd ed. (rev.). Misc. Publ. No. 1391. Washington (DC): US Department of Agriculture, Forest Service 108 p.
- Bailey RG. 1998. Ecoregions: the ecosystem geography of the oceans and the continents. New York (NY): Springer-Verlag 192 p.
- Bailey RG. 2009. Ecosystem geography: from ecoregions to sites. 2nd ed. New York (NY): Springer-Verlag 252 p.
- Bakalowicz M. 2005. Karst groundwater: a challenge for new resources. *Hydrogeology Journal* 13:148–160.
- Bakke P. 2008. Physical processes and climate change: a guide for biologists [Unpublished report]. Washington (DC): US Department of Interior, Fish and Wildlife Service 28p.
- Band L, Salvesen D, editors. 2009. The University of North Carolina at Chapel Hill: Climate Change Committee report. Chapel Hill (NC): UNC Institute for the Environment. [accessed 2015 July] [http://ie.unc.edu/PDF/Climate\\_Change\\_Report.pdf](http://ie.unc.edu/PDF/Climate_Change_Report.pdf).
- Barden LS. 1997. Historic prairies in the Piedmont of North and South Carolina, USA. *Natural Areas Journal* 17:149–152.
- Barnes-Svarney P, Svarney TE. 2004. Handy geology answer book. n.p.: Visible Ink Press. Chapter 1, Details of geology; p. 1–12
- Barr Jr. TC, Holsinger JR. 1985. Speciation in cave faunas. *Annu Rev of Ecol Syst* 16:313–337.

## References

---

- Bater CW, Coops NC, Wulder MA, Hilker T, Nielsen SE, McDermid G, Stenhouse GB. 2011. Using digital time-lapse cameras to monitor species-specific understorey and overstorey phenology in support of wildlife habitat assessment. *Environ Monit Assess* 180:1–13.
- Baxter RM. 1977. Environmental effects of dams and impoundments. *Annual Review of Ecology and Systematics* 8:255-283.
- Bear J. 1979. *Hydraulics of groundwater*. New York (NY): McGraw-Hill International 567 p.
- Beissinger S, Reed J, Wunderle Jr. J, Robinson S, Finch D. 2000. Report of the AOU Conservation Committee on the Partners In Flight Species Prioritization Plan. *Auk*. 117(2):549–561.
- Bender MJ, Castleberry SB, Miller DA, Wigley Jr. TB. 2015. Site occupancy of foraging bats on landscapes of managed pine forest. *Forest Ecology and Management* 336:1-10.
- Benke AC, Cushing CE, editors. 2005. *Rivers of North America*. Elsevier. Chapter 1, Background and approach; p. 1–18.
- Benner R, Barnett A, Olivero A, Hoenke K, Meitzen K, and Fields M. 2014. North Carolina’s freshwater resilience. Durham (NC): The Nature Conservancy. 33 pp.
- Benner R, Barnett A, Olivero A. 2014. North Carolina’s freshwater resilience. Durham (NC): The Nature Conservancy 33 p.
- Benner R, Barnett A, Sheldon AO, Hoenke K, Meitzen K, Fields M. 2014. North Carolina’s freshwater resilience. Durham (NC): The Nature Conservancy. 33 p.
- Benoit LK, Askins RA. 2002. Relationship between habitat area and the distribution of tidal marsh birds. *Wilson Bull* 114(3):314–323.
- Bibb KA, Walsh SJ, Biggins RG, Mudrak VA, Burkhead NM. 2002. Strategy for the conservation of southeastern imperiled fishes. Developed from the Proceedings of a workshop held by a Southeastern Imperiled Fishes Working Group Oct 26–28, 1999, Chattanooga, TN.
- Biebighauser TR. 2002. *A guide to creating vernal ponds*. Morehead (KY): US Department of Agriculture.
- Biggins RG, Neves RJ, Dohner CK. 1997. National strategy for the conservation of native freshwater mussels. U S Fish & Wildlife Service, Asheville, N.C.
- Bin O, Dumas C, Poulter B, Whitehead J. 2007. Measuring the impacts of climate change on North Carolina coastal resources. Prepared for National Commission on Energy Policy, Washington, DC. <http://econ.appstate.edu/climate/NC-NCEP%20final%20report.031507.pdf>.
- Bin O. 2008. Measuring the impacts of sea-level rise on coastal real estate in North Carolina. Center for Natural Hazards Research, East Carolina University, Greenville (NC). 27 pp.

- Blaise C, Gagné F, Salazar M, Salazar S, Trottier S, Hansen PD. 2003. Experimentally-induced feminisation of freshwater mussels after long-term exposure to a municipal effluent. *Fresenius Environmental Bulletin* 12(8):865-70.
- Blazer VS, Lilley JH, Schill WB, Kiryu Y, Densmore CL, Panyawachira V, Chinabut S. 2002. *Aphanomyces invadans* in Atlantic Menhaden along the East Coast of the United States. *Journal of Aquatic Animal Health* 14: 1-10.
- Blehert DS, Hicks AC, Behr M, Meteyer CU, Berlowski-Zier BM, Buckles EL, Coleman JTH, DarlingSR, Gargas A, Niver R, Okoniewski JC, Rudd RJ, Stone WB. 2009. Bat white-nose syndrome: an emerging fungal pathogen? *Science* 323(5911): 227.
- Block BA, Jonsen ID, Jorgensen SJ, Winship AJ, Shaffer SA, Bograd SJ, Hazen EL, Foley DG, Breed GA, Harrison A, et al. 2011. Tracking apex marine predator movements in a dynamic ocean. *Nature* 475(7354):86–90.
- Blue Ridge National Heritage Area. 2015. New River State Park. Asheville (NC): Blue Ridge National Heritage Area; [accessed 2015 May]. <http://www.blueridgeheritage.com/attractions-destinations/new-river-state-park>.
- Bodine, R. 2023. Proposed Delisting of the U.S. Breeding Population of the Wood Stork. U.S. Fish and Wildlife Service (USFWS). [Accessed 2024 Dec.] <https://www.fws.gov/story/2023-02/wood-stork-proposed-delisting>.
- Bogan AE, Bowers-Altman J, Raley ME. 2011. A new threat to conservation of North American freshwater mussels: Chinese Pond Mussel *Sinanodonta woodiana* in the United States. *Tentacle* 19:39-40.
- Bogan AE. 1993. Freshwater bivalve extinctions: search for a cause. *American Zoologist* 33:599–609.
- Bogner HE, Baldassarre GA. 2002. Home range, movement and nesting of least bitterns in western New York. *Wilson Bull* 114(3):297–308.
- Boorman LA, Fuller RM. 1981. The changing status of reed swamp in the Norfolk broads. *J Appl Ecol* 18:241–269.
- Borawa JC. 2001. Fisheries and wildlife management plan for the Nantahala River Basin. Raleigh (NC): NC Wildlife Resources Commission.
- Boyce DG, Tittensor DP, Garilao C, Henson S, Kaschner K, Kesner-Reyes K, Pigot A, Reyes Jr RB, Reygondeau G, Schleit KE, Shackell NL. 2022. A climate risk index for marine life. *Nature Climate Change* 12(9):854-62.  
[https://discovery.ucl.ac.uk/id/eprint/10156915/4/Pigot\\_Boyce\\_etal\\_2022\\_NATCC\\_SI\\_Clean.pdf](https://discovery.ucl.ac.uk/id/eprint/10156915/4/Pigot_Boyce_etal_2022_NATCC_SI_Clean.pdf).
- Bradshaw JWS. 2006. The evolutionary basis for the feeding behavior of domestic dogs (*Canis familiaris*) and cats (*Felis catus*). *J. Nutr.* 136 (7 Suppl), 1927S–1931S. [accessed 2025 Feb.]  
<https://doi.org/10.1093/jn/136.7.1927S>.

## References

---

- Brantley CG, Platt SG. 2001. Canebrake conservation in the southeastern United States. *Wildlife Society Bulletin* 29(4):1175–1181.
- Brasher AMD. 2003. Impacts of human disturbance on biotic communities in Hawaiian stream. *BioScience* 53:1052-1060.
- Breining D, Barkaszi M, Smith R, Oddy D, Provancha J. 1998. Prioritizing wildlife taxa for biological diversity conservation at the local scale. *Environ Manag.* 22(2):315–321.
- Brinkmann R, Parise M. 2012. Karst environments: problems, management, human impacts, and sustainability – an introduction to the special issue. *J Cave Karst Stud* 74(2):135–136.
- Brinson MM. 1993. A hydrogeomorphic classification for wetlands. Wetlands Research Program Technical Report WRP-DE-4. Washington (DC): US Army Corps of Engineers 103 p.
- Brooks RJ, Bobyn ML, Galbraith DA. 1991. Maternal and environmental influences on growth and survival of embryonic and hatchling snapping turtles (*Chelydra serpentina*). *Can J Zool* 69:2667–2676.
- Brown E, Colling A, Park D, Phillips J, Rothery D, Wright J. 2001. Ocean circulation. 2nd ed. Oxford (UK): Butterworth–Heineman and Open University 279 p.
- Brown KM, Lang B, Perez KE. 2008. The conservation ecology of North American pleurocerid and hydrobiid gastropods. *Journal of the North American Benthological Society* 27(2):484-495.
- Brown MJ, Sheffield RM. 2003. Forest statistics for the Piedmont of North Carolina, 2002. US Department of Agriculture, Forest Service, Southern Research Station, Asheville, NC. Resource Bulletin SRS-86.
- Bryan CF, Rutherford DA. 1993. Impacts on warmwater streams: guidelines for evaluation. Little Rock (AR): American Fisheries Society, Southern Division 285 p.
- Bull JJ, Vogt RC, McCoy CJ. 1982. Sex determining temperatures in turtles: a geographic comparison. *Evolution* 36(2):326-332.
- Bull JJ. 1980. Sex determination in reptiles. *The Quarterly Review of Biology* 55(1):3-21.
- Bunn SE, Arthington AH. 2002. Basic principles and ecological consequences of altered flow regimes for aquatic biodiversity. *Environmental Management* 30(4):492-507.
- Burger J, Niles L, Clark KE. 1997. Importance of beach, mudflat and marsh habitats to migrant shorebirds on Delaware Bay. *Biological Conservation* 79:283-292.
- Burhans DE, Thompson III FR. 1999. Habitat patch size and nesting success of yellow-breasted chats. *Wilson Bull* 111(2):210–215.
- Burke MK, King SL, Gartner D, Eisenbies MH. 2003. Vegetation, soil, and flooding relationships in a blackwater floodplain forest. *Wetl* 23(4):988–1002.

- Burkett V, Ritschard R, McNulty S, O'Brien JJ, Abt R, Jones J, Hatch U, Murray B, Jagtap S, Cruise J. 2000. Potential consequences of climate variability and change for the southeastern United States. [accessed 2010 July 20]. <http://www.usgcrp.gov/usgcrp/nacc/se-mega-region.htm>.
- Burkhead NM. 2012. Extinction rates in North American freshwater fishes, 1900–2010. *BioSci* 62(9):798–808.
- Burkholder JM, Glasgow Jr. HB, Cooke JE. 1994. Comparative effects of water-column nitrate enrichment on eelgrass *Zostera marina*, shoalgrass *Halodule wrightii*, and widgeon grass *Ruppia maritima*. *Mar Ecol Prog Ser* 105:121–138.
- Burkholder JM, Mason KM, Glasgow Jr. HB. 1992. Water-column nitrate enrichment promotes decline of eelgrass *Zostera marina* L.: evidence from seasonal mesocosm experiments. *Mar Ecol Prog Ser* 81:163–178.
- Burlakova L, Karatayev A, Karatayev V, May M, Bennett D, Cook M. 2011. Endemic species: Contribution to community uniqueness, effect of habitat alteration, and conservation priorities. *Biol Conserv.* 144:155–165.
- Burns CE, Peoples C, Fields M, and Barnett A. 2012. Protecting North Carolina's freshwater systems: a state-wide assessment of biodiversity, condition and opportunity. Durham (NC): The Nature Conservancy.
- Burns CE, Peoples C, Fields M, Barnett A. 2012. Protecting North Carolina's freshwater systems: a state-wide assessment of biodiversity, condition and opportunity. Durham (NC): The Nature Conservancy.
- Burr BM, Mayden RL. 1992. Phylogenetics and North American freshwater fishes. Pages 18–75 In Mayden RL (editor), *Systematics, historical ecology, and North American freshwater fishes*. Stanford University Press, Stanford, CA.
- Butler RS. 2002a. Crayfishes of the Southern Appalachian ecosystem, with emphasis on the imperiled fauna. Asheville (NC): US Fish and Wildlife Service.
- Butler RS. 2002b. Imperiled fishes of the Southern Appalachian ecosystem, with emphasis on the non-federally listed fauna. Asheville (NC): US Fish and Wildlife Service.
- Byers JE, McDowell WG, Dodd SR, Haynie RS, Pintor LM, Wilde SB. 2013. Climate and pH predict the potential range of the invasive apple snail (*Pomacea insularum*) in the southeastern United States. *PLoS One* 8(2):e56812.
- Caetano GH, Chapple DG, Grenyer R, Raz T, Rosenblatt J, Tingley R, et al. 2022. Automated assessment reveals that the extinction risk of reptiles is widely underestimated across space and phylogeny. *PLoS Biol* 20(5): e3001544. 24 pp. <https://doi.org/10.1371/journal.pbio.3001544>.
- Caissie D. 2006. The thermal regime of rivers: a review. *Freshw Biol* 51:1389–1406.

## References

---

- Calo F, Parise M. 2009. Waste management and problems of groundwater pollution in karst environments in the context of a postconflict scenario: the case of Mostar (Bosnia Herzegovina). *Habitat International* 33(1):63–72.
- Cameron WM, Pritchard DW. 1963. Estuaries. In: Hill MN, editor. *The sea*. Vol. 2. New York (NY): John Wiley and Sons. p. 306–324.
- Campbell BG, Coes AL, editors. 2010. Groundwater availability in the Atlantic Coastal Plain of North and South Carolina. US Geological Survey Professional Paper 1773. Denver (CO): USGS 241 p. [accessed 2015] <http://pubs.usgs.gov/pp/1773/pdf/pp1773.pdf>.
- Campbell DC, Lydeard C. 2012. The genera of *Pleurobemini* (Bivalvia: Unionidae: *Ambleminae*). *American Malacological Bulletin* 30(1):19-38. <https://doi.org/10.4003/006.030.0102>.
- Cao L. 2012. *Najas marina*. Gainesville (FL): USGS Nonindigenous Aquatic Species Database; [updated 2011 September 19; accessed 2012 May 1]. <http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=2674>.
- Carolina Demography. 2024. The Carolina Population Center, University of North Carolina at Chapel Hill. [accessed 2025 Jan] <https://carolinademography.cpc.unc.edu/2021/04/26/census-2020-nc-gains-a-14th-seat-in-the-house-of-representatives>.
- Carpenter S, Pingali P, Bennett E, Zurek M, editors. 2005. *Ecosystems and human well-being: scenarios*. Washington (DC): Island Press. Vol. 2. [accessed 2013 January 31]. <http://www.unep.org/maweb/en/Scenarios.aspx>.
- Carpenter, J. P., Worm, A. J., Boves, T. J., Wood, A. W., Poston, J. P., & Toews, D. P. (2022). Genomic variation in the Black-throated Green Warbler (*Setophaga virens*) suggests divergence in a disjunct Atlantic Coastal Plain population (*S. v. waynei*). *Ornithology*, 139(4), ukac033.
- Carr CS. 2010. The status of nutria (*Myocastor coypus*) in North Carolina [thesis]. [Raleigh (NC)]: North Carolina State University College of Natural Resources.
- Chesser RT, Billerman SM, Burns KJ, Cicero C, Dunn JL, Hernández-Baños BE, Jiménez RA, Johnson O, Kratter AW, Mason NA, Rasmussen PC, Remsen Jr JV. 2024. Checklist of North American Birds (online). American Ornithological Society. [accessed 2025 Feb.] <https://checklist.americanornithology.org/taxa/>
- Cheung WW, Frölicher TL, Lam VW, Oyinlola MA, Reygondeau G, Sumaila UR, Tai TC, Teh LC, Wabnitz CC. 2022. Marine high temperature extremes amplify the impacts of climate change on fish and fisheries. *Science Advances* 7(40):eabh0895. [accessed 2025 March] [https://scholar.google.com/scholar?output=instlink&q=info:x-YeQajK4asJ:scholar.google.com/&hl=en&as\\_sdt=0,34&scilfp=9204133268526995328&oi=lle](https://scholar.google.com/scholar?output=instlink&q=info:x-YeQajK4asJ:scholar.google.com/&hl=en&as_sdt=0,34&scilfp=9204133268526995328&oi=lle).
- Chowdhury S, Jennions MD, Zalucki MP, Maron M, Watson JE, Fuller RA. 2023. Protected areas and the future of insect conservation. *Trends in Ecology & Evolution* 38(1):85-95.

- Christensen DL, Herwig BR, Schindler DE, Carpenter SR. 1996b. Impacts of lakeshore residential development on coarse woody debris in north temperate lakes. *Ecol Appl* 6:1143–1149.
- Christensen NL, Bartuska AM, Brown JH, Carpenter S, D'Antonio C, Francis R, Franklin JF, MacMahon JA, Noss RF, Parsons DJ, et al. 1996a. The report of the Ecological Society of America Committee on the scientific basis for ecosystem management. *Ecol Appl* 6:665–691.
- Christman MC, Culver DC. 2001. The relationship between cave biodiversity and available habitat. *Journal of Biogeography* 28:367–380.
- Claggett PR, Hearn PP, Jr., and Donato DI. 2015. Historic and forecasted population and land-cover change in southeastern North Carolina, 1992–2030: U.S. Geological Survey Open-File Report 2014–1125, 23 pp. <http://dx.doi.org/10.3133/ofr20141125>. [accessed 2025 Jan.]
- Clamp JC, Adams WF, Reid JW, Taylor AY, Cooper JE, McGrath C, Williams DJ, DeMont DJ, McLarney WO, Mottes G, Alderman J. 1999. A report on the conservation status of North Carolina's freshwater and terrestrial crustacean fauna. N.C. Wildlife Resources Commission, Raleigh.
- Clarkson RW, Childs MR. 2000. Temperature effects of hypolimnial-release dams on early life stages of Colorado River Basin big-river fishes. *Copeia* 2000:402–412.
- Close DD. 1996. Evaluation of herbaceous diversity and differential species in mature forest stands at land Between the Lakes, Kentucky and Tennessee. Masters Thesis, Dept. of Forestry, Southern Illinois Univ., Carbondale, Illinois.
- Cobb SP, Kaufman J. 1993. Clearing and snagging. In: Bryan CF, Rutherford DA, editors. Impacts on warmwater streams: guidelines for evaluation. Little Rock (AR): American Fisheries Society, Southern Division. p. 169–180.
- Coharie Tribe. 2025. Official website <https://coharietribe.org>. [accessed 2025 Jan.]
- Collen B, Whitton F, Dyer EE, Baillie JEM, Cumberlidge N, Darwall WRT, Pollock C, Richman NI, Soulsby AM, Bohm M. 2014. Global patterns of freshwater species diversity, threat and endemism. *Glob Ecol Biogeogr* 23:40–51.
- Collins JP, Crump ML. 2009. Extinction in our times: global amphibian declines. New York, NY, , USA: Oxford University Press. 273 p.
- Colombano DD, Litvin SY, Ziegler SL, Alford SB, Baker R, Barbeau MA, Cebrián J, Connolly RM, Currin CA, Deegan LA, Lesser JS. 2021. Climate change implications for tidal marshes and food web linkages to estuarine and coastal nekton. *Estuaries and Coasts* 1-2.
- Comer P, Faber-Langendoen D, Evans R, Gawler S, Josse C, Kittel G, Menard S, Pyne M, Reid M, Schulz K, Snow K, Teague J. 2003. Ecological Systems of the United States: A Working Classification of U.S. Terrestrial Systems. NatureServe, Arlington, Virginia. 83 pp. Available online [www.natureserve.org](http://www.natureserve.org).
- Conn KE, Barber LB, Brown GK, Siegrist RL. 2006. Occurrence and fate of organic contaminants during onsite wastewater treatment. *Environ Sci & Technol* 40(23):7359–7366.

## References

---

- Conservation Gateway. 2007. Aquatic habitat guides, freshwater. The Nature Conservancy; [accessed 2015 August].  
<http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/hg/fw/Pages/default.aspx>.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). 2021. How CITES works. Available online <https://cites.org/eng/disc/how.php>.
- Conway CJ, Sulzman C, Raulston BE. 2004. Factors affecting detection probability of California black rails. *J Wildl Manag* 68(2):360–370.
- Cooke SJ, Bunt CM, Hamilton SJ, Jennings CA, Pearson MP, Cooperman MS, Markle DF. 2005. Threats, conservation strategies, and prognosis for suckers (*Catostomidae*) in North America: insights from regional case studies of a diverse family of non-game fishes. *Biol Conserv*.121(3):317–331.
- Cooper JE. 2004a. Guide to crayfishes of the Hiwassee River Basin, North Carolina. Raleigh (NC): NC Museum of Natural Sciences; [accessed 2015 August]; 88 pp.  
[http://www.hrwc.net/wap/lake\\_chatuge\\_watershed\\_action\\_plan.pdf](http://www.hrwc.net/wap/lake_chatuge_watershed_action_plan.pdf).
- Cooper JE. 2004b. Guide to crayfishes of the Little Tennessee River Basin, North Carolina. Raleigh (NC): NC Museum of Natural Sciences.
- Cooper JE. 2005. A report on adventive crayfishes in North Carolina [Unpublished report]. Raleigh (NC): NC Museum of Natural Sciences.
- Cooper RJ. 2000. Draft Partners in Flight Southern Piedmont Bird Conservation Plan (Physiographic Area 11). University of Georgia, Athens (GA). 47p.
- Cormier B. 2020. Microplastic toxicity for fish : beyond simple vectors for pollutants?. *Ecotoxicology*. Université de Bordeaux, English. NNT : 2020BORD0036. Online <https://theses.hal.science/tel-03003489v1>.
- Cornelissen T. 2011. Climate change and its effects on terrestrial insects and herbivory patterns. *Neotropical Entomology* 40:155-163.
- Cornell Lab. 2025. All About Birds (online), FAQ: Outdoor Cats and Their Effects on Birds. {accessed 2025 Feb.} <https://www.allaboutbirds.org/news/faq-outdoor-cats-and-their-effects-on-birds/>.
- Covich AP, Palmer MA, Crowl TA. 1999. The role of benthic invertebrate species in freshwater ecosystems. *BioSci* 49:119–127.
- Cowardin LM, Carter V, Golet FC, LaRoe ET. 1979. Classification of wetlands and deepwater habitats of the United States. Washington (DC): US Department of the Interior, Fish and Wildlife Service; [accessed ]. <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm>.
- Cowen RK, Sponaugle S. 2009. Larval dispersal and marine population connectivity. *Annu Rev Mar Sci* 1:443–466.



- Cox N, Young BE, Bowles P, Fernandez M, Marin J, Rapaciuolo G, Böhm M, Brooks TM, Hedges SB, Hilton-Taylor C, Hoffmann M. 2022. A global reptile assessment highlights shared conservation needs of tetrapods. *Nature* 605(7909):285-90.
- Crain BJ, White JW, Steinberg SJ. 2011. Geographic discrepancies between global and local rarity richness patterns and the implications for conservation. *Biodivers. Conserv.* 20:3489-3500.
- Crase L, Gillespie R. 2008. The impact of water quality and water level on the recreation values of Lake Hume. *Australas J Environ Manag* 15:21–29.
- Culver DC, Holsinger JR, Christman MC, Pipan T. 2010. Morphological differences among eyeless amphipods in the genus *Stygobromus* dwelling in different subterranean habitats. *J Crustac Biol* 30:68–74.
- Culver DC, Holsinger JR, Feller DJ. 2012. The fauna of seepage springs and other shallow subterranean habitats in the Mid-Atlantic Piedmont and Coastal Plain. *Northeast Nat* 19(m9):1–42.
- Culver DC, Holsinger JR. 1969. Preliminary observations on sex ratios in the subterranean amphipod genus *Stygonectes* (*Gammaridae*). *Am Midl Nat* 82:631–633.
- Culver DC, Master LL, Christman MC, Hobbs HH III. 2000. Obligate cave fauna of the 48 Contiguous United States. *Conservation Biology* 14:386-401.
- Culver DC, Pipan T, Gottstein S. 2006. Hypotelminorheic: a unique freshwater habitat. *Subterr Biol* 4:1–7.
- Culver DC, Pipan T. 2008. Superficial subterranean habitats: gateway to the subterranean realm? *Cave Karst Sci* 35:5–12.
- Culver DC, Pipan T. 2009. *The biology of caves and other subterranean habitats*. Oxford (UK):Oxford University Press 254 p.
- Culver DC, Poulson TL. 1971. Oxygen consumption and activity in closely related amphipod populations from cave and surface habitats. *Am Midl Nat* 85:74–84. Culver DC, Šereg I. 2004. Kenk's amphipod (*Stygobromus kenki*) and other amphipods in Rock Creek Park, Washington, DC. Unpublished report to the National Park Service. Environmental Studies Program, American University 147 p.
- Cumberlandian Region Mollusk Restoration Committee. 2010. Plan for the population restoration and conservation of freshwater mollusks of the Cumberlandian Region. V + 145 pp.
- Cushman RM. 1985. Review of Ecological Effects of Rapidly Varying Flows Downstream from Hydroelectric Facilities. *North American Journal of Fisheries Management* 5(3A):330-339.
- Daszak P, Cunningham A, Hyatt A. 2000. Emerging infectious diseases of wildlife – threats to biodiversity and human health. *Sci.* 287:443–449.
- Davis CA, Smith LM. 2001. Foraging strategies and niche dynamics of coexisting shorebirds at stopover sites in the southern Great Plains. *Auk* 118(2):484–495.

## References

---

- Davis Jr. JE, McRae C, Estep BL, Barden LS, Matthews JF. 2002. Vascular flora of Piedmont Prairies: Evidence from several prairie remnants. *Castanea* 67:1–12.
- Day RH, Holz RK, Day Jr. JW. 1990. An inventory of wetland impoundments in the coastal zone of Louisiana, USA: historical trends. *Environ Manag* 14:229–240.
- de Grammont P, Cuaron A. 2006. An evaluation of threatened species categorization systems used on the American Continent. *Conserv Biol.* 20(1):14–27.
- De Steven D, Sharitz RR, Singer JH, Barton CD. 2006. Testing a passive revegetation approach for restoring Coastal Plain depression wetlands. *Restoration Ecology* 14(3):452–460.
- De Steven D, Toner MM. 2004. Vegetation of upper coastal plain depression wetlands: environmental templates and wetland dynamics within a landscape framework. *Wetlands* 24:23–42.
- Deacon J, Kobetich G, Williams J, Contreras S. 1979. Fishes of North America endangered, threatened, or of special concern: 1979. *Fish.* 4(2):29–44.
- Deamer N (NCWRR), 2015 March 24. Personal email. Statewide water resources list with all the basin stream length estimates.
- Deaton AS, Chappell WS, Hart K, O’Neal J, Boutin B. 2010. North Carolina coastal habitat protection plan. Morehead City (NC): NC Department of Environment and Natural Resources, Division of Marine Fisheries 659 p.
- Denver JM, Ator SW, Fischer Jm, Harned DC, Schubert C, Szabo Z. 2014. The quality of our Nation’s waters—Water quality in the Northern Atlantic Coastal Plain surficial aquifer system, Delaware, Maryland, New Jersey, New York, North Carolina, and Virginia, 1988–2009: U.S. Geological Survey Circular 1353, 88 p. [accessed 2015 July] <http://dx.doi.org/10.3133/cir1353>.
- Desmond D. 2003. The Upper Little Tennessee River Basin: a conservation assessment and strategy. Franklin (NC): Land Trust for the Little Tennessee.
- Deutsch CA, Tewksbury JJ, Huey RB, Sheldon KS, Ghalambor CK, Haak DC, Martin PR. 2008. Impacts of climate warming on terrestrial ectotherms across latitude. *Proceedings of the National Academy of Sciences* 105(18):6668–72. <https://doi.org/10.1073/pnas.0709472105>
- DeWan A, Dubois N, Theoharides K, and Boshoven J. 2010. Understanding the impacts of climate change on fish and wildlife in North Carolina. Washington (DC): Defenders of Wildlife; [accessed 2015 August]. 218 p.  
[www.ncwildlife.org/Portals/0/Conserving/documents/ActionPlan/Revisions/FullReportDefendersofWildlifeUnderstandingtheimpactofclimatechangeNC.pdf](http://www.ncwildlife.org/Portals/0/Conserving/documents/ActionPlan/Revisions/FullReportDefendersofWildlifeUnderstandingtheimpactofclimatechangeNC.pdf).
- DeWan AN, Dubois N, Theoharides K, Boshoven J. 2010. Understanding the impacts of climate change on fish and wildlife in North Carolina. Washington (DC): Defenders of Wildlife. 209 p.

- Di Gregorio, A. 2005. Land cover classification system—Classification concepts and user manual (software version 2): Food and Agriculture Organization (FAO) of the United Nations, Rome. [accessed 2025Jan] <http://www.fao.org/docrep/008/y7220e/y7220e00.HTM>.
- DiBacco C, Levin LA, Sala E. 2006. Connectivity in marine ecosystems: the importance of larval and spore dispersal. In: Crooks KR, Sanjayan M, editors. Connectivity conservation: conservation biology. No. 14. Cambridge University Press. p. 184–212.
- Didham R, Tylianakis J, Hutchison M, Ewers R, Gemmell N. 2005. Are invasive species the drivers of ecological change? *Trends Ecol Evol.* 20(9):470–474.
- Dillon Jr. RT, Robinson JD. 2008. The snails the dinosaurs saw: are the pleurocerid populations of the older Appalachians a relic of the Paleozoic Era? *J N Am Benthol Soc* 28(1):1–11.
- Dinsmore SJ, Collazo JA, Walters JF. 1998. Seasonal numbers and distribution of shorebirds on North Carolina's Outer Banks. *Wilson Bull* 110(2):171–181.
- Dirzo R, Young HS, Galetti M, Ceballos G, Isaac NJB, Collen B. 2014. Defaunation in the Anthropocene. *Science* 345:401–406.
- Doherty P, Grubb T. 2000. Habitat and landscape correlates of presence, density, and species richness of birds wintering in forest fragments in Ohio. *Wilson Bulletin* 112:388–394.
- Domenico PA, Schwartz FW. 1998. Physical and chemical hydrogeology. 2nd ed. New York (NY): John Wiley & Sons 506 p.
- Donovan TM, Beardmore CJ, Bonter DN, Brawn DJ, Cooper RJ, Fitzgerald JA, Ford R, Gauthreaux SA, George TL, Hunter WC, et al. 2002. Priority research needs for the conservation of neotropical migrant landbirds. *J Field Ornithol* 73(4):329–339.
- Downing JA, Prairie YT, Cole JJ, Duarte CM, Tranvik LJ, Striegl RG, McDowell WH, Kortelainen P, Caraco NF, Melack JM, Middleburg JJ. The global abundance and size distribution of lakes, ponds, and impoundments. *Limnology and Oceanography* 51(5):2388–2397.
- Downing JA, Watson SB, McCauley E. 2001. Predicting cyanobacteria dominance in lakes. *Can J Fish Aquat Sci* 58(10):1905–1908.
- Doyle TW, O'Neil CP, Melder PV, From AS, Palta MM. 2007. Tidal freshwater swamps of the southeastern United States: effects of land use, sea-level rise and climate change. In: Conner WH, Doyle TW, Krauss KW, editors. Forested wetlands of the southeastern United States. Springer; Dordrecht, the Netherlands.
- Duchamp JE, Arnett EA, Larson MA, Swihart RK. 2007. Ecological considerations for landscape-level management of bats. Pages 237–261 in M. J. Lacki, J. P. Hayes, and A. Kurta, editors. Bats in forests, conservation and management. The John Hopkins University Press, Baltimore, Maryland, USA.

## References

---

- Dudgeon D, Arthington AH, Gessner MO, Kawabata ZI, Knowler DJ, Leveque C, Naiman RJ, Prieur-Richard AH, Soto D, Stiassny MLJ, Sullivan CA. 2006. Freshwater biodiversity: importance, threats, status and conservation challenges. *Biol. Rev.* 81:163-182.
- Dugan JE, Hubbard DM, McCrary MD, Pierson MO. 2003. The response of macrofauna communities and shorebirds to macrophyte wrack subsidies on exposed sandy beaches of Southern California. *Estuar Coast Shelf Sci* 58(S):25–40.
- Dugan JE, Hubbard DM. 2006. Ecological responses to coastal armoring on exposed sandy beaches. *Shore & Beach* 74(1):10-16.
- Dukes JS, Pontius J, Orwig D, Garnas JR, Rodgers VL, Brazee N, Cooke B, Theoharides KA, Stange EE, Harrington R, Ehrenfeld J, Gurevitch J, Lerdau M, Stinson K, Wick R, Ayres M. 2009. Responses of insect pests, pathogens, and invasive plant species to climate change in the forests of northeastern North America: What can we predict? *Canadian Journal of Forest Research* 39(2):231-248.
- Dutzik T, Schneider J. 2012. Securing North Carolina's future: a five-year plan for investing in our land, water and quality of life. Raleigh (NC): Land for Tomorrow.
- Dynesius M, Nilsson C. 1994. Fragmentation and flow regulation of river systems in the northern third of the world. *Science* 266:753-762.
- Eanes, Z. 2024. The Triangle suburbs continued to see rapid growth in 2023. Axios Media, Raleigh Newsletter March 15, 2024. [Accessed 2024 Dec.] <https://www.axios.com/local/raleigh/2024/03/15/the-triangle-suburbs-continued-to-see-rapid-growth-in-2023>.
- Eaton JG, McCormick JH, Goodno BE, O'Brien DG, Stefany HG, Hondzo M, Scheller RM. 1995. A field information-based system for estimating fish temperature tolerances. *Fish* 20:10–18.
- Eaton JG, Scheller RM. 1996. Effects of climate warming on fish thermal habitat in streams of the United States. *Limnol Oceanogr* 41:1109–1115.
- Elliott WR. 2004. Protecting caves and cave life. Pages 458-467 In Culver DC, White WB (editors) *The Encyclopedia of Caves*. Elsevier Academic Press, Amsterdam.
- Ellis AM, Patton LL, Castleberry SB. 2002. Bat activity in upland and riparian habitats in the Georgia Piedmont. *Proc Annu Conf Southeast Assoc Fish Wildl Agencies* 56:210–218.
- Elrod J, Huang YW, Nam P, Twidwell D. 2003b. Endocrine disruption study of Ozark hellbenders (*Cryptobranchus alleganiensis bishopi*) in Eleven Point and White Rivers. Online abstract in the Missouri Life Sciences Week, March 2003, Missouri, USA.
- Elrod J, Twidwell D, Huang YW. 2003a. Assessment of water quality, endocrine disruption, and hematology of Ozark hellbenders (*Cryptobranchus alleganiensis bishopi*) in Eleven Point and White Rivers. Paper presented at: Semi-annual Hellbender Working Group Meeting; West Plain, Missouri.

- Emery D, Myers KJ, editors. 1996. Sequence Stratigraphy. Blackwell Publishing: Oxford, Cambridge, MA. 297 pp.
- Equinox Environmental Consultation & Design. 2009. Evaluation and prioritization of mitigation opportunities: Lower Creek and Hunting Creek watersheds. Raleigh (NC): NC Ecosystem Enhancement Program; [accessed ].  
[http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=a30c7ee3-1424-4863-a349-26bc6c486c00&groupId=60329](http://portal.ncdenr.org/c/document_library/get_file?uuid=a30c7ee3-1424-4863-a349-26bc6c486c00&groupId=60329).
- Erickson TR, Stefan HG. 2000. Linear air/water temperature correlations for streams during open-water periods. *J Hydrol Eng* 5:317–321.
- Erwin RM, Blohm R. 2016. Migratory Bird Program at the U.S. Geological Survey Patuxent Wildlife Research Center/U.S. Fish and Wildlife Service Patuxent Research Refuge: Transformations in Management and Research. Publication of the US Geological Survey 142. [accessed 2025 May]  
<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1142&context=usgpspubs>.
- Eschmeyer RW. 1936. Essential considerations for fish management in lakes. In: Anonymous, editor. Proceedings from the North American Wildlife Conference. Washington (DC): US Government Printing Office. p. 332–339.
- Etnier DA. 1997. Jeopardized southeastern freshwater fishes: a search for causes. Pages 87–104 in Benz GW, Collins DE, editors. Aquatic fauna in peril: the southeastern perspective. Southeast Aquatic Research Institute, Decatur, GA.
- Evans AM, Gregoire TG. 2007. A geographically variable model of hemlock woolly adelgid spread. *Biol. Invasions* 9:368-382.
- Evans LH, Edgerton BF. 2002. Pathogens, parasites and commensals; Chapter 10. In: Holdich, D.M. (ed.) Biology of Freshwater Crayfish. Blackwell Sciences Ltd., Oxford, England. pp. 377-438.
- Faber-Langendoen D, Nichols J, Master L, Snow K, Tomaino A, Bittman R, Hammerson G, Heidel B, Ramsay L, Teucher A, et al. 2012. Conservation status assessments: methodology for assigning ranks [internet]. Arlington (VA). Available from:  
[https://connect.natureserve.org/sites/default/files/documents/NatureServeConservationStatusMethodology\\_Jun12.pdf](https://connect.natureserve.org/sites/default/files/documents/NatureServeConservationStatusMethodology_Jun12.pdf).
- Faber-Langendoen, D, Keeler-Wolf, T, Meidinger, D, Tart, D, Hoagland, B, Josse, C, Navarro, G, Ponomarenko, S, Saucier, JP, Weakley, A, Comer, P. 2014. EcoVeg: A new approach to vegetation description and classification. *Ecological Monographs* 84(4): 533–561. <https://doi.org/10.1890/13-2334.1>
- Fahrig L, Pedlar JH, Pope SE, Taylor PD, Wegner JF. 1995. Effect of road traffic on amphibian density. *Biol Conserv* 73:177–182.

## References

---

- Federal Register, Vol. 88, No. 31. 2023. Proposed Rules, 50 CFR Part 17. Endangered and Threatened Wildlife and Plants; Removal of the Southeast U.S. Distinct Population Segment of the Wood Stork from the List of Endangered and Threatened Wildlife. Published February 15, 2023. Accessed online 12/19/2024 <https://www.federalregister.gov/documents/2023/02/15/2023-03123/endangered-and-threatened-wildlife-and-plants-removal-of-the-southeast-us-distinct-population>.
- Feldman RL, Titus JG, Poulter B. 2009. North Carolina. In: Titus JG, Anderson KE, Cahoon DR, Gesch DB, Gill SK, Gutierrez BT, Thieler ER, Williams SJ, report authors. Coastal sensitivity to sea-level rise: a focus on the Mid-Atlantic Region [Report]. Washington (DC): US Environmental Protection Agency. Appendix 1: State and local information on vulnerable species and coastal policies in the Mid-Atlantic; p. 688–713.
- Ferguson RL, Pawlak BT, Wood LL. 1993. Flowering of the seagrass *Halodule wrightii* in North Carolina, USA. *Aquat Bot* 46:91–98.
- Ferrell GM, Yearout MS, Grimes BH, Graves AK, Fitzgerald SA, Meyer MT. 2014. Water-quality characteristics indicative of wastewater in selected streams in the upper Neuse River Basin, Durham and Orange Counties, North Carolina, from 2004 to 2013. US Geological Survey Open-File Report 2014–1215. Reston (VA): US Geological Survey; [accessed 2015 July]; 62 p. <http://dx.doi.org/10.3133/ofr20141215>.
- Ferrer-Paris JR, Zager I, Keith DA, Oliveira-Miranda MA, Rodriguez JP, Jose C, Gonzalez-Gil M, Miller RM, Zambrana-Torrel C, Barrow E. 2019. An ecosystem risk assessment of temperate and tropical forests of the Americas with an outlook on future conservation strategies. *Conservation Letters* 12:e12623. <https://doi.org/10.1111/conl.12623>
- Fetter CW. 1994. Applied hydrogeology. New York (NY): Maxwell Macmillan International.
- Fetter CW. 1999. Contaminant hydrogeology. Upper Saddle River (NJ): Prentice Hall 500 p.
- Fetter CW. 2001. Applied Hydrogeology 4th edition. 598pp. Prentice Hall, Upper Saddle River, NJ.
- Ficke AD, Myrick CA, Avila LJ. 2007. Potential impacts of global climate change on freshwater fisheries. *Rev Fish Biol Fish* 17:581–613.
- Fiedler JW, Conrad CP. 2010. Spatial variability of sea level rise due to water impoundment behind dams. *Geophys Res Lett* 37. [accessed ];LI2603. DOI:10.1029/2010GL043462.
- Findlay CS, Lenton J, Zheng LG. 2001. Land-use correlates of anuran community richness and composition in southeastern Ontario wetlands. *Ecosci* 8:336–343.
- Fischer J, Lewis-Weis LA, Tate CM. 2003. Experimental vacuolar myelinopathy in red-tailed hawks. *J Wildl Dis* 39:400–406.
- FitzGerald DM, Fenster MS, Argow BA, Buynevich IV. 2007. Coastal impacts due to sea-level rise. *Ann Rev Earth Planet Sci*. [accessed ];36:601–647. <https://darchive.mblwhoilibrary.org/handle/1912/2273>.

- Flebbe PA, Roghair L, Bruggink JL. 2006. Spatial modeling to project Southern Appalachian trout distribution in a warmer climate. *Trans Am Fish Soc* 135:1371–1382.
- Fleury S. 2009. Land use policy and practice on karst terrains. Springer. Chapter 1, Karst processes, landforms and issues; p. 1–18.
- Florida Natural Areas Inventory. 1990. The natural communities of Florida. Florida Department of Natural Resources, Tallahassee, Florida, USA.
- Ford WM, Dobony CA, Edwards JW. 2002. Shrews in managed northern hardwood stands in the Allegany Mountains of West Virginia. *Proc Annu Conf Southeast Assoc Fish Wildl Agencies* 56:374–384.
- Ford WM, Evans AM, Odom RH, Rodrigue JL, Kelly CA, Abaid N, Diggins CA, Newcomb D. 2015. Predictive habitat models derived from nest-box occupancy for the endangered Carolina Northern Flying Squirrel in the Southern Appalachians. *Endangered Species Research*. *In Press*.
- Ford WM, Kelly CA, Rodrigue JL, Odom RH, Newcomb D, Gilley LM, Diggins CA. 2014. Late winter and early spring home range and habitat use of the endangered Carolina Northern Flying Squirrel in western North Carolina. *Endangered Species Research* 23:73–82.
- Ford WM, Menzel MA, McCay TS, Gassett JW, Laerm J. 2000. Woodland salamander and small mammal responses to alternative silvicultural practices in the Southern Appalachians of North Carolina. *Proc Annu Conf Southeast Assoc Fish Wildl Agencies* 54:241–250.
- Ford WM, Menzel MA, McCay TS, Gassett JW, Laerm J. 2000. Woodland salamander and small mammal responses to alternative silvicultural practices in the southern Appalachians of North Carolina. In *Proceedings of the Annual Conference of the Southeastern Association of Fish and Wildlife Agencies* 54: 241–250.
- Forest Ethics, Greenpeace, Natural Resources Defense Council, and Rainforest Action Network. 2006. Ecological components of endangered forests. [accessed 2015 May]. Greenpeace. <http://www.greenpeace.org/usa/Global/usa/report/2010/2/endangered-forests-technical-d.pdf>.
- Foulds DM. 1977. Lake levels and shore damages. *Can Water Res J* 2: 43–54.
- Franklin SB, Kupfer JA. 2004. Forest communities of Natchez Trace State Forest, Western Tennessee Coastal Plain. *Castanea* 69(1):15–29.
- Franssen N, Tobler M. 2013. Upstream effects of a reservoir on fish assemblages 45 years following impoundment. *J Fish Biol* 82(5):1659–1670.
- Freeman H. 1997. Transferability of habitat suitability criteria for fishes in warmwater.
- Freeze RA, Cherry JA. 1979. Groundwater. Englewood Cliffs (NJ): Prentice-Hall 604 p.
- Friends of Plant Conservation. 2021. Plant Industry Division, Raleigh, North Carolina. Available online <https://www.ncplantfriends.org>.

## References

---

- Frost, C. 1993. Four centuries of changing landscape patterns in the longleaf pine ecosystem. In: Hermann SH, editor. Proceedings of the 18th Tall Timbers fire ecology conference. The longleaf pine ecosystem: ecology, restoration and management; 1991 May 30–Jun 2; Tallahassee, FL. Tallahassee (FL): Tall Timbers Research Station 18:17–44.
- Fuller PL, Nico LG, Williams JD. 1999. Nonindigenous fishes introduced into inland waters of the United States. American Fisheries Society, Special Publication 27, Bethesda, MD.
- Funderburk SL, Mihursky JA, Jordan SJ, Riley D. 1991. Habitat requirements for Chesapeake Bay living resources. Solomons (MD): Habitat Objectives Workgroup, Living Resources Subcommittee, and Chesapeake Research Consortium with assistance from Maryland Department of Natural Resources.
- Fussell JO, Webster WD, Hall SP, LeGrand HE, Schafale MP, Russo MJ. 1995. Ecosystem survey of Dare County Air Force Range, North Carolina. Report to NC Natural Heritage Program. Raleigh (NC): NC Department of Environment and Natural Resources.
- Gaff H, DeAngelis DL, Gross LJ, Salinas R, and Shorrash M. 2000. Ecological Modeling 127:3352.
- Gagné F, Bouchard B, André C, Farcy E, Fournier M. 2011. Evidence of feminization in wild *Elliptio complanata* mussels in the receiving waters downstream of a municipal effluent outfall. Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology 153(1):99-106.
- Galbraith H, Jones R, Park R, Clough J, Herrod-Julius S, Harrington B, Page G. 2002 Global climate change and sea level rise: potential losses of intertidal habitat for shorebirds. Waterbirds 25:173–18.
- Gallant AL, Loveland TR, Sohl TL, Napton DE. 2004. Using an ecoregion framework to analyze land-cover and land-use dynamics. Environ Manag 34(supplement 1):S89–S110.
- Ganser AM, Newton TJ, Haro RJ. 2013. The effects of elevated water temperature on native juvenile mussels: implications for climate change. Freshwater Science 32(4):1168-1177.
- Garroway CJ, Bowman J, Cascaden TJ, Holloway GL, Mahan CG, Malcolm JR, Steele MA, Turner G, Wilson PJ. 2010. Climate change induced hybridization in flying squirrels. Global Change Biology 16(1):113-121.
- Gheoca V, Benedek AM, Schneider E. 2021. Exploring land snails' response to habitat characteristics and their potential as bioindicators of riparian forest quality. Ecological Indicators 132:108289.
- Gibbs JP, Melvin SM. 1997. Power to detect trends in waterbird abundance with call-reponse surveys. J Wildl Manag 61(4):1262–1276.
- Gilbert S, Lackstrom K, Tufford D. 2012. The impact of drought on coastal ecosystems in the Carolinas. Research Report: CISA-2012-01. Columbia (SC): Carolinas Integrated Sciences and Assessments 76 p.
- Gillieson D. 1996. Caves: processes, development and management. Wiley-Blackwell Publishing, Oxford, UK and Malden, MA. 336 pp.



- Gladstone NS, Carter ET, McKinney ML, Niemiller ML. 2018. Status and distribution of the cave-obligate land snails in the Appalachians and interior low plateau of the eastern United States. *American Malacological Bulletin* 36(1):62-78.
- Godfrey MA. 1997. Field guide to the Piedmont. Chapel Hill (NC): University of North Carolina Press.
- Godfrey PJ, Godfrey MM. 1976. Barrier island ecology of Cape Lookout National Seashore and vicinity. National Park Service Scientific Monograph Series No. 9. Washington (DC): USGPO.
- Gordon ND, McMahon TA, Finlayson BL. 1992. Stream hydrology: an introduction for ecologists. West Sussex (UK): Wiley.
- Gosling LM, Baker SJ. 1991. Rodents: order *Rodentia*, family *Myocastoridae* *coypu* *Myocastor coypus*. Oxford (UK): Blackwell Scientific Publications.
- Gothe E, Friberg N, Kahlert M, Temnerud J, Sandin L. 2014. Headwater biodiversity among different levels of stream habitat hierarchy. *Biodivers. Conserv.* 23:63-80.
- Graf DL, Cummings KS. 2021. A 'big data' approach to global freshwater mussel diversity (Bivalvia: Unionoida), with an updated checklist of genera and species. *Journal of Molluscan Studies* 87(1):eyaa034. <https://doi.org/10.1093/mollus/eyab015>.
- Graves GR. 2001. Factors governing the distribution of Swainson's Warbler along a hydrological gradient in Great Dismal Swamp. *The Auk* 118(3):650-664.
- Gregory JD, Watershed Hydrology Consultants. 2009. Headwaters streams & riparian corridors – the key to watershed management. Powerpoint presented at: ; [accessed ].  
<http://www.lakegeorge2000.org/Presentations%20and%20Papers/2009%20Forum%20Presentations/Gregory%201%20-Headwaters%20streams%20&%20riparian%20corridors.pdf>.
- Griffith GE, Omernik JM, Woods AJ. 1999. Ecoregions, watersheds, basins, and HUCs: how state and federal agencies frame water quality. *J Soil Water Conserv* 54(4):666–677.
- Guichon ML, Doncaster CP, Cassini MH. 2003. Population structure of coypus (*Myocastor coypus*) in their region of origin and comparison with introduced populations. *J Zool* 261(3):265–272.
- Gunn J, Hardwick P, Wood PJ. 2000. The invertebrate community of the Peak-Speedwell Cave system, Derbyshire, England: pressures and considerations for conservation management. *Aquat Conserv: Mar Freshw Ecosyst* 10:353–369.
- Gurevitch J, Padilla D. 2004. Are invasive species a major cause of extinctions? *Trends Ecol Evol.* 19(9):470–474.
- H. John Heinz III Center for Science, Economics and the Environment (Clark WC, Study Chair). 2002. The state of the nation's ecosystems: measuring the lands, waters and living resources of the United States. Cambridge (UK): Cambridge University Press.

## References

---

- Haas TC, Blum MJ, Heins DC. 2010. Morphological responses of a stream fish to water impoundment. *Biol Lett* 6(6):803–806.
- Haase AT, Eggleston DB, Luettich RA, Weaver RJ, Puckett BJ. 2012. Estuarine circulation and predicted oyster larval dispersal among a network of reserves. *Estuar Coast Shelf Sci* 101:33–43.
- Hackney DT, Yelverton GF. 1990. Effects of human activities and sea level rise on wetland ecosystems in the Cape Fear River estuary, North Carolina, USA. *Wetland Ecology and Management: Case Studies*, Whigham DF, Good RF, Kvet Y (eds.). Kluwer Academic Publishers, Amsterdam, Netherlands. P. 55–61.
- Hager, C. 2019. Operation of the Navy’s Telemetry Array in the Lower Chesapeake Bay: Final Report for 2013 - 2018. Cumulative Report. Prepared for U.S. Fleet Forces Command and Commander, Navy Region Mid-Atlantic. Submitted to Naval Facilities Engineering Command Atlantic, Norfolk, Virginia, under Contract No. N62470-10-3011, Task Order 53, issued to HDR Inc., Virginia Beach, Virginia.
- Hahn HJ. 2009. A proposal for an extended typology of groundwater habitats. *Hydrogeol J* 17:77–81.
- Haliwa Saponi Indian Tribe. 2025. The Official Site of the Haliwa Saponi Indian Tribe, 2020-2023. <https://www.haliwa-saponi.org>. [accessed 2025 Jan.]
- Hall LS, Krausman PR, Morrison ML. 1997. The habitat concept and a plea for standard terminology. *Wildlife Society Bulletin*. 25(1):173–182.
- Hall LS, Krausman PR, Morrison ML. 1997. The habitat concept and a plea for standard terminology. *Wildl Soc Bull* 25(1):173–182.
- Hall SP, Schweitzer DF. 1992. A survey of the moths, butterflies, and grasshoppers of four Nature Conservancy preserves in southeastern North Carolina. Report to the Nature Conservancy, North Carolina Chapter. 141 pp.
- Hallmann CA, Sorg M, Jongejans E, Siepel H, Hofland N, Schwan H, Stenmans W, Müller A, Sumser H, Hörren T, Goulson D. 2017. More than 75 percent decline over 27 years in total flying insect biomass in protected areas. *PloS one* 12(10):e0185809.
- Hambricht KD, Eckert W, Leavitt PR, Schelske CL. 2004. Effects of historical lake level and land use on sediment and phosphorus accumulation rates in lake Kinneret. *Environ Sci Technol* 38:6460–6467.
- Hampson PS, Treece Jr. MW, Johnson GC, Ahlstedt SA, Connell JF. 2000. Water quality in the Upper Tennessee River Basin, Tennessee, North Carolina, Virginia, and Georgia, 1994–1998. Washington (DC): US Geological Survey Circular 1205 32 p.
- Hancock PJ, Boulton AJ, Humphreys WF. 2005. Aquifers and hyporheic zones: towards an ecological understanding of groundwater. *Hydrogeol J* 13(1):98–111.
- Hanski I. 2008. Spatial patterns of coexistence of competing species in patchy habitat. *Theory Ecol*. 1:29–43.

- Harvell C, Kim K, Burkholder J, Colwell R, Epstein P, Grimes D, Hofmann ELipp E, Osterhaus A, Overstreet R, et al. 1999. Emerging marine diseases – climate links and anthropogenic factors. *Sci.* 285(5433):1505–1510.
- Hassler WW, Hill NL, Brown JT. 1981. The status and abundance of striped bass, *Morone saxatilis*, in the Roanoke River and Albemarle Sound, North Carolina, 1966–1980. Special Scientific Report No. 38, Project AFS-14. Morehead City (NC): NC Division of Marine Fisheries 156 p.
- Havel JE, Lee CE, VanderZanden JM. 2005. Do reservoirs facilitate invasions into landscapes? *BioSci* 55(6):518–525.
- Hawkes LA, Broderick AC, Godfrey MH, Godley BJ. 2009. Climate change and marine turtles. *Endanger Species Res* 7:135–154.
- Hayes TB, Case P, Chui S, Chung D, Haeffele C, Haston K. 2006. Pesticide mixtures, endocrine disruption, and amphibian declines: are we underestimating the impact? *Environ Health Perspect* 114(S1):40–50.
- Heath RC, Spruill RK. 2003. Cretaceous aquifers in North Carolina: analysis of safe yield based on historical data. *Hydrogeol J* 11:249–258.
- Hedman CW, Grace SL, King SE. 2000. Vegetation composition and structure of southern coastal plain pine forests: an ecological comparison. *Forest Ecology and Management* 134:233–247.
- Heinrich B. 1996. The thermal warriors: strategies of insect survival. Cambridge, MA and London, England: Harvard University Press. Pp. 123–138. <https://doi.org/10.4159/harvard.9780674183773>.
- Hennessey J, Nichols B, State Ocean Caucus, editors. 2011. Marine spatial planning in Washington: final report and recommendations of the State Ocean Caucus to the Washington State Legislature. Publication no. 10-06-027. Olympia (WA): Washington Department of Ecology.
- HerpMapper. 2025. HerpMapper - A Global Herp Atlas and Data Hub. Iowa, U.S.A. <http://www.herpmapper.org>. (accessed March 2025).
- Herrera DJ, Cove MV, McShea WJ, Flockhart DT, Decker S, Moore SM, Gallo T. 2022. Prey selection and predation behavior of free-roaming domestic cats (*Felis catus*) in an urban ecosystem: implications for urban cat management. *Biological Conservation* 268(109503). 10 pp.
- Higgins JV, Bryer M, Khoury M, Fitzhugh T. 2005. A freshwater classification approach for biodiversity conservation planning. *Conserv Biol* 9:432–445.
- Hofmann EP, Hall S, Howard T, LeGrand H. 2025. Reptiles of North Carolina [internet]. North Carolina Biodiversity Project and North Carolina State Parks. Raleigh, North Carolina. <https://auth1.dpr.ncparks.gov/reptiles/index.php>.
- Homburg K, Drees C, Boutaud E, Nolte D, Schuett W, Zumstein P, von Ruschkowski E, Assmann T. 2019. Where have all the beetles gone? Long-term study reveals carabid species decline in a nature reserve in Northern Germany. *Insect Conservation and Diversity* 12(4):268–277.

## References

---

- Homyack J, O'Bryan C, Thornton J, Baldwin R. 2014. Anuran assemblages associated with roadside ditches in a managed pine landscape. *Forest Ecology and Management* 334: 217-231.
- Hong B, Shen J. 2012. Responses of estuarine salinity and transport processes to potential future sealevel rise in the Chesapeake Bay. *Estuar Coast Shelf Sci* 102:1–13
- Hood GA, Bayley SE. 2008. Beaver (*Castor canadensis*) mitigate the effects of climate on the area of open water in boreal wetlands in western Canada. *Biol Conserv* 141:556–567.
- Hornbach DJ, March JG, Deneka T, Troelstrup NH Jr., Perry JA. 1996. Factors influencing the distribution and abundance of the Endangered Winged Mapleleaf mussel *Quadrula fragosa* in the St. Croix River, Minnesota and Wisconsin. *American Midland Naturalist* 136(2):278–286.  
<https://doi.org/10.2307/2426732>.
- Hrodey PJ, Sutton TM, Frimpong EA, Simon TP. 2009. Land-use impacts on watershed health and integrity in Indiana warmwater streams. *Am Midl Nat* 161(1):76–95.
- Hrodey PJ, Sutton TM. 2008. Fish community responses to half-log additions in warmwater streams. *N Am J Fish Manag.* [accessed ];28(1):70–80. <http://dx.doi.org/10.1577/M06-168.1>.
- Huang C, Ling PY, Zhu Z. 2015. North Carolina's Forest Disturbance and Timber Production Assessed Using Time Series Landsat Observations. Pages 1-41 In *International Journal of Digital Earth*. Taylor and Francis, London (UK).
- Huang S, Budd W, Chan S, Lin Y. 2007. Stream order, hierarchy, and energy convergence of land use. *Ecol Model* 205:255–264.
- Huang YW, Elrod J, Twidwell D, Solis M, Phillips J. 2003a. Finding possible causes of the population decline in Ozark hellbenders (*Cryptobranchus alleganiensis bishopi*): Water-quality analysis, endocrine disruption, and hematology. Paper presented at: Semi-annual Hellbender Working Group Meeting; Unicoi State Park, Helen, Georgia.
- Huang YW, Twidwell DL, Elrod JC. 2003b. Occurrence and effects of endocrine disrupting chemicals in the environment. *Pract Period Hazard Toxic Radioact Waste Manag* 7(4):241–252.
- Hubbard DM, Dugan JE, Schooler NK, Viola SM. 2013. Local extirpations and regional declines of endemic upper beach invertebrates in southern California. *Estuar Coast Shelf Sci.* [accessed ];150:67–75. DOI:10.1016/j.ecss.2013.06.017.
- Huff RP, Coyle FA. 1992. Systematics of *Hypochilus sheari* and *Hypochilus coylei*, two southern Appalachian lampshade spiders (Araneae, Hypochilidae). *Journal of Arachnology* 20(1):40-46.
- Huisman J, Matthijs HCP, Visser PM, editors. 2005. Harmful cyanobacteria. *Cyanobacteria*, volume 3. Springer 241 p.
- Humphrey SR. 1978. Status, winter habitat, and management of the endangered Indiana bat (*Myotis sodalis*). *Florida Scientist* 41:65–76.

- Hunter WC, Buehler DA, Canterbury RA, Confer JL, Hamel PB. 2001a. Conservation of disturbance-dependent birds in eastern North America. *Wildl Soc Bull* 29(2):440–455.
- Hunter WC, Collazo J, Noffsinger B, Winn B, Allen D, Harrington B, Epstein M, Saliva J. 2000. Southeastern Coastal Plain – Caribbean Regional Shorebird Plan, Version 1. US Fish & Wildlife Service, Atlanta, GA. 51 pp. [accessed 2015 July]  
[http://www.acjv.org/documents/shorebird\\_plan\\_se\\_car.pdf](http://www.acjv.org/documents/shorebird_plan_se_car.pdf).
- Hunter WC, Katz R, Pashley D, Ford B. 1999. Partners in Flight bird conservation plan for the Southern Blue Ridge. The Plains (VA): American Bird Conservancy.
- Hunter WC, Peoples L, Collazo J. 2001b. Partners in Flight bird conservation plan for the South Atlantic Coastal Plain. The Plains (VA): American Bird Conservancy.
- Hupp CR, Pierce AR, Noe GB. 2009. Floodplain geomorphic processes and environmental impacts of human alteration along coastal plain rivers, USA. *Wetl* 29:413–429
- Hupp CR. 2000. Hydrology, geomorphology and vegetation of coastal plain rivers in the south-eastern USA. *Hydrol Process* 14:2991–3010.
- Hynes HBN. 1970. The ecology of running waters. Liverpool (UK): Liverpool University Press 555 p.
- Hynes HBN. 1983. Groundwater and stream ecology. *Hydrobiologia* 100:93-99.
- Igley RB, Leopold BD, Miller DA. 2014. Vegetation responses to fire and herbicide in intensively managed, mid-rotation pine. *Forest Ecology and Management* 328:69-78.
- Interbasin transfer [wiki page]. 2015. Wikipedia; [updated 2015 February 2; accessed 2015 March].  
[http://en.wikipedia.org/w/index.php?title=Interbasin\\_transfer&oldid=645322013](http://en.wikipedia.org/w/index.php?title=Interbasin_transfer&oldid=645322013).
- Iverson LR, Prasad AM, Matthews SN, Peters M. 2008. Estimating potential habitat for 134 eastern US tree species under six climate scenarios. *For Ecol Manag* 254:390–406.
- Jacobs K, AdamsD, Gleick P. 2000. Water resources: chapter 14 *In* Potential consequences of climate variability and changes for the water resources of the United States. Report by the National Assessment and Synthesis Team, US Global Change Research. [accessed 2015 July]  
<http://data.globalchange.gov/assets/e9/97/436129058f2107f4925aeec13ed8/nca-2000-foundation-report.pdf>.
- Jacobsen LA, Mather M. 2010. U.S. Economic and Social Trends Since 2000. *Population Bulletin* 65(1). Population Reference Bureau. Washington, DC. 20 pp.
- Jantz CA, Goetz SJ, Donato D, Claggett P. 2009. Designing and implementing a regional urban modeling system using the SLEUTH cellular urban model. *Computers, Environment, and Urban Systems*. 34(1): 1–16.

## References

---

- Jeffries SB, Wentworth TR, Allen HL. 2010. Long-term effects of establishment practices on plant communities across successive rotations in a loblolly pine (*Pinus taeda*) plantation. *Forest Ecology and Management* 260:1548-1556.
- Jelks H, Walsh S, Burkhead N, Contreras-Balderas S, Diaz-Pardo E, Hendrickson D, Lyons J, Mandrak N, McCormick F, Nelson J, et al. 2008. Conservation status of imperiled North American freshwater and diadromous fishes. *Fish.* 33:8, 372–407.
- Jenkinson JJ, Todd RM. 1997. Management of native mollusk resources. Pages 283-305 in G. W. Benz and D. E. Collins, editors. *Aquatic fauna in peril: the southeastern perspective*. Southeast Aquatic Research Institute, Decatur, GA.
- Jensen A. 1985. The effect of cattle and sheep grazing on salt-marsh vegetation at Skallingen, Denmark. *Vegetatio* 60(1):37–48.
- Jeyasuria P, Place AR. 1997. Temperature-dependent aromatase expression in developing diamondback terrapin (*Malaclemys terrapin*) embryos. *J Steroid Biochem Mol Biol* 6:415–25.
- Jin S, Yang L, Danielson P, Homer C, Fry J, Xian G. 2013. A comprehensive change detection method for updating the National Land Cover Database to circa 2011. *Remote Sens Environ* 132:159–175.
- Johns ME. 2004. North Carolina bird species assessment. NC Partners in Flight.
- Johnson B. 2015. Occupancy and community characteristics of ephemeral aquatic systems in managed forests of the southeastern Atlantic Coastal Plain. M.S. Thesis, Clemson University, Clemson, South Carolina.
- Johnson NA, Mcleod JM, Holcomb J, Rowe M, Williams JD. 2016. Early life history and spatiotemporal changes in distribution of the rediscovered Suwannee moccasinshell *Medionidus walkeri* (Bivalvia, Unionidae). *Endangered Species Research* 31:163–175. <https://doi.org/10.3354/esr00752>.
- Jones C. 2009. A guide to responsible caving . NSS 1190FE. Huntsville (AL): National Speleological Society; [accessed 2015 February]. <http://caves.org/brochure/NSS%20Guide%2062309.pdf>.
- Jones P, Hanberry BB, Demarais S. 2008. Biodiversity response to stand structural features in southern pine forests: a literature review. National Council for Air and Stream Improvement, Research Triangle Park, North Carolina, USA.
- Jones PD, Edwards S, Demarais LS, Ezell AW. 2009. Vegetation community responses to different establishment regimes in loblolly pine (*Pinus taeda*) plantations in southern MS, USA. *Forest Ecology and Management* 257:553-560.
- Joss A, Zabczynski S, Gobel A, Hoffmann B, Löffler D, McArdell CS, Ternes TA, Thomsen A, Siegrist H. 2006. Biological degradation of pharmaceuticals in municipal wastewater treatment: proposing a classification scheme. *Water Res* 40: 1686–1696.

- Junk WJ, Welcomme RL. 1990. Floodplains. In Wetlands and shallow continental water bodies: Volume 1, Natural and human relationships. 758 pp. Patten BC, ed. SPB Academic Publishing, The Hague, Netherlands.
- Kalo JJ, Schiavinato LC. 2009. Wind over North Carolina waters: the state's preparedness to address offshore and coastal water-based wind energy projects. *North Carolina Law Review* 87:1819-1868. [accessed 2015 July]  
[http://ncseagrant.ncsu.edu/ncseagrant\\_docs/coastallaw/pubs/Kalo\\_Schiavinato\\_windNC09.pdf](http://ncseagrant.ncsu.edu/ncseagrant_docs/coastallaw/pubs/Kalo_Schiavinato_windNC09.pdf).
- Kanno Y, Vokoun JD. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in southern New England streams, USA. *Fish Manag Ecol* 17(3):272–283.
- Karl TR, Melillo JM, Peterson TC. 2009. Global climate change impacts in the United States. Cambridge University Press, NY.
- Karriker KS. 1993. Effects of intensive silviculture on breeding and wintering birds in North Carolina pocosins [thesis]. [Raleigh (NC)]: North Carolina State University.
- Kashiwagi MT, Miranda LE. 2009. Influence of small impoundments on habitat and fish communities in headwater streams. *Southeastern Naturalist* 8(1):23-36.
- Kasprzyk-Hordern B, Dinsdale RM, Guwy AJ. 2008. The occurrence of pharmaceuticals, personal care products, endocrine disruptors and illicit drugs in surface water in South Wales, UK. *Water Res* 42:3498–3518.
- Kays R, Davidson SC, Berger M, Bohrer G, Fiedler W, Flack A, Hirt J, Hahn C, Gauggel D, Russell B, et al. 2022. The Movebank system for studying global animal movement and demography. *Methods Ecol Evol.* 13(2):419-431. <https://doi.org/10.1111/2041-210X.13767>.
- Keim BD. 1997. Preliminary analysis of the temporal patterns of heavy rainfall across the southeastern United States. *Prof Geogr* 49:94–104.
- Kellison RC, Young MJ, Braham RR, Jones EJ. 1998. Major alluvial floodplains. Pages 291-323 in Messina MG, Conner WH, editors. *Southern forested wetlands: ecology and management*. Lewis Publishers, Boca Raton, Florida.
- Kelly CA, Diggins CA, and Lawrence AJ. 2013. Crossing structures reconnect federally endangered flying squirrel populations divided for 20 years by road barrier. *Wildlife Society Bulletin* 37(2):375-379.
- Kelly DM, Dodd N. 2010. Beach-face evolution in the swash zone. *J. Fluid Mech.* 661:316-340.
- Kendrick MR, Williams BW. 2025. An integrative taxonomic assessment leads to the synonymy of the Waccamaw Crayfish *Procambarus braswelli* Cooper 1998 with the Cedar Creek Crayfish *Procambarus chacei* Hobbs 1958 (Decapoda: Cambaridae). *Zootaxa*. 2025 Jan 23; 5575(2):251-66.
- Kenk R. 1935. Studies on Virginia triclads. *J Elisha Mitchell Sci Soc* 51:79–133.

## References

---

- Kenk R. 1972. Freshwater planarians (*Turbellaria*) of North America. Biota of Freshwater Ecosystems Identification Manual No. 1. Washington (DC): US Environmental Protection Agency 81 p.
- Kenk R. 1977a. Freshwater triclads (*Turbellaria*) of North America, IX: the genus *Sphalloplana*. Smithsonian Contributions to Zoology Series, No. 246. Washington (DC): Smithsonian Institution Press 38 pp.
- Kenk R. 1977b. Freshwater triclads (*Turbellaria*) of North America, X: three new species of *Phagocata* from the eastern United States. Proc Biol Soc Wash 56:645–652.
- Kessler RA, Black TR, Fraley SJ, Gangloff MM. Forthcoming. Molecular and morphological evidence for multiple cryptic crayfish invasions in the southern Appalachian Mountains.
- Kim SD, Cho J, Kim IS, Vanderford BJ, Snyder SA. 2007. Occurrence and removal of pharmaceuticals and endocrine disruptors in South Korean surface, drinking, and waste waters. Water Res 41:1013–1021.
- Kirkman LK, Goebel PC, West L, Drew MB, Palik BJ. 2000. Depressional wetland vegetation types: a question of plant community development. Wetlands 20:373–385.
- Knapp WM, Frances A, Noss R, Naczi RFC, Weakley A, Gann GD, Baldwin BG, Miller J, McIntyre P, Mishler BD, Moore G, Olmstead RG, Strong A, Kennedy K, Heidel B, Gluesenkamp D. 2021. Analysis of the extinct plants of North America north of Mexico provides a baseline for the Anthropocene. Conservation Biology 35:360–368. [accessed 2025 Jan.] <https://conbio.onlinelibrary.wiley.com/doi/pdfdirect/10.1111/cobi.13621>.
- Kokkonen T, Koivusalo H, Stenberg L. 2011. Definition of groundwater. Computational methods for water resource assessments: an exercise kit. [accessed ]; 65 p. [http://www.iemss.org/society/index.php/view-public-documents/cat\\_view/63-teaching-material-open](http://www.iemss.org/society/index.php/view-public-documents/cat_view/63-teaching-material-open).
- Kolpin DW, Furlong ET, Meyer MT, Thurman EM, Zaugg SD, Barber LB, Buxton HT. 2002. Pharmaceuticals, hormones, and other organic wastewater contaminants in US streams, 1999–2000: a national reconnaissance. Environ Sci Technol 36(6):1202–1211.
- Kopachena JG, Crist CJ. 2000. Macro-habitat features associated with painted bunting and indigo bunting in northeast Texas. Wilson Bull 112(1):108–114.
- Korstian CF. 1937. Perpetuation of spruce on cut-over and burned lands in the higher southern Appalachian Mountains. Ecol Monogr 7:125–167.
- Krauss KW, Duberstein JA, Doyle TW, Conner WH, Day RH, Inabinette LW, Whitbeck JL. 2009. Site condition, structure, and growth of bald cypress along tidal/non-tidal salinity gradients. Wetl 29:505–519.
- Kunin W. 1998. Extrapolating species abundance across spatial scales. Sci. 281:1513–1515.
- Kunin WE, Gaston KJ (eds.). 1997. The biology of rarity: causes and consequences of rare-common differences, 1st edition. Chapman & Hall, London UK and New York NY. 280 pp.



- Kushlan JA, Steinkamp MJ, Parsons KC, Capp J, Cruz MA, Coulter M, Davidson I, Dickson L, Edelson N, Elliot R, et al. 2002. Waterbird Conservation for the Americas: the North American waterbird conservation plan, Version 1. Washington (DC): Waterbird Conservation for the Americas.
- Kushlan JA. 1990. Freshwater marshes. Pages 324-363 *in* Myers RL, Ewel JJ, editors. Ecosystems of Florida. University of Central Florida Press, Orlando, USA.
- Kushlan JA. 1990. Freshwater marshes. Pages 324-363 *in* Myers RL, Ewel JJ, editors. Ecosystems of Florida. University of Central Florida Press, Orlando, USA.
- LaClaire LV. 2001. Endangered and threatened wildlife and plants; final rule to list the Mississippi gopher frog distinct population segment of dusky gopher frog as endangered. Federal Register 66, 62993-63001.
- Lafferty K, Gerber L. 2002. Good medicine for conservation biology: the intersection of epidemiology and conservation theory. *Conserv Biol.* 16(3):593–604.
- Land LA, Lautier Jc, Wilson NC, Chianese G, Webb S. 2004. Geophysical monitoring and evaluation of Coastal Plain aquifers. *Ground Water* 42(1):59–67.
- Lane VR, Miller KV, Castleberry SB, Miller DA, Wigley TB, Marsh GM, Mihalco RL. 2011. Plant community responses to a gradient of site preparation intensities in pine plantations in the Coastal Plain of North Carolina. *Forest Ecology and Management* 262:370-378.
- Lane VR. 2010. Plant, small mammal, and bird community responses to a gradient of site preparation intensities in pine plantations in the Coastal Plain of North Carolina. University of Georgia, Athens, GA.
- Langston WJ. 2020. Endocrine disruption and altered sexual development in aquatic organisms: an invertebrate perspective. *Journal of the Marine Biological Association of the United Kingdom* 100(4):495-515.
- Lanyon SM, Thompson CF. 1986. Site fidelity and habitat quality as determinants of settlement pattern in male painted buntings. *Condor* 88:206–210.
- Lapointe N, Pendleton R, Angermeier P. 2011. A comparison of approaches for estimating relative impacts of nonnative fishes. *Environ Manag.* 49(1):82–95.
- Larsen RS, Nutter FB, Augspurger T, Rocke TE, Tomlinson L, Thomas NJ, Stoskopf MK. 2002. Clinical features of avian vacuolar myelinopathy in American coots. *J Am Vet Med Assoc* 221:80–85.
- Laufkötter C, Zscheischler J, Frölicher TL. 2020. High-impact marine heatwaves attributable to human-induced global warming. *Science* 369(6511):1621-5. [accessed 2025 March]  
<https://doi.org/10.1126/science.aba0690>.
- Legare ML, Eddleman WR, Buckley PA, Kelly C. 1999. The effectiveness of tape playback in estimating black rail density. *J Wildl Manag* 63(1):116–125.

## References

---

- LeGrand H, Haire J, Iyooob A, Howard T. 2012. Birds of North Carolina: their distribution and abundance. [accessed 2012 May 7]. [www.carolinabirdclub.org/accounts.php](http://www.carolinabirdclub.org/accounts.php).
- Leigh DS, Srivastava P, Brook GA. 2004. Late Pleistocene braided rivers of the Atlantic Coastal Plain, USA. *Quat Sci Rev* 23:65–84.
- Leigh DS. 2008. Late Quaternary climates and river channels of the Atlantic Coastal Plain, Southeastern USA. *Geomorphol* 101:90–108.
- Leopold LB, Wolman MG, Miller JP. 1964. *Fluvial Processes in Geomorphology*. San Francisco: W. H. Freeman. 522 pp.
- Lerner L, Lerner BW, editors. 2008. *Gale encyclopedia of science* [online encyclopedia]. 4th ed.; 6v. The Free Library; [accessed 2014 August 28]; 4188 p. <http://www.thefreelibrary.com/Gale+encyclopedia+of+science%2c+4th+ed.%3b+6v.-a0175905162>
- Lessard JL, Hayes DB. 2003. Effects of elevated water temperature on fish and macroinvertebrate communities below small dams. *River Res. Applic.* 19(7): 721-732.
- Lessig H. 2008. Species distribution and richness patterns of bird communities in the high elevation forests of Virginia [thesis]. [Blacksburg (PA)]: Virginia Polytechnic Institute.
- Levin LA, Boesch DF, Covich A, Dahm C, Erséus C, Ewel KC, Kneib RT, Moldenke A, Palmer MA, Snelgrove P, et al. 2001. The function of marine critical transition zones and the importance of sediment biodiversity. *Ecosyst* 4:430–451.
- Lindsey BD, Zimmerman TM, Chapman MJ, Cravotta CA III, Szabo Z. 2014. The quality of our Nation's waters—Water quality in the Principal Aquifers of the Piedmont, Blue Ridge, and Valley and Ridge regions, eastern United States, 1993–2009: U.S. Geological Survey Circular 1354, 107 p. [accessed 2015 July] <http://dx.doi.org/10.3133/cir1354>.
- Littlewood NA, Rocha R, Smith RK, Sutherland WJ, et al. 2020. *Terrestrial Mammal Conservation: Global evidence for the effects of interventions for terrestrial mammals excluding bats and primates. Synopses of Conservation Evidence Series*, University of Cambridge, Cambridge, UK. Open Book Publishers. 1097 pp. <https://doi.org/10.11647/OBP.0234>.
- Litvaitis JA. 2001. Importance of early successional habitats to mammals in eastern forests. *Wildl Soc Bull* 29(2):466–473.
- Lobb III MD, Orth DJ. 1991 Habitat use by an assemblage of fish in a large warmwater stream. *Trans Am Fish Soc.* [accessed ];120(1):65–78.
- Loder ER. 2008. Breath of life: ethical wind power and wildlife. *VT J Environ Law* 10: 507–531.
- Loeb SC. 1999. Responses of small mammals to coarse woody debris in a southeastern pine forest. *Journal of Mammalogy* 80(2):460-471.

- Loehle C, Wigley TB, Rutzmoser SH, Gerwin JA, Keyser PD, Lancia RA, Reynolds CJ, Thill RE, Weih R, White Jr. D, Wood PB. 2005. Managed forest landscape structure and avian species richness in southeastern U.S. *Forest Ecology and Management* 214:279-293.
- Loftis CS, Willard CC. 2001. Fisheries and wildlife management plan for the Hiwassee River Basin. Raleigh (NC): NC Wildlife Resources Commission.
- Loftis CS. 2001. Fisheries and wildlife management plan for the Little Tennessee River Basin. Raleigh (NC): NC Wildlife Resources Commission.
- Logan JA, Régnière J, Powell JA. 2003. Assessing the impacts of global warming on forest pest dynamics. *Front Ecol Environ* 1:130–137.
- Loughman ZJ, Williams BW. 2021. *Cambarus ectopistes* sp. nov., a new stream-dwelling crayfish (Decapoda: Cambaridae) from the French Broad, Pigeon, and Nolichucky River watersheds in the Appalachian Mountain region of North Carolina and Tennessee, USA. *Zootaxa*, 5082(4), pp.322-340.
- Lucid MK, Wan HY, Ehlers S, Robinson L, Svancara LK, Shirk A, Cushman S. 2021. Land snail microclimate niches identify suitable areas for climate refugia management on a montane landscape. *Ecological Indicators* 129:107885.
- Lysne SJ, Perez KE, Brown KM, Minton RL, Sides JD. 2008. A review of freshwater gastropod conservation: challenges and opportunities. *Journal of the North American Benthological Society* 27(2):463-470.
- Mace G, Purvis A. 2008. Evolutionary biology and practical conservation: bridging a widening gap. *Mol Ecol*. 17:9–19.
- Mallin MA, Burkholder JM, Cahoon LB, Posey MH. 2000a. North and South Carolina coasts. *Marine Pollution Bulletin* 41(1-6):56-75.
- Mallin MA, Cahoon LB, Posey MH, Leonard LA, Parsons DC, Johnson VL, Wambach EJ, Alphin TD, Nelson KA, Merritt JF. 2002b. Environmental quality of Wilmington and New Hanover County watersheds, 2000-2001. Center for Marine Science, UNC-W, Wilmington, 102 pp.
- Mallin MA, Cahoon LB. 2003. Industrialized animal production: a major source of nutrient and microbial pollution to aquatic systems. *Popul Environ* 24(5):369–385.
- Mallin MA. 2003. Impacts of industrial animal production on rivers and estuaries. *Am Sci* 88(1):26–37.
- Malmqvist B, Rundle S. 2002. Threats to running water ecosystems of the world. *Environmental Conservation* 29:134-153.
- Manne L, Pimm S. 2001. Beyond eight forms of rarity: which species are threatened and which will be next? *Anim Conserv*. 4:221–229.
- Manning LM, Peterson CH, Fegley SR. 2013. Degradation of surf-fish foraging habitat driven by persistent sedimentological modifications caused by beach nourishment. *Bull Mar Sci* 89(1):83–106.

## References

---

- Manolis JC, Anderson DE, Cuthbert FJ. 2000. Patterns in clearcut edge and fragmentation effect studies in northern hardwood-conifer landscapes: retrospective power analysis and Minnesota results. *Wildl Soc Bull* 28(4):1088–1101.
- Manooch III CS, Rulifson RA, editors. 1989. Roanoke River Flow Committee report: a recommended water flow regime for the Roanoke River, North Carolina, to benefit anadromous striped bass and other below-dam resources and users. NOAA Technical Memorandum NMFS-SEFC-216. Beaufort (NC): US National Marine Fisheries Service.
- Marsooli R, Lin N, Emanuel K, Feng K. 2019. Climate change exacerbates hurricane flood hazards along US Atlantic and Gulf Coasts in spatially varying patterns. *Nat Commun* 10, 3785 [accessed 2025May]. <https://doi.org/10.1038/s41467-019-11755-z>.
- Martin EH, Hoenke K, Granstaff E, Barnett A, Kauffman J, Robinson S, Apse CD. 2014. SEACAP: Southeast Aquatic Connectivity Assessment Project: Assessing the ecological impact of dams on Southeastern rivers. N.p.: The Nature Conservancy, Eastern Division Conservation Science, Southeast Aquatic Resources Partnership; [accessed 2015].
- Martin KW, Leslie Jr. DM, Payton ME, Puckette WL, Hensley SL. 2006. Impacts of passage manipulation on cave climate: conservation implications for cave-dwelling bats. *Wildlife Society Bulletin* 34(1):137-143.
- Martinez PJ, Chart TE, Trammell MA, Wullschleger JG, Bergersen EP. 1994. Fish species composition before and after construction of a main stem reservoir on the White River, Colorado. *Environmental Biology of Fishes* 40:227-239.
- Martin-Torrijos L, Martinez-Rios M, Casabella-Herrero G, Adams SB, Jackson CR, Dieguez-Uribeondo J. 2021. Tracing the origin of the crayfish plague pathogen, *Aphanomyces astaci*, to the Southeastern United States. *Scientific Reports*, 11(1), p.9332.
- Maryland Department of Natural Resources. 2004. Invasive and exotic species. Habitat Conservation, Wildlife and Heritage Service; [accessed 2010 April 16]. <http://www.dnr.state.md.us/wildlife/invnutriafaq.asp>.
- Master L, Faber-Langendoen D, Bittman R, Hammerson G, Heidel B, Ramsay L, Snow K, Teucher A, Tomaino A. 2012. NatureServe conservation status assessments: factors for evaluating species and ecosystem risk [Internet]. Arlington (VA): NatureServe; [accessed 2014 January]. [http://www.natureserve.org/sites/default/files/publications/files/natureserveconservationstatusfactors\\_apr12.pdf](http://www.natureserve.org/sites/default/files/publications/files/natureserveconservationstatusfactors_apr12.pdf).
- Master LL, Flack SR, Stein BA, editors. 1998. Rivers of life: critical watersheds for protecting freshwater biodiversity. The Nature Conservancy, Arlington, VA.
- Maurer EP, Brekke L, Pruitt T, Duffy PB. 2007. Fine-resolution climate projections enhance regional climate change impact studies. *Eos, Trans Am Geophys Union* 88(47):504–504.
- McAllister TL, Overton MF, Brill ED. 1996. Cumulative Impact of Marinas on Estuarine Water Quality. *Environmental Management* 20(3):385-396.

- McBride A. 2012. Cornell Lab, All About Birds (online), Wildlife-Trafficking Bust Highlights Problems in Caged Bird Trade. [accessed 2025 Feb.] <https://www.allaboutbirds.org/news/wildlife-trafficking-bust-highlights-problems-in-caged-bird-trade/>.
- McCall BL. 2023. The Potential Use of Madtom Catfishes (Ictaluridae: *Noturus*) as Conservation Tools for Headwater Streams of the Southeastern United States. Dissertation, Arkansas State University.
- McComb WC, Bonney SA, Sheffield RM, Cost ND. 1986. Den tree characteristics and abundance in Florida and South Carolina. *Journal of Wildlife Management* 50(4):584–591.
- McCullough DA, Bartholow JM, Jager HI, Beschta RL, Cheslak EF, Deas ML, Ebersole JL, Foott JS, Johnson SL, Marine KR, et al. 2009. Research in thermal biology: burning questions for coldwater stream fishes. *Rev Fish Sci* 17(1):90–115.
- McDaniel MD. 1993. Point-source discharges. In: Bryan CF, Rutherford DA, editors. *Impacts on warmwater streams: guidelines for evaluation*. Little Rock (AR): American Fisheries Society, Southern Division. p. 1–56
- McFaul EJ, Mason Jr. GT, Ferguson WB, Lipen BR. 2000. US Geological Survey mineral databases—MRDS and MAS/MILS. US Geological Survey Digital Data Series DDS-52. Washington (DC): US Geological Survey. [accessed 2015 July] <http://pubs.er.usgs.gov/publication/ds52> and <http://mrdata.usgs.gov/mrds/>.
- McGinley M. 2013. Aquifer [encyclopedia article]. *Encyclopedia of the Earth*; [updated 2013 March 28]. <http://www.eoearth.org/view/article/150158>.
- McGowan EM. 1993. Experimental release and fate study of the Allegheny woodrat (*Neotoma magister*). Federal Aid Project W-166-E; E-1, Job No. VIII-7. New York (NY): NY Department of Environmental Protection.
- McKinney ML, Lockwood JL. 2001. Biotic homogenization. New York (NY): Kluwer Academic/Plenum Publishers. Chapter 1, Biotic homogenization: a sequential and selective process; p. 1–17.
- McLachlan A, Brown AC. The ecology of sandy shores, 2nd edition. Academic Press, Burlington, Massachusetts. 392 p. ProQuest [accessed 2015 July] <http://site.ebrary.com/prox.lib.ncsu.edu/lib/ncsu/detail.action?docID=10150588>.
- McNab BL. 1974. The behavior of temperate cave bats in a subtropical environment. *Ecology* 55:943–958.
- McNab WH, Cleland DT, Freeouf JA, Keys Jr. JE, Nowacki GJ, Carpenter CA, compilers. 2005. Description of ecological subregions: sections of the conterminous United States. Washington (DC): US Department of Agriculture, Forest Service; [accessed ]; 80 p. [http://na.fs.fed.us/sustainability/ecomap/section\\_descriptions.pdf](http://na.fs.fed.us/sustainability/ecomap/section_descriptions.pdf).
- Meherrin Indian Tribe. 2022. Meherrin Kawwets’A•Ka, Ahoskie, NC. <https://meherrinnation.org> [accessed 2025 Feb.]

## References

---

- Meisner JD, Rosenfeld JS, Regier HA. 1988. The role of groundwater in the impact of climate warming on stream salmonines. *Fish* 13(3):2–8.
- Melnyk LJ, Lazorchak JM, Kusnierz DH, Perlman GD, Lin J, Venkatapathy R, Sundaravadivelu D, Thorn J, Durant J, Pugh K, Stover MA. 2024. One Health assessment of persistent organic chemicals and PFAS for consumption of restored anadromous fish. *Journal of Exposure Science & Environmental Epidemiology* 1-100. [accessed 2025 March] <https://pmc.ncbi.nlm.nih.gov/articles/PMC11541783>.
- Menhinick EF, Braswell AL. 1997. Endangered, threatened, and rare fauna of North Carolina, part IV: a reevaluation of the freshwater fishes. *Occasional Papers of the NC Museum of Natural Sciences and the NC Biological Survey*, No. 11.
- Meyer JL, Kaplan LA, Newbold D, Strayer DL, Woltemade CJ, Zedler JB, Beilfuss R, Carpenter Q, Semlitsch R, Watzin MC, et al. 2003. Where rivers are born: the scientific imperative for defending small streams and wetlands. Sponsored by American Rivers and Sierra Club. [accessed ]. <http://www.sierraclub.org/communities/cleanwater/downloads/WhereRiversAreBorn.pdf>
- Meyer JL, Strayer DL, Wallace JB, Eggert SL, Helfman GS, Leonard NE. 2007. The contribution of headwater streams to biodiversity in river networks. *J Am Water Resour Assoc* 43(1):86–103.
- Micol T, Doncaster CP, Jouventin P. 1996. Biologie du ragondin (Ch. 1); Demographie du ragondin (Ch. 2). In: Jouventin P, Micol T, Verheyden C, Guedon G, editors. *Le ragondin*. Paris (FR): Acta. p. 11–41
- Miles N, West R. 2011. The use of an aeration system to prevent thermal stratification of a freshwater impoundment and its effect on downstream fish assemblages. *J Fish Biol* 78(3):945–952.
- Miller DA, Wigley TB, Miller KV. 2009. Managed forests and conservation of terrestrial biodiversity in the southern United States. *Journal of Forestry* 107:197-203.
- Miller JD, Dinkelacker SA. 2008. Reproductive structures and strategies of turtles. In: Wyneken J, Godfrey MH, Bels V, editors. *Biology of turtles*. Boca Raton (FL): CRC Press. p. 225–261.
- Miller JH, Zutter BR, Newbold RA, Edwards MB, Zedaker SM. 2003. Stand dynamics and plant associates of loblolly pine plantations to midrotation after early intensive vegetation management - a southeastern United States regional study. *Southern Journal of Applied Forestry* 27:221-236.
- Miller PS, Parsons A, Faust L, Franklin A. 2023. Population viability analysis of the red wolf (*Canis rufus*): Integrated management of in situ and ex situ populations in support of species recovery in a mixed canid landscape. Final report 22 August 2023. Apple Valley, MN: IUCN SSC Conservation Planning Specialist Group. <https://iris.fws.gov/APPS/ServCat/DownloadFile/237369>.
- Millsap B, Gore J, Runde D, Cerulean S. 1990. Setting priorities for the conservation of fish and wildlife species in Florida. *Wildl Monogr*. 111:1–57.
- Miltner RJ, White D, Yoder C. 2004. The biotic integrity of streams in urban and suburbanizing landscapes. *Landsc Urban Plan* 69:87–100.

- Mitchell MS. 1994. Effects of intensive forest management on the mammal communities of selected North Carolina pocosin habitats. NCASI Tech Bull 665.
- Mitsch WJ, Gosselink JG. 1993. Wetlands, 2nd edition. John Wiley & Sons, New York.
- Mohseni O, Stefan HG, Eaton JG. 2003. Global warming and potential changes in fish habitat in US streams. *Clim Change* 59:389–409.
- Molinos JG, Viana M, Brennan M, Donohue I. 2015. Importance of long-term cycles for predicting water level dynamics in natural lakes. *PLoS ONE* 10(3): e0119253. doi:10.1371/journal.pone.0119253.
- MolluscaBase eds. 2024. *Anodonta implicata* Say, 1829. [accessed 2025 March] <https://www.molluscabase.org/aphia.php?p=taxdetails&id=571957>.
- MolluscaBase eds. 2024. MolluscaBase. *Valvata bicarinata* I. Lea, 1841. [Accessed 2025 Feb.] <https://molluscabase.org/aphia.php?p=taxdetails&id=1248684> on 2025-02-14
- Montgomery GA, Belitz MW, Guralnick RP, Tingley MW. 2021. Standards and best practices for monitoring and benchmarking insects. *Frontiers in ecology and evolution* 8:579193. [accessed 2025 March] <https://doi.org/10.3389/fevo.2020.579193>.
- Moore AA, Palmer MA. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: implications for conservation and management. *Ecol Appl* 15(4):1169–1177.
- Moorman MC, Ladin ZS, Tsai E, Smith A, Bessler A, Richter J, Harrison R, Van Druten B, Stanton W, Hayes C, Harris BW. 2024. Will they stay or will they go—understanding South Atlantic coastal wetland transformation in response to sea-level rise. *Estuaries and Coasts* 47(7):2011-26.
- Morris AD, Miller DA, Kalcounis-Rueppell MC. 2010. Use of forest edges by bats in a managed pine forest landscape. *Journal of Wildlife Management* 74:26-34.
- Morrison ML, Marcot B, Mannan W. 2012. Wildlife–habitat relationships: concepts and applications. 3rd ed. Washington (DC): Island Press 520 p.
- Morse HD. 1971. The insectivorous bird as an adaptive strategy. *Annual Review of Ecology and Systematics* pp. 177–200. <https://doi.org/10.1146/annurev.es.02.110171.001141>.
- Morse, DH, Poston JP, Pyle P, Poole AF. 2024. Black-throated Green Warbler (*Setophaga virens*), version 1.2. In *Birds of the World* (P. G. Rodewald and N. D. Sly, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.btnwar.01.2>
- Moyle PB, Vondracek B. 1985. Persistence and structure of the fish assemblage in a small California stream. *Ecology* 66(1):1-13.
- Najjar RG, Walker HA, Anderson PJ, Barron EJ, Bord RJ, Gibson JR, Kennedy VS, Knight CG, Megonigal JP, O'Connor RE, et al. 2000. The potential impacts of climate change on the mid-Atlantic coastal region. *Clim Res* 14:219–233.

## References

---

- Nastase, E.A. 2024. Status Assessment of Henslow's Sparrows in North Carolina: a Multidisciplinary Framework for Conservation. Final Report, NC Wildlife Resources Commission Cooperative Agreement WM-0342. North Carolina Cooperative Fish and Wildlife Research Unit, Department of Applied Ecology, North Carolina State University, Raleigh, NC, 258 pp.
- Native Land Digital. 2024. Vancouver, Canada. <https://native-land.ca>. [accessed 2025 Jan.]
- NatureServe Explorer: an online encyclopedia of life [web application]. v. 7.1. 2012. Arlington (VA): NatureServe; [accessed ]. [www.natureserve.org/explorer](http://www.natureserve.org/explorer).
- NatureServe. 2007. International ecological classification standard: terrestrial ecological classifications. Arlington (VA): NatureServe; [updated 2007 October 6; accessed 2013]. <http://www.basic.ncsu.edu/segap/>.
- NatureServe. 2012a. NatureServe conservation status assessments: rank calculator version 3.1 [Internet]. Arlington (VA): NatureServe; [accessed 2014 January]. [http://connect.natureserve.org/publications/statusassess\\_download](http://connect.natureserve.org/publications/statusassess_download).
- NatureServe. 2023. Biodiversity in Focus: United States Edition. NatureServe, Arlington, VA. [accessed 2025 Jan] <https://www.natureserve.org/bif>
- NatureServe. 2024. Faber-Langendoen, D., J. Drake, S. Gawler, M. Hall, C. Josse, G. Kittel, S. Menard, C. Nordman, M. Pyne, M. Reid, L. Sneddon, K. Schulz, J. Teague, M. Russo, K. Snow, and P. Comer, editors. 2010-2019a. Divisions, Macrogroups and Groups for the Revised U.S. National Vegetation Classification. NatureServe, Arlington, VA. [Accessed 2024 November] <https://www.natureserve.org/projects/us-national-vegetation-classificationn>.
- NatureServe. 2025. NatureServe Explorer: an online encyclopedia of life [web application]. Version 7.1. Arlington (VA): NatureServe; [accessed 2012 March]. <https://explorer.natureserve.org>.
- NC Sea Grant. 1997. Coastal water quality. NC State University, Raleigh, NC, UNC-SG-97-04 , 72 pp.
- Nealson K. 2012. A brief overview of hydrilla within Eno River State Park [web page] [accessed 2015 August] <http://nc-ipc.weebly.com/eno-river-hydrilla-project.html>. 4 p.
- Negron-Ortiz V. 2014. Pattern of expenditures for plant conservation under the Endangered Species Act. *Biol. Conserv.* 171: 36-43.
- Nekola JC. 2014. Overview of the North American terrestrial gastropod fauna. . *American Malacological Bulletin*. 2014 Sep;32(2):225-35.
- Neuendorf KKE, Mehl Jr. JP, Jackson JA. 2005. Glossary of geology. 5th ed. Alexandria (VA): American Geological Institute 779 p.
- Neves RJ, Bogan AE, Williams JD, Ahlstedt SA, Hartfield PW. 1997. Status of aquatic mollusks in the southeastern United States: a downward spiral of diversity. *In* Aquatic Fauna in Peril: The Southeastern Perspective. Benz GW, Collins DE eds. Special Publication 1, Southeast Aquatic Research Institute, Decatur, GA. 44 pp.



- Nevins HM, Donnelly-Greenan EL, Harvey JT. 2014. Impacts of marine debris measured by beach combers: plastic ingestion and entanglement in marine birds and mammals. Monterey (CA): Monterey Bay National Marine Sanctuary.  
[http://montereybay.noaa.gov/research/techreports/nevins\\_etal\\_2014.pdf](http://montereybay.noaa.gov/research/techreports/nevins_etal_2014.pdf).
- Newton TJ, Johnson NA, Hu DH. 2023. U.S. Geological Survey science vision for native freshwater mussel research in the United States: U.S. Geological Survey Circular 1511, 15 p.,  
<https://doi.org/10.3133/cir1511>.
- Nicholas NS, Eager C, Peine JD. 1999. Threatened ecosystem: high-elevation spruce-fir forest. In: Peine JD, editor. Ecosystem management for sustainability: principles and practices. Boca Raton (FL): Lewis Publishers.p. 431–454
- Nicholson KE (Editor). 2025. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding, 9th Edition. Society for the Study of Amphibians and Reptiles, Lawrence, Kansas. 87 pp. [accessed 2025 April]  
<https://cnaah.org/cnaah/SSARnames>.
- Nordstrom KF, Jackson NL, Freestone AL, Korotky KH, Puleo JA. 2012. Effects of beach raking and sand fences on dune dimensions and morphology. *Geomorphol* 179:106–115. Norris DJ, Elder WH. 1982. Distribution and habitat characteristics of the painted bunting in Missouri. *Trans Mo Acad Sci* 16:77–83.
- Nordstrom KF, Jackson NL, Smith DR, Weber RG. 2006. Transport of horseshoe crab eggs by waves and swash on an estuarine beach: implications for foraging shorebirds. *Estuarine, Coastal and Shelf Science* 70:438-448.
- Nordstrom KF. 2005. Beach nourishment and coastal habitats: research needs to improve compatibility. *Restor Ecol* 13(1):215–222.
- Noss R. 2012. *Forgotten Grasslands of the South: Natural History and Conservation*. Island Press, Washington D.C.
- Noss RF, LaRoe ET, Scott JM. 1995. Endangered ecosystems of the United States: a preliminary assessment of loss and degradation. Biological Report 28. Washington (DC): US Department of the Interior National Biological Service.
- Noss RF, Peters RL. 1995. *Endangered ecosystems: a status report on America's vanishing habitat and wildlife*. Washington (DC): Defenders of Wildlife.
- Nowotny N, Epp B, Von Sonntag C, Fahlenkamp H. 2007. Quantification and modeling of the elimination behavior of ecologically problematic wastewater micropollutants by adsorption on powdered and granulated activated carbon. *Environ Sci Technol* 41(6):2050–2055.
- Ó Cléirigh B. 2000. Assessment of impact of offshore wind energy structures on the marine environment [Report]. University of Southampton School of Ocean and Earth Sciences. 42p.

## References

---

- O'Bryan C. 2014. Persistence of a vulnerable semi-aquatic turtle in an intensively-managed forest landscape. M.S. Thesis, Clemson University, Clemson, South Carolina.
- Olden JD, Naiman RJ. 2010. Incorporating thermal regimes into environmental assessments: modifying dam operations to restore freshwater ecosystem integrity. *Freshwater Biology* 55:86-107.
- Olivero A, Anderson M. 2008. Northeast aquatic habitat classification. Boston (MA): The Nature Conservancy 88 p.
- Olivero-Sheldon A, Anderson M. 2013. Stream classification framework for the SARP region. Boston (MA): The Nature Conservancy 30 p.
- Ollerton J, Winfree R, Tarrant S. 2011. How many flowering plants are pollinated by animals? *Oikos* 120(3):321–326. [accessed 2025 March] <https://doi.org/10.1111/j.1600-0706.2010.18644.x>.
- Omernik J, Griffith G. 2008. Ecoregions of North Carolina and South Carolina. *Encyclopedia of the Earth*; [updated 2008 July 6]. <http://www.eoearth.org/view/article/152148>
- Omernik JM. 1987. Map supplement: ecoregions of the conterminous United States. *Ann Assoc Am Geogr* 77(1):118–125.
- Onken B, Reardon R (editors). 2005. Third symposium on Hemlock Woolly Adelgid in the eastern United States. US Department of Agriculture, Forest Service. Asheville (NC). [accessed 2015 July] <http://na.fs.fed.us/fhp/hwa/>.
- Opdam P, Wascher D. 2004. Climate change meets habitat fragmentation: linking landscape and biogeographical scale levels in research and conservation. *Biol Conserva* 117:285–297.
- Orr MC, Hughes AC, Chesters D, Pickering J, Zhu CD, Ascher JS. 2021. Global patterns and drivers of Bee distribution. *Current Biology* 31(3):451-458. <https://doi.org/10.1016/j.cub.2020.10.053>.
- Owens IPF, Bennett PM. 2000. Ecological basis of extinction risk in birds: Habitat loss versus human persecution and introduced predators. *Proc Nat Acad Sci U S A* 97:12144–12148. <http://www.ncbi.nlm.nih.gov/pubmed/11005835>.
- Palka D, Aichinger Dias L, Broughton E, Chavez-Rosales S, Cholewiak D, Davis G, DeAngelis A, Garrison L, Haas H, Hatch J, Hyde K. Atlantic Marine Assessment Program For Protected Species: Fy15-fy19. [accessed 2025 March] <https://www.fisheries.noaa.gov/new-england-mid-atlantic/population-assessments/atlantic-marine-assessment-program-protected>.
- Palmer SR, Davis MM, Smith RK, Freeman PL. 2005. Aquatic resource conservation in the southeastern United States: a pilot study in local and regional-scale conservation action planning. The Nature Conservancy.
- Pandolfo TJ, Cope WG, Arellano C, Bringolf RB, Barnhart MC, Hammer E. 2010. Upper thermal tolerances of early life stages of freshwater mussels. *Journal of the North American Benthological Society* 29(3):959-969.

- Pandolfo TJ, Cope WG, Arellano C, Bringolf RB, Barnhart MC, Hammer E. 2010. Upper thermal tolerances of early life stages of freshwater mussels. *J N Am Benthol Soc* 29(3):959–969.
- Panzacchi M, Bertolino S, Cocchi R, Genovesi P. 2007. Population control of *coypu* *Myocastor coypus* in Italy compared to eradication in UK: a cost-benefit analysis. *Wildl Biol* 13(2):159–171.
- Paradis A, Elkinton J, Hayhoe K, Buonaccorsi J. 2007. Role of winter temperature and climate change on the survival and future range expansion of the hemlock woolly adelgid (*Adelges tsugae*) in eastern North America. *Mitig Adapt Strateg Glob Chang* 13:541–554.
- Pashley DN, Beardmore CJ, Fitzgerald JA, Ford RP, Hunter WC, Morrison MS, Rosenberg KV. 2000. *Partners in Flight: Conservation of the land birds of the United States. The Plains (VA): American Bird Conservancy.*
- Patronek GJ. 1998. Free-roaming and feral cats—their impact on wildlife and human beings. *Journal of the American Veterinary Medical Association*, 212(2), pp.218-226.
- Patton D, DeHan B. 1998. Water issues: global, national, state, ecosystem. *In* Water Resources Atlas of Florida. Fernald EA, Purdum ED, eds. Florida State University, Tallahassee.
- Pearsall S, Poulter B. 2005. Adapting coastal lowlands to rising seas. *In*: Groom MJ, Meffe GK, Carroll CR, editors. *Principles of conservation biology*. 3rd ed. Sunderland (MA): Sinauer Associates. p. 366-369.
- Perkins MA, Johnson NA, Gangloff MM. 2017. Molecular systematics of the critically-endangered North American spinymussels (Unionidae: *Elliptio* and *Pleurobema*) and description of *Parvaspina* gen. nov. *Conservation Genetics* 18:745–757. <https://doi.org/10.1007/s10592-017-0924-z>.
- Perkins MW, Johnson RJ, Blankenship EE. 2003. Response of riparian avifauna to percentage and pattern of woody cover in an agricultural landscape. *Wildlife Society Bulletin* 31(3):642–660.
- Persinger JW, Orth DJ, Averett AW. 2011. Using habitat guilds to develop habitat suitability criteria for a warmwater stream fish assemblage. *River Res Appl* 27: 956–966. DOI: 10.1002/rra.1400.
- Peterson BJ, Wollheim WM, Mulholland PJ, Webster JR, Meyer JL, Tank JL, Martí E, Bowden WB, Valett HM, Hershey AE, et al. 2001. Control of nitrogen export from watersheds by headwater streams. *Sci* 292(5514):86–90.
- Peterson CD and Walter JF. 2023. Southeast Fisheries Science Center Management Strategy Evaluation Plan Strategic Plan. [accessed 2025 March] <https://doi.org/10.25923/khnf-vh41>. 32 pp.
- Peterson CH, Manning L. 2001. How beach nourishment affects the habitat value of intertidal beach prey for surf fish and shorebirds and why uncertainty still exists. Paper presented at: the Coastal Ecosystems and Federal Activities Technical Training Symposium; Gulf Shores State Park, Gulf Shores, Alabama.
- Peterson JT, Rabeni CF. 1996. Natural thermal refugia for temperate warmwater stream fishes. *N Am J Fish Manag* 16:738–746.

## References

---

- Petranka JW, Hall S, Howard T, LeGrand H. 2025. Amphibians of North Carolina. NC Biodiversity Project and NC State Parks. Raleigh, NC. [accessed 2025 Feb.] <https://auth1.dpr.ncparks.gov/amphibians/index.php>.
- Petranka JW. 1998. Salamanders of the United States and Canada. Washington (DC): Smithsonian Institution Press.
- Petrasova, A., Sanchez, G.M., Lawrimore, M.A., Vogler, J.B., Collins, E.L., Petras, V., Harper, T., Butzler, E., and Meentemeyer, R.K., 2023. FUTURES v2: Status Quo Projections of Future Patterns of Urbanization Across the Conterminous United States from 2020 to 2100: U.S. Geological Survey data release, <https://doi.org/10.5066/P94N3ICH>.
- Pfeifle CA, Giorgino MJ, Rasmussen RB. 2009. Quality of surface-water supplies in the Triangle area of North Carolina, water year 2009. Open-File Report 2014–1192. Washington (DC): US Geological Survey; [accessed ]; 13 p.
- Poff NL, Allan JD, Bain MB, Karr JR, Prestegard KL, Richter BD, Sparks RE, Stromberg JC. 1997. The natural flow regime: a paradigm for river conservation and restoration. *BioScience* 47(11):769-784.
- Porter KM, DePerno CS, Krings A, Krachey M, Braham R. 2014. Vegetative impact of feral horses, feral pigs, and white-tailed deer on the Currituck National Wildlife Refuge, North Carolina. *Castanea* 79(1):8-17.
- Powell C. November 1999. The fight for the River of Peace. Pages 72–81 in *Wildlife in North Carolina*. NC Wildlife Resources Commission, Raleigh, NC.
- Preece RM, Jones HA. 2002. The effect of Keepit Dam on the temperature regime of the Namoi River, Australia. *River Research and Applications* 18:397–414.
- Preston DL, Crone ER, Miller-ter Kuile A, Lewis CD, Sauer EL, Trovillion DC. 2022. Non-native freshwater snails: a global synthesis of invasion status, mechanisms of introduction, and interactions with natural enemies. *Freshwater Biology* 67(2):227-239.
- Pritchard DW. 1967. What is an estuary: a physical viewpoint. In: Lauff GH, editor. *Estuaries*. Washington (DC): American Association for the Advancement of Science. p. 3–5
- Pyle C. 1984. Pre-park disturbance in the spruce-fir forests of Great Smoky Mountains National Park. In: White PS, editor. *The southern Appalachian spruce-fir ecosystem: its biology and threats*. Research/Resource Management Report SER-71. Atlanta (GA): US Department of the Interior National Park Service.
- Pyron RA, Beamer DA. 2022. Allocation of *Salamandra auriculata* Holbrook, 1838, with a new species of Swamp-dwelling Dusky Salamander (Plethodontidae: *Desmognathus*) from the Atlantic Coastal Plain. *Zootaxa* 5188(6):587-595. DOI: 10.11646/zootaxa.5188.6.6.
- Pyron RA, Beamer DA. 2022. Systematics of the Ocoee Salamander (Plethodontidae: *Desmognathus ocoee*), with description of two new species from the southern Blue Ridge Mountains. *Zootaxa* 5190: 207–240 (<https://doi.org/10.11646/zootaxa.5190.2.3>).

- Pyron RA, Beamer DA. 2023. Systematic revision of the Spotted and Northern Dusky Salamanders (Plethodontidae: *Desmognathus conanti* and *D. fuscus*), with six new species from the eastern United States. *Zootaxa* 5311: 451–504 (<https://doi.org/10.11646/zootaxa.5311.4.1>).
- Quinlan JA, Muñoz RC, Burton M, Cavanaugh J, Cudney J, Doerr J, Gore KR, Leo J, Livergood A, O'Donnell K, Opay P, Sasso C, Waters L. 2023. Southeast Regional Action Plan to Implement the NOAA Fisheries Climate Science Strategy Through 2024. 59 pp [accessed 2025 March] <https://www.fisheries.noaa.gov/s3/2023-06/508-SERAP-Final-May23.pdf>.
- Quinter EL, Sullivan JB. 2014. A new apameine genus and species from the southern Appalachian Mountains, USA (Lepidoptera, Noctuidae, Noctuinae). *ZooKeys* (421):181. <http://dx.doi.org/10.3897/zookeys.421.7727>.
- Rabalais NN. 2009. Hypoxia. Chauvin (LA): Louisiana Universities Marine Consortium 9 p.
- Rabelo MM, Dimase M, Paula-Moraes SV. 2022. Ecology and management of the invasive land snail *Bulimulus bonariensis* (Rafinesque, 1833)(Stylommatophora: Bulimulidae) in row crops. *Frontiers in Insect Science* 2:1056545.
- Radcliffe C, Norris S, Ambrose J, Knapp W, Rice T, Treher Eberly A, Weakley A, Terwilliger K, Coffey EED, 2023. Southeastern Plants Regional Species of Greatest Conservation Need. Atlanta, Georgia: Southeastern Plant Conservation Alliance. 33 pp. [accessed 2025 Feb.] [https://www.se-pca.org/wp-content/uploads/2023/10/SE-PCA\\_publication\\_final\\_Booklet\\_23.pdf](https://www.se-pca.org/wp-content/uploads/2023/10/SE-PCA_publication_final_Booklet_23.pdf)
- Radeloff VC, Helmers DP, Kramer HA, Mockrin MH, Alexander PM, Bar-Massada A, Butsic V, Hawbaker TJ, Martinuzzi S, Syphard AD, Stewart SI. 2018. Rapid growth of the US wildland-urban interface raises wildfire risk. *Proceedings of the National Academy of Sciences of the United States of America* 115(13):3314–3319. <https://doi.org/10.1073/pnas.1718850115>.
- Raesly RL, Gates JE. 1987. Winter habitat selection by north temperate cave bats. *American Midland Naturalist* 118:15–31.
- Ratcliffe J, Hamon L, East M. 2024. Natural Heritage Program List of Rare Animal Species of North Carolina. North Carolina Natural Heritage Program, NC Department of Natural and Cultural Resources, Raleigh, NC. 65 pp. <https://www.ncnhp.org/publications/natural-heritage-program-publications>.
- Rawlings TA, Hayes KA, Cowie RH, Collins TM. 2007. The identity, distribution, and impacts of non-native apple snails in the continental United States. *BMC Evolutionary Biology* 7:1–14.
- Reeder DM, Frank CL, Turner GG, Meteyer CU, Kurta A, Britzke ER, Vodzak ME, Darling SR, Stihler CW, Hicks AC, Jacob R, Frieneisen LE, Brownlee SA, Muller LK, Blehert DS. 2012. Frequent Arousal from Hibernation Linked to Severity of Infection and Mortality in Bats with White-Nose Syndrome. *PLoS ONE* 7(6): e38920. doi:10.1371/journal.pone.0038920.
- Reggiani G, Boitani L, D'Antoni S, De Stefano R. 1993. Biology and control of the coypu in the Mediterranean area. *Suppl Ric Biol Selvag* 21:67–100.

## References

---

- Rentch JS, Schuler TM, Ford WM, Nowacki GJ. 2007. Red spruce stand dynamics, simulations, and restoration opportunities in the Central Appalachians. *Restor Ecol* 15:440–452.
- Reshetiloff K, editor. 2004. Chesapeake Bay: introduction to an ecosystem. Washington (DC): US Environmental Protection Agency for the Chesapeake Bay Program; [cited 2012 May 2]. [http://www.chesapeakebay.net/content/publications/cbp\\_13039.pdf](http://www.chesapeakebay.net/content/publications/cbp_13039.pdf).
- Revenge C, Campbell I, Abell R, de Villiers P, Bryer M. 2005. Prospects for monitoring freshwater ecosystems towards the 2010 targets. *Philos Trans Royal Soc B* 360:397–413.
- Reynolds WW, Casterline ME. 1979. Behavioral thermoregulation and the final preferendum paradigm. *Am Zool* 19:211–224.
- Rhyan J, Spraker T. 2010. Emergence of diseases from wildlife reservoirs. *Vet Pathol.* 47(1):34–39.
- Rice TM, Crisfield E, Terwilligen K. 2019. Regional Species of Greatest Conservation Need in the Southeastern United States. Southeast Association of Fish and Wildlife Agencies, Wildlife Diversity Committee. Prepared by Terwilligen Consulting, Inc. 138 pp.
- Rich TD, Beardmore CJ, Berlanga H, Blancher PJ, Bradstreet MSW, Butcher GS, Demarest DW, Dunn EH, Hunter WC, Inigo-Elias EE, et al. 2004. Partners in Flight North American landbird conservation plan. Ithaca (NY): Cornell Lab of Ornithology.
- Richter BD, Braun DP, Mendelson MA, Master LL. 1997. Threats to imperiled freshwater fauna. *Conservation Biology* 11(5):1081–1093.
- Riggs SR. 2010. North Carolina, pages 99–106 in *Encyclopedia of the World's Coastal Landforms*, Volume 1, Bird ECF (editor). Springer Dordrecht Heidelberg London New York.
- Robbins CS, Dawson DK, Dowell BA. 1989. Habitat area requirements of breeding forest birds of the middle Atlantic states. *Wildlife Monographs* 103:3–34.
- Rocke TE, Thomas NJ, Augspurger T, Miller K. 2002. Epizootiologic studies of avian vacuolar myelinopathy in waterbirds. *J Wildl Dis* 38:678–684.
- Rodewald AM, Yahner RH. 2001. Avian nesting success in forested landscapes: influence of landscape composition, stand and nest-patch microhabitat, and biotic interactions. *The Auk* 118(4):1018–1028.
- Roe KJ, Hartfield PD. 2005. *Hamiota*, a new genus of freshwater mussel (Bivalvia: Unionidae) from the Gulf of Mexico drainages of the southeastern United States. *The Nautilus* 119:1–10.
- Roe, C. 2021. Million-acre land protection goal finally met. Coastal Review, NC Coastal Federation. [accessed 2025Jan]. <https://coastalreview.org/2021/03/million-acre-land-protection-goal-finally-met>.
- Rogers CE, McCarty JP. 2000. Climate change and ecosystems of the Mid-Atlantic region. *Clim Res* 14:235–244.

- Romey WL, Ascher JS, Powell DA, Yanek M. 2007. Impacts of logging on midsummer diversity of native bees (Apoidea) in northern hardwood forest. *Journal of the Kansas Entomological Society* 80(4):327-338.
- Roosenburg WM. 1990. The diamondback terrapin: population dynamics, habitat requirements, and opportunities for conservation. *In* New perspectives in the Chesapeake system: a research and management partnership. Proceedings of a conference. Section 3: habitat requirements. Publication no. 137. Baltimore (MD): Chesapeake Research Consortium 14 p.
- Rosa, L, Nunes, L, Niederman, T. 2022. Biodiversity In Crisis: Exploring Threats to America's Most Imperiled Species. Defenders of Wildlife, Washington, DC. 19 pp. [accessed 2025 Jan] [https://defenders-cci.org/files/5\\_Drivers\\_Report.pdf](https://defenders-cci.org/files/5_Drivers_Report.pdf).
- Rosati JD, Kraus NC. 2009. Rapid methods for estimating navigation channel shoaling. In WEDA XXIX Technical Conference and 40th Texas A&M Dredging Seminar, Tempe, AZ. 16 p. [accessed 2025 April] [https://www.researchgate.net/profile/Julie-Rosati/publication/228744650\\_Rapid\\_Methods\\_for\\_Estimating\\_Navigation\\_Channel\\_Shoaling/links/0deec5204dc5bc4836000000/Rapid-Methods-for-Estimating-Navigation-Channel-Shoaling.pdf](https://www.researchgate.net/profile/Julie-Rosati/publication/228744650_Rapid_Methods_for_Estimating_Navigation_Channel_Shoaling/links/0deec5204dc5bc4836000000/Rapid-Methods-for-Estimating-Navigation-Channel-Shoaling.pdf).
- Rosenberg KV, Hames RS, Rohrbaugh Jr. RW, Barker Swarthout S, Lowe JD, Dhondt AA. 2003. A land manager's guide to improving habitat for forest thrushes. Ithaca (NY): Cornell Lab of Ornithology.
- Rosenberg KV, Kennedy JA, Dettmers R, Ford RP, Reynolds D, Alexander JD, Beardmore CJ, Blancher PJ, Bogart RE, Butcher GS, Camfield AF, Couturier A, Demarest DW, Easton WE, Giocomo JJ, Keller RH, Mini AE, Panjabi AO, Pashley DN, Rich TD, Ruth JM, Stabins H, Stanton J, Will T. 2016. Partners in Flight Landbird Conservation Plan: 2016 Revision for Canada and Continental United States. Partners in Flight Science Committee. 119 pp. [accessed 2025 Feb.] <https://www.partnersinflight.org/wp-content/uploads/2016/08/pif-continental-plan-final-spread-single.pdf>.
- Rosgen DL. 1994. A classification of natural rivers. *Catena* 22:169–199.
- Ross ST, Matthews WJ, Echelle AA. 1985. Persistence of stream fish assemblages: effects of environmental change. *The American Naturalist* 126(1):24-40.
- Sabine JB, Schweitzer SH, Meyers JM. 2006. Nest fate and productivity of American Oystercatchers, Cumberland Island National Seashore, Georgia. *Waterbirds* 29(3):308-314.
- Saiz-Jimenez C. 2012. Microbiological and environmental issues in show caves. *World J Microbiol Biotechnol* 28:2453-2464.
- Salafsky N, Salzer D, Stattersfield AJ, Hilton-Taylor C, Neugarten R, Butchart SHM, Collen B, Cox N, Master LL, O'Connor S, et al. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. *Conserv Biol.* 22:897–911.
- Salafsky N, Salzer D, Stattersfield AJ, Hilton-Taylor C, Neugarten R, Butchart SHM, Collen B, Cox N, Master LL, O'Connor S, et al. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. *Conserv. Biol.* [accessed December 2014];22(4): 897–911.

## References

---

- [www.teaming.com/sites/default/files/A%20Standard%20Lexicon%20for%20Biodiversity%20Conservation.pdf](http://www.teaming.com/sites/default/files/A%20Standard%20Lexicon%20for%20Biodiversity%20Conservation.pdf).
- Salafsky N, Salzer D, Stattersfield A, Hilton-Taylor C, Neugarten R, Butchart S, Collen B, Cox N, Master L, O'Connor S, Wilkie D. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. *Conserv. Biol.* 22(4): 897-911.
- Sappony. 2023. Sappony Indian Tribe website <https://www.sappony.org>. [accessed 2025 Feb.]
- Sawicz K, Wagener T, Sivapalan M, Troch PA, Carrillo G. 2011. Catchment classification: empirical analysis of hydrologic similarity based on catchment function in the eastern USA. *Hydrol Earth Syst Sci* 15: 2895–2911.
- Schafale MP, Weakley AS. 1990. Classification of the natural communities of North Carolina, third approximation. Raleigh (NC): NC Department of Environment and Natural Resources, Natural Heritage Program; [accessed ].  
[http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=e4d28c3d-64ef-4b83-8b8b-8c0c1afdea8d&groupId=61587](http://portal.ncdenr.org/c/document_library/get_file?uuid=e4d28c3d-64ef-4b83-8b8b-8c0c1afdea8d&groupId=61587).
- Schafale MP. 2012. Guide to the natural communities of North Carolina, fourth approximation. Raleigh (NC): NC Department of Environment and Natural Resources, Natural Heritage Program; [accessed 2015 July]. [http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=cbaac345-aca2-4312-acca-1004f2ba59a9&groupId=61587](http://portal.ncdenr.org/c/document_library/get_file?uuid=cbaac345-aca2-4312-acca-1004f2ba59a9&groupId=61587).
- Schiesari L. 2006. Pond canopy cover: a resource gradient for anuran larvae. *Freshwater Biology* 51:412-423.
- Schindler EE, Scheuerell MD. 2002. Habitat coupling in lake ecosystems. *Oikos* 98:177–189.
- Schlacher TA, Lucrezi S. 2010. Compression of home ranges in ghost crabs on sandy beaches impacted by vehicle traffic. *Mar. Biol.* 157:2467-2474.
- Schug, F., Bar-Massada, A., Carlson, A.R. *et al.* 2023. The global wildland–urban interface. *Nature* 621, 94–99.[accessed 2025 Jan] <https://doi.org/10.1038/s41586-023-06320-0>
- Schuster GA. 1997. Resource management of freshwater crustaceans in the southeastern United States. Pages 269–282. *in* Benz GW, Collins DE, editors. Aquatic fauna in peril: the southeastern perspective. Southeast Aquatic Research Institute, Decatur, GA.
- Schwartz FW, Zhang H. 2003. Fundamentals of ground water. New York (NY): John Wiley and Sons 583 p.
- Scott J, Goble D, Haines A, Wiens J, Neel M. 2010. Conservation-reliant species and the future of conservation. *Conserv Lett.* 3:91–97.
- Scott JW, Gunderson KG, Green LA, Rediske RR, Steinman AD. 2021. Perfluoroalkylated substances (PFAS) associated with microplastics in a lake environment. *Toxics* 11;9(5):106.



- Scott JW, Gunderson KG, Green LA, Rediske RR, Steinman AD. Perfluoroalkylated substances (PFAS) associated with microplastics in a lake environment. *Toxics*, 9(5):106.
- Scott S, Pray C, Nowlin W, Zhang Y. 2012. Effects of native and invasive species on stream ecosystem functioning. *Aquat Sci.* 74:793–808.
- Seaber PR, Kapinos FP, Knapp GL. 1987. Hydrologic unit maps. Water Supply Paper 2294. Washington (DC): US Geological Survey; [accessed ] 63 p. <http://pubs.usgs.gov/wsp/wsp2294/>.
- Seavy NE, Gardali T, Golet G, Thomas Griggs F, Howell CA, Kelsey R, Small S, Viers J, Weigand J. 2009. Why climate change makes riparian restoration more important than ever: recommendations for practice and research. *Ecol Rest* 27:3.
- Sellner KG, Doucette GJ, Kirkpatrick GJ. 2003. Harmful algal blooms: causes, impacts and detection. *J Ind Microbiol Biotechnol* 30:383–406.
- Semlitsch RD, Rittenhouse TAG. 2007. Distribution of amphibians in terrestrial habitat surrounding wetlands. *Wetlands* 27:153-161.
- Sheldon AO, Anderson M. 2013. Stream classification framework for the Southeast Aquatic Resources Partnership (SARP) region, a summary report to complete Grant Agreement 070111-01 between the SARP and The Nature Conservancy. 30 pp.
- Sheridan JA, Bickford D. 2011. Shrinking body size as an ecological response to climate change. *Nature Clim. Change* 1(8):401-406.
- Sherman B, Todd CR, Koehn JD, Ryan T. 2007. Modelling the impact and potential mitigation of cold water pollution on Murray cod populations downstream of Hume Dam, Australia. *River Res Appl* 23:377–389.
- Sherman B. 2000. Scoping Options for Mitigating Cold Water Discharges from Dams. CSIRO Land and Water, Consultancy Report 00/21, Canberra, Australia. 46 pp. [accessed 2015 July]  
[http://www.researchgate.net/profile/Bradford\\_Sherman/publication/253447153\\_Scoping\\_Options\\_for\\_Mitigating\\_Cold\\_Water\\_Discharges\\_from\\_Dams/links/0deec5347621be003a000000.pdf](http://www.researchgate.net/profile/Bradford_Sherman/publication/253447153_Scoping_Options_for_Mitigating_Cold_Water_Discharges_from_Dams/links/0deec5347621be003a000000.pdf).
- Shoo LP, Olson DH, McMenamin SK, Murray KA, Van Sluys M, Donnelly MA, Stratford D, Terhivuo J, Merino-Viteri A, Herbert SM, et al. 2011. Engineering a future for amphibians under climate change. *J Appl Ecol* 48:487–492.
- Shuford S, Rynne S, Mueller J. 2010. Planning for a new energy and climate future. American Planning Association, Planning Advisory Service, report no. 558.
- Simmons JW, Fraley SJ. 2010. Distribution, status, and life-history observations of crayfishes in western North Carolina. *Southeast Nat* 9(sp3):79–126.
- Simmons JW, Fraley SJ. Distribution, status, and life-history observations of crayfishes in western North Carolina. *Southeastern Naturalist*. 2010 Jan;9(sp3):79-126. <https://doi.org/10.1656/058.009.s316>.

## References

---

- Singer E, Gangloff M. 2011. Effects of a small dam on freshwater mussel growth in an Alabama USA stream. *Freshw Biol* 56(9):1904–1915.
- Skelly DK, Freidenburg LK, Kiesecker JM. 2002. Forest canopy and the performance of larval amphibians. *Ecology* 83:983-992.
- Skelly DK, Golon J. 2003. Assimilation of natural benthic substrate by two species of tadpoles. *Herpetologica* 59:37-42.
- Skelly DK. 2004. Microgeographic countergradient variation in the wood frog, *Rana sylvatica*. *Evolution* 58:160-165.
- Smayda TJ. 1989. Primary production and the global epidemic of phytoplankton blooms in the sea: A linkage? In: *Novel Phytoplankton Blooms*, by E.M. Coper, V.M. Bricelj and E.J. Carpenter (eds.). Springer-Verlag, New York. Coastal and Estuarine Studies 35:449-484.
- Smith C. 2012. Invasive exotic plants of North Carolina. Raleigh (NC): NC Department of Transportation 185 p.
- Smith CH, Pfeiffer JM, Johnson NA. 2020. Comparative phylogenomics reveal complex evolution of life history strategies in a clade of bivalves with parasitic larvae (Bivalvia: Unionoida: Ambleminae). *Cladistics* 36(5):505-520. <https://doi.org/10.1111/cla.12423>.
- Smith DG, Chapman MJ. 2005. Hydraulic properties of the surficial aquifer at five selected sites in the Little Contentnea Creek basin, North Carolina, 2002–03: U.S. Geological Survey Scientific Investigations Report 2005–5238, 104 p.
- Smith PA, Smith AC, Andres B, Francis CM, Harrington B, Friis C, Guy Morrison RI, Paquet J, Winn B, Brown S. 2023. Accelerating declines of North America’s shorebirds signal the need for urgent conservation action. *Ornithological Applications* 125:1-14. <https://doi.org/10.1093/ornithapp/duad003>.
- Smith RK, Freeman PL, Higgins JV, Wheaton KS, FitzHugh TW, Ernststrom KJ, Das AA. 2002. Priority areas for freshwater conservation action: a biodiversity assessment of the Southeastern United States. The Nature Conservancy.
- Smith RK, Freeman PL, Higgins JV, Wheaton KS, FitzHugh TW, Ernststrom KJ, Das AA. 2002. Priority areas for freshwater conservation action: a biodiversity assessment of the southeastern United States. The Nature Conservancy.
- Smith RL, Smith TM. 1998. Elements of ecology. Sydney (AU): Benjamin Cummins.
- Smith RM. 2004. Investigating triploid Chinese grass carp (*Ctenopharyngodon idella*) as a potential vector of avian vacuolar myelinopathy. Clemson (SC): Institute of Environmental Toxicology, Department of Forestry & Natural Resources.
- Smith VH, Joye SB, Howarth RW. 2006. Eutrophication of freshwater and marine ecosystems. *Limnol Oceanogr* 51(1):351–355.

- Smith VH, Tilman GD, Nekola JC. 1999. Eutrophication: impacts of excess nutrient inputs on freshwater, marine, and terrestrial ecosystems. *Environ Pollut* 100(1):179–196.
- Smock LA, Wright AB, Benke AC. 2005. Atlantic Coast rivers of the Southeastern United States. In: Benke AC, Cushing CE, editors. *Rivers of North America*. Elsevier. p. 72–122
- Speybroeck J, Bonte D, Courtens W, Gheskiere T, Grootaert P, Maelfait J, Mathys M, Provoost S, Sabbe K, Stienen EW, et al. 2006. Beach nourishment: an ecologically sound defence alternative? A review. *Aquat Conserv: Mar Freshw Ecosyst* 16:419–435.
- Sprandel GL, Gore JA, Cobb DT. 2000. Distribution of wintering shorebirds coastal Florida. *J. Field Ornithol.* 71(4):708–720.
- Stefan HG, Fang X, Eaton JG. 2001. Simulated fish habitat changes in North American lakes in response to projected climate warming. *Trans Am Fish Soc* 130:459–477.
- Steponaitis VP, Irwin JD, McReynolds TE, Moore CR, editors. 2006. Stone quarries and sourcing in the Carolina Slate Belt. Research Report No. 25. Chapel Hill (NC): University of North Carolina at Chapel Hill, Research Laboratories of Archaeology; [accessed 2015 March].  
<http://www.rla.unc.edu/Publications/pdf/ResRep25>.
- Stets, E.G., Archer, A.A., Degnan, J.R., Erickson, M.L., Gorski, G.A., Medalie, L., and Scholl, M.A. 2025. The National integrated water availability assessment, water years 2010–20, chap. A of U.S. Geological Survey Integrated Water Availability Assessment—2010–20: U.S. Geological Survey Professional Paper 1894–A, 24 p., [https://doi.org/ 10.3133/pp1894A](https://doi.org/10.3133/pp1894A).
- Stevenson JC, Confer NM. 1978. Summary of available information on Chesapeake Bay submerged vegetation. FWS/OBS-78/66. Washington (DC): US Fish and Wildlife Service, Office of Biological Services 335p.
- Stevenson R. 2015. North Carolina waterfalls. <http://www.ncwaterfalls.com>.
- Stewart A, Komers PE, Bender DJ. 2010. Assessing landscape relationships for habitat generalists. *Ecosci* 17(1):28–36.
- Stone WB, McGowan EM, Hicks AP. 1993. The parasites and disease of the woodrat in New York State with special emphasis on the nematode *Baylisascaris procyonis*. Unpublished abstract from the report presented at the Allegheny Woodrat Conference; Dickenson College, PA.
- Strahler AN. 1952. Hypsometric (area-altitude) analysis of erosional topology. *Geol Soc Am Bull* 63(11):1117–1142.
- Strahler AN. 1957. Quantitative analysis of watershed geomorphology. *Trans Am Geophys Union* 38(6):913–920.
- Strayer D, Dudgeon D. 2010. Freshwater biodiversity conservation: recent progress and future challenges. *J N Am Benthol Soc.* 29:344–358.

## References

---

- Streams, North American Journal of Fisheries Management, 17:1, 20-31, DOI:
- Street MW, Deaton AS, Chappell WS, Mooreside PD. 2005. North Carolina coastal habitat protection plan. Morehead City (NC): NC Department of Environment and Natural Resources, Division of Marine Fisheries.
- Stuart BL, Beamer DA, Farrington HL, Beane JC, Check DL, Pusser LT, Sam HE, Stephan DL, Sever DM, Brasswell AL. 2020. A new Two-lined Salamander (*Eurycea bislineata* Complex) from the Sandhills of North Carolina. *Herpetologica* 76(4):423-444 (9 December 2020). <https://doi.org/10.1655/0018-0831-76.4.423>.
- Sun G, McNulty SG, Shepard JP, Amatya DM, Riekerk H, N.B. Comerford, W. Skaggs, and L. Swift, Jr. 2001. Effects of timber management on the hydrology of wetland forests in the southern United States. *Forest Ecology and Management* 143: 227-236.
- Suring L, Gaines W, Wales B, Mellen-McLean K, Begley J, Mohoric S. 2011. Maintaining populations of terrestrial wildlife through land management planning: a case study. *J Wildl Manag.* 75(4):945–958.
- Suryan RM, Arimitsu ML, Coletti HA, Hopcroft RR, Lindeberg MR, Barbeaux SJ, Batten SD, Burt WJ, Bishop MA, Bodkin JL, Brenner R. 2021. Ecosystem response persists after a prolonged marine heatwave. *Scientific reports* 11(1):6235. [accessed 2025 March] <https://doi.org/10.1126/sciadv.abh0895>.
- Sutherland R, deMaynadier P. 2012. Model criteria and implementation guidance for a Priority Amphibian and Reptile Conservation Area (PARCA) system in the USA. Partners in Reptile Conservation, Technical Publication PARCA-1. 28 pp. [accessed 2025 Feb.] [https://parcplace.org/wp-content/uploads/2017/08/PARCA\\_System\\_Criteria\\_and\\_Implementation\\_Guidance\\_FINAL.pdf](https://parcplace.org/wp-content/uploads/2017/08/PARCA_System_Criteria_and_Implementation_Guidance_FINAL.pdf).
- Swift BL, Larson JS, DeGraaf RM. 1984. Relationship of breeding bird density and diversity to habitat variables in forested wetlands. *Wilson Bulletin* 96(1):48–59.
- Swift BL, Larson JS, DeGraaf RM. 1984. Relationship of breeding bird density and diversity to habitat variables in forested wetlands. *Wilson Bulletin* 96(1):48–59.
- Tagliapietra D, Sigovini M, Ghirardini AV. 2009. A review of terms and definitions to categorize estuaries, lagoons and associated environments. *Mar Freshw Res* 60:497–509.
- Taylor CA, Schuster GA, Cooper JE, DiStefano RJ, Eversole AG, Hamr P, Hobbs III HH, Robison HW, Skelton CE, Thoma RF. 2007. A reassessment of the conservation status of crayfishes of the United States and Canada after 10+ years of increased awareness. *Fish* 32(8):372–389.
- Taylor CA, Warren ML, Fitzpatrick JF, Hobbs HH, Jezerinac RF, Pflieger WL, Robison HW. 1996. Conservation status of crayfishes of the United States and Canada. *Fisheries* 21:25–38.
- Taylor II JD, Jones JC. 2002. Quantifying amphibian richness in Southeastern forests. *Proc Ann Conf Southeast Assoc Fish Wildl Agencies* 56:301–311.

- Taylor JC, Miller JM, Pietrafesa LJ, Dickey DA, Ross SW. 2010. Winter winds and river discharge determine juvenile southern flounder (*Paralichthys lethostigma*) recruitment and distribution in North Carolina estuaries. *J Sea Res* 64:15–25.
- Taylor JL, Kurtz R. 2008. Blue Ridge Mountains [Internet]. USGS Land Cover Trends Project [accessed 2010 January 26]. <http://landcover Trends.usgs.gov/east/eco66Report.html>.
- Tear T, Kareiva P, Angermeier P, Commer P, Czech B, Kautz R, Landon L, Mehlman D, Murphy K, Ruckelshaus M, et al. 2005. How much is enough? The recurrent problem of setting measurable objectives in conservation. *BioSci.* 55(10):835–849.
- Terando AJ, Costanza J, Belyea C, Dunn RR, McKerrow A, Collazo JA (2014) The Southern Megalopolis: Using the Past to Predict the Future of Urban Sprawl in the Southeast U.S. *PLoS ONE* 9(7): e102261. <https://doi.org/10.1371/journal.pone.0102261>.
- Thompson AL, Luthin CS. 2004. Wetland restoration handbook for Wisconsin landowners. 2nd ed. Madison (WI): Wisconsin Department of Natural Resources.
- Thompson FR, DeGraaf RM. 2001. Conservation approaches for woody, early successional communities in the eastern United States. *Wildl Soc Bull* 29(2):483–494.
- Thorp JH, Covich AP. 2001. Ecology and classification of North American freshwater invertebrates. 2nd ed. San Diego (CA): Academic Press. Chapter 2, An overview of freshwater habitats; p. 19–43.
- Thorp JH, editor. 2002. Aquatic ecology series. London (UK): Academic Press 551 p.
- Thurgate NY, Pechmann JHK. 2007. Canopy closure, competition, and the endangered dusky gopher frog. *Journal of Wildlife Management* 71(6):1845–1852.
- Tippett R. 2013. Population growth & population aging in North Carolina counties [Internet]. Chapel Hill (NC): UNC Carolina Population Center, Carolina Demography; [accessed 2015 May]. <http://demography.cpc.unc.edu/2013/10/14/population-growth-population-aging-in-north-carolina-counties/>
- Tisseuil C, Vrac M, Grenouillet G, Wade AJ, Gevrey J, Oberdorff T, Grodwohl JB, Lek S. 2012. Strengthening the link between climate, hydrological and species distribution modeling to assess the impacts of climate change on freshwater biodiversity. *Sci Total Environ* 424:193–201
- Tittensor DP, Novaglio C, Harrison CS, Heneghan RF, Barrier N, Bianchi D, Bopp L, Bryndum-Buchholz A, Britten GL, Büchner M, Cheung WW. 2021. Next-generation ensemble projections reveal higher climate risks for marine ecosystems. *Nature Climate Change* 11(11):973–81.
- Tockner K, Stanford JA. 2002. Review of: riverine flood plains: present state and future trends. Biological Sciences Faculty Publications. Paper 166. Cambridge University Press; [accessed 2015 February]. [http://scholarworks.umd.edu/biosci\\_pubs/166](http://scholarworks.umd.edu/biosci_pubs/166).

## References

---

- Todd CR, Ryan T, Nicol SJ, Bearlin AR. 2005. The impact of cold water releases on the critical period of post-spawning survival and its implications for Murray cod (*Maccullochella peelii peelii*): a case study of the Mitta Mitta River, southeastern Australia. *River Research and Applications* 21:1035–1052.
- Tracy BH, Rohde FC, Hogue GM. 2020. An Annotated Atlas of the Freshwater Fishes of North Carolina. Southeastern Fishes Council Proceedings: No. 60. Online <https://trace.tennessee.edu/sfcproceedings/vol1/iss60/1>.
- Tracy BH, Rohde FC, Perkins MA, Lee LM, Carlson KB, McCutcheon M, Jones BK, Evans HK. 2024. A Long-Recognized but Undescribed New Species of Cyprinella (Cypriniformes: Leuciscidae) from North Carolina and South Carolina, United States. October 2024. Southeastern Fishes Council Proceedings: No. 64. Online <https://trace.tennessee.edu/sfcproceedings/vol1/iss64/4>
- Tracy BH, Smith SA, Bissette JL, Rohde FC. 2021. Ahead by a whisker: freshwater catfish (Family Ictaluridae) diversity in North Carolina. [accessed 2025 March] Online <https://www.nanfa.org/ac/north-carolina-freshwater-catfish-diversity.pdf>.
- Transportation Research Board, Committee on Climate Change and US Transportation. 2008. Potential impacts of climate change on US transportation. Special Report 290. Washington (DC): Transportation Research Board.
- Trindade-Santos I, Moyes F, Magurran AE. 2022. Global patterns in functional rarity of marine fish. *Nature Communications* 13(1):877. <https://doi.org/10.1038/s41467-022-28488-1>.
- Trotter III RT, Shields KS. 2009. Variation in winter survival of the invasive hemlock woolly adelgid (Hemiptera: Adelgidae) across the eastern United States. *Environmental Entomology* 38(3):577–587.
- Turner MG. 1987. Effects of grazing by feral horses, clipping, trampling, and burning on a Georgia salt marsh. *Estuaries* 10(1):54–60.
- Turner MG. 1989. Landscape ecology: the effect of pattern on process. *Ann Rev Ecol Syst* 20:171–197.
- Tuttle MD, Stevenson DE. 1978. Variation in the cave environment and its biological implications. Pages 108–120 In Zuber R, Chester J, Gilbert S, Rhodes D, editors. National Cave Management Symposium Proceedings. Speleobooks, Albuquerque, New Mexico.
- Twente JW Jr. 1955. Some aspects of habitat selection and other behavior of cavern-dwelling bats. *Ecology* 36:706–732.
- Tyler M. 1989. Potential for long-term persistence of the red tide dinoflagellate *Ptychodiscus brevis* in North Carolina coastal waters. Final Report prepared to N.C. Department of Natural Resources and Community Development, Albemarle-Pamlico Estuarine Study 88-09:14.
- Ungemah D, Goodin G, Dusza C. 2007. Examining Incentives and Preferential Treatment of Carpools on Managed Lane Facilities. *Journal of Public Transportation* 10(4): 151–69.
- Ury, E. A., Yang, X., Wright, J. P., & Bernhardt, E. S. (2021). Rapid deforestation of a coastal landscape driven by sea-level rise and extreme events. *Ecological applications*, 31(5), e02339.

- van Asch M, Visser ME. 2007. Phenology of forest caterpillars and their host trees: the importance of synchrony. *Annu. Rev. Entomol.* 52(1):37-55.
- Van Beynen P, Townsend K. 2005. A disturbance index for karst environments. *Environ Manag* 36(1):101–116.
- van der Kamp G. 1995. The hydrogeology of springs in relation to the biodiversity of spring fauna: a review. *J Kans Entomol Soc, Suppl: Spec Publ No. 1: Biodivers Aquat Insects Other Invertebr Springs* 68(2):4–17.
- Vannote RL, Minshall GW, Cummins KW, Sedell JR, Gushing E. 1980. The river continuum concept. *Can J Fish Aquat Sci* 37: 130–137.
- Verant ML, Boyles JG, Waldrep W Jr, Wibbelt G, Blehert DS. 2012. Temperature-Dependent Growth of *Geomyces destructans*, the Fungus That Causes Bat White-Nose Syndrome. *PLoS ONE* 7(9): e46280. doi:10.1371/journal.pone.0046280.
- Vick RA 2011. Cherokee adaptation to the landscape of the west and overcoming the loss of culturally significant plants. *American Indian quarterly* 35:394–417.
- Viola S, Hubbard D, Dugan J, Schooler N. 2013. Burrowing inhibition by fine textured beach fill: implications for recovery of beach ecosystems. *Estuar Coast Shelf Sci* 150:142–148.
- Vos CC, Chardon JP. 1998. Effects of habitat fragmentation and road densities on the distribution pattern of the moor frog (*Rana arvalis*). *J Appl Ecol* 35:44–56.
- Waccamaw Siouan Tribe. 2022. Waccamaw Siouan Indians, People of the Falling Star. <https://waccamaw-siouan.org> [accessed 2025 Feb.]
- Wagener T, Sivapalan M, Troch P, Woods R. 2007. Catchment classification and hydrologic similarity. *Geogr Compass* 1(4):901–931.
- Wahlberg N, Moilanen A, Hanski I. 1996. Predicting the occurrence of endangered species in fragmented landscapes. *Sci.* 273(5281):1536–1538.
- Walburg CH, Novotny JF, Jacobs KE, Swink WD. 1983. Effects of reservoir releases on water quality, macroinvertebrates, and fish in tailwaters: Field study results. U.S. Army Environmental and Water Quality Operational Studies, Army Engineer Waterways Experiment Station, Vicksburg, MS. Technical Report E-83-6. 176 pp. National Technical Information Service, Springfield, VA. ADA-126770.
- Walker AS, Amoroso JL, East MB. 2024. Natural Heritage Program List of the Rare Plant Species of North Carolina. North Carolina Natural Heritage Program, NC Department of Natural and Cultural Resources, Raleigh, NC. 63 pp. [www.ncnhp.org](http://www.ncnhp.org).
- Wambach EJ, Emslie SD. 2003. Seasonal and annual variation in the diet of breeding, known-age royal terns in North Carolina. *Wilson Bull* 115(4):448–454.

## References

---

- Wang L, Infante D, Lyons J, Stewart J, Cooper A. 2011. Effects of dams in river networks on fish assemblages in non-impoundment sections of rivers in Michigan and Wisconsin, USA. *River Res. Applic.* 27:473-487.
- Wang L, Lyons J, Kanehl P, Bannerman R. 2001. Impacts of urbanization on stream habitat and fish across multiple spatial scales. *Environ Manag* 28(2):255–266.
- Ward JV. 1985. Thermal characteristics of running water. *Hydrobiol* 125:31–46.
- Warnell, K. 2020. Natural and Working Lands in North Carolina – Data and Methods Guide. NI Guide 20-01. Durham, NC: Duke University, Durham, NC. 29 pp. [accessed 2025Jan]  
<https://nicholasinstitute.duke.edu/sites/default/files/nwl/Natural-and-Working-Lands-Data-and-Methods-Guide.pdf>.
- Warren ML, Angermeier PL, Burr BM, Haag WR. 1997. Decline of a diverse fish fauna: patterns of imperilment and protection in the southeastern United States. Pages 105–164 in G. W. Benz and D. E. Collins, editors. *Aquatic fauna in peril: the southeastern perspective*. Southeast Aquatic Research Institute, Decatur, GA.
- Warren ML, Burr BM, Walsh SJ, Bart HL, Cashner RC, Etnier DA, Freeman BJ, Kuhajda BR, Mayden RL, Robison HW, Ross ST, Starnes WC. 2000. Diversity, distribution, and conservation status of the native freshwater fishes of the southern United States. *Fisheries* 25(10):7–31.
- Warren RJ, Ford CF. 1997. Diets, nutrition and reproduction of feral hogs on Cumberland Island, Georgia. *Proceedings of the Annual Conference of the Southeastern Association of Fish and Wildlife Agencies* 51:285–296.
- Watson J, Hamilton-Smith E, Gillieson D, Kiernan K (editors). 1997. Guidelines for cave and karst protection. *IUCN World Commission on Protected Areas. Working Group on Cave and Karst Protection*. Gland, Switzerland and Cambridge, UK. 63 pp.
- Watters GT. 2018. A preliminary review of the nominal genus *Villosa* of freshwater mussels (Bivalvia, Unionidae) in North America. ISBN 978-3-939767-86-2. 140 pp. and *Visaya*. Suppl. 10: 3-139.
- Watts BD. 2002. Winter use of early successional habitats by birds within the Alligator River, NWR and Pocosin Lakes, NWR: evaluating the benefit of management scenarios. Center for Conservation Biology Technical Report Series. CCBTR-02-07. Williamsburg (VA): College of William and Mary.
- Weakley AS. 2020. Flora of the southeastern United States: North Carolina. University of North Carolina Herbarium, North Carolina Botanical Garden. 1076 pp. Available online  
<https://ncbg.unc.edu/research/unc-herbarium/flora-request>.
- Wear DN, Greis JG. 2012. The Southern Forest Futures Project report. Asheville (NC): US Department of Agriculture Forest Service, Southern Research Station; [accessed 2013 June].  
<http://www.srs.fs.usda.gov/futures/reports/draft/Frame.htm>.
- Weaver DM. 2010. Effects of stocked trout on native nongame riverine fishes [thesis]. [Raleigh (NC)]: North Carolina State University.



- Weaver DM. 2010. Effects of stocked trout on native nongame riverine fishes [thesis]. [Raleigh (NC)]: North Carolina State University.
- Weinbaum K, Brashares J, Golden C, Getz W. 2013. Searching for sustainability: are assessments of harvests behind the times? *Ecol Lett.* 16:99–111.
- Weiskel PK, Vogel RM, Steeves PA, Zarriello PJ, DeSimone LA, Ries III KG. 2007. Water use regimes: characterizing direct human interaction with hydrologic streams. *Water Resources Research* 43(4):1-11.
- Weller MW, Stegman JL. 1977. Evaluating and maintaining habitats for fish and wildlife. In *Transactions of the 42nd North American Wildlife and Natural Resources Conference*. Washington (DC): Wildlife Management Institute. p. 31–41
- Wells J, Robertson B, Rosenberg K, Mehlman D. 2010. Global versus local conservation focus of U.S. state agency endangered bird species lists. *PLoS ONE.* 5(1):e8608.
- Wenger S. 1999. A review of scientific literature on riparian buffer width, extent, and vegetation. Athens (GA): University of Georgia, Institute of Ecology.
- Werner EE, Glennenmeier KS. 1999. Influence of forest canopy cover on the breeding pond distributions of several amphibian species. *Copeia* 1999:1-12.
- Wharton CH, Kitchens WM, Pendleton EC, Sipe TW. 1982. The ecology of bottomland hardwood swamps of the southeast: a community profile. Biological Services Program FWS/OBS-81/37. 145 pp.
- Wheeler AP, Loftis CS, Yow DL. 2004. Hiwassee Reservoir walleye survey, 2000-2003. Raleigh (NC): NC Wildlife Resources Commission.
- Whelan NV, Johnson NA, Williams AS, Perkins MA, Beaver CE, Mays JW. Hidden in the hills: phylogeny of the freshwater mussel genus *Alasmodonta* (Bivalvia: Unionidae) and description of a new species. *Zoological Journal of the Linnean Society* 198(2):650-76.
- White Jr, E. E., Ury, E. A., Bernhardt, E. S., & Yang, X. (2022). Climate change driving widespread loss of coastal forested wetlands throughout the North American coastal plain. *Ecosystems*, 25(4), 812-827.
- White PB, van de Gevel SL, Soule PT. 2012. Succession and disturbance in an endangered red spruce-Fraser fir forest in the southern Appalachian Mountains, North Carolina, USA. *Endanger Species Res* 18(1):17–25.
- Wiens JA. 1989. Spatial scaling in ecology. *Funct Ecol* 3:385–397.
- Wigley TB, Baughman WM, Dorcas ME, Gerwin JA, Gibbons JW, Guynn Jr.DC, Lancia RA, Leiden YA, Mitchell MS, Russell KR. 2000. Contributions of intensively managed forests to the sustainability of wildlife communities in the South. *Sustaining southern forests: the science of forest assessment*. USDA Forest Service, Southern Forest Resource Assessment.

## References

---

- Wigley TB, Miller DA, Yarrow GK. 2007. Planning for bats on forest industry lands in North America. Pages 293-318 in M. J. Lacki, J. P. Hayes, and A. Kurta, editors. Bats in forests, conservation and management. The John Hopkins University Press, Baltimore, Maryland, USA.
- Wikelski M, Davidson SC, Kays R. 2025. Movebank: archive, analysis and sharing of animal movement data. Hosted by the Max Planck Institute of Animal Behavior. [accessed 2025 March] [www.movebank.org](http://www.movebank.org).
- Wild C. 2011. Beaver as a climate change adaptation tool: concepts and priority sites in New Mexico. Santa Fe (NM): Seventh Generation Institute.
- Wildman RA, Pratson LF, DeLeon M, Hering JG. 2011. Physical, chemical, and mineralogical characteristics of a reservoir sediment delta (Lake Powell, USA) and implications for water quality during low water level. J Environ Qual 40:575–586.
- Williams JD, Bogan AE, Butler RS, Cummings KS, Garner JT, Harris JL, Johnson NA, Watters GT. 2017. A revised list of the freshwater mussels (Mollusca: Bivalvia: Unionida) of the United States and Canada. Freshwater Mollusk Biology and Conservation 20(2):33-58.
- Williams JD, Warren ML, Cummings KS, Harris JL, Neves RJ. 1993. Conservation status of the freshwater mussels of the United States and Canada. Fisheries 18:6–22.
- Williams SJ, Penland S, Sallenger AH (editors). 1992. Atlas of shoreline changes in Louisiana from 1853 to 1989, Louisiana barrier island erosion study. Miscellaneous Investigations Series I-2150-A, US Geological Survey, Department of the Interior. 12 p.
- Wilson CR. 2001. Status of the green salamander (*Aneides aeneus*) in the Blue Ridge Mountains [thesis]. [Boone (NC)]: Appalachian State University.
- Wilson LA. 1995. Land manager's guide to the amphibians and reptiles of the south. Chapel Hill (NC): The Nature Conservancy.
- Winger PV. 1981. Physical and chemical characteristics of warmwater streams: a review. In: Krumholz LA, editor. The warmwater streams symposium: a national symposium on fisheries aspects of warmwater streams. Southern Division American Fisheries Society. p. 32–44. <http://sdafs.org/wwstreams/wp-content/uploads/2014/04/WWS-Symposium-1981-Part-1.pdf>
- Winner WE. Personal communication December 2012. North Carolina State University, Professor and Director, Environmental Sciences Academic Programs. Raleigh, NC.
- Winter TC, Harvey JW, Franke OL, Alley WM. 1998. Ground water and surface water, a single resource. US Geological Survey Circular 1139. Washington (DC): USGS 87 p. <http://pubs.usgs.gov/circ/circ1139/>.
- Witte J, Torfs P. 2003. Scale dependency and fractal dimension of rarity. Ecography. 26:60–68.
- Wnek JP, Bien WF, Avery HW. 2013. Artificial nesting habitats as a conservation strategy for turtle populations experiencing global change. Integr Zool 8:209–221.

- Wolcott DL, Wolcott TG. 1999. High mortality of piping plovers on beaches with abundant ghost crabs: correlation, not causation. *Wilson Bull* 111(3):321–329.
- Wong MK, Guénard B, Lewis OT. 2019. Trait-based ecology of terrestrial arthropods. *Biological Reviews* 94(3):999-1022.
- Wood GW, Mengak MT, Murphy M. 1987. Ecological importance of feral ungulates at Shackleford Banks, North Carolina. *Amer. Midl. Naturalist* 18(2):236–244.
- Woodard SH, Federman S, James RR, Danforth BN, Griswold TL, Inouye D, McFrederick QS, Morandin L, Paul DL, Sellers E, Strange JP. 2020. Towards a US national program for monitoring native bees. *Biological Conservation* 252:108821. [accessed 2025 March]  
<https://doi.org/10.1016/j.biocon.2020.108821>.
- Woodward AR, Elsey RM. 2019. American Alligator *Alligator mississippiensis*. Pp. xx-xx in *Crocodiles. Status Survey and Conservation Action Plan. Fourth Edition*, ed. by SC Manolis and C Stevenson. Crocodile Specialist Group: Darwin. 6 pp.
- Yeager BL, Saylor CF. 1995. Fish hosts for four species of freshwater mussels (*Pelecypoda: Unionidae*) in the Upper Tennessee River drainage. *Am Midl Nat.* [accessed ];133(1):1–6.  
<http://www.jstor.org/stable/2426342>.
- Yeager BL, Saylor CF. 1995. Fish hosts for four species of freshwater mussels (*Pelecypoda: Unionidae*) in the Upper Tennessee River drainage. *Am Midl Nat.* [accessed ];133(1):1–6.  
<http://www.jstor.org/stable/2426342>.
- Yeager BL. 1993. Dams. In: Bryan CF, Rutherford DA, editors. *Impacts on warmwater streams: guidelines for evaluation*. Little Rock (AR): Southern Division, American Fisheries Society.p. 57-113.
- Yow DL, Borawa JC. 2001. Fisheries and wildlife management plan for the Tuckasegee River Basin. Raleigh (NC): NC Wildlife Resources Commission.
- Zale AV, Maughan OE, Orth DJ, Layher W. 1993. In: Bryan CF, Rutherford DA, editors. *Impacts on warmwater streams: guidelines for evaluation*. Little Rock (AR): Southern Division, American Fisheries Society. p. 271–285.
- Zohary T, Ostrovsky I. 2011. Ecological impacts of excessive water level fluctuations in stratified freshwater lakes. *Inland Waters* 1:47–59.