

# Christopher P. Nadeau

520-730-6885 • c.nadeau@northeastern.edu • <http://chrisnadeau.wix.com/chris>

## EDUCATION

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Apr 2020	University of Connecticut, Ecology and Evolutionary Biology Department	Ph.D.
May 2014	Cornell University, Natural Resource Department	M.Sc.
Dec. 2009	University of Arizona, Natural Resource Department	B. Sc.
May 2000	Sir Sandford Fleming College, Fish and Wildlife Technician	Diploma

## RECENT PROFESSIONAL EXPERIENCE

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### Graduate Research and Teaching Assistant

May 2014 – May 2020      University of Connecticut      Storrs, CT  
(40+ hours/week)      Ecology and Evolutionary Biology Department

- Planned, conducted, and directed innovative research to understand how spatial and temporal heterogeneity in climate affects the vulnerability and resilience of species to climate change.
- Applied cutting-edge quantitative tools, such as population and community models, and spatial analysis.
- Acquired \$26,750 in research grants.
- Worked with state and federal collaborators (e.g., Acadia National Park, Northeast Climate Adaptation Science Center) to better incorporate climate change into K-12 education and conservation, including 5 invited presentations, organizing 2 conference symposia, and organizing 1 workshop.
- Published 9 peer-reviewed articles (in prep., in review, or published) and 1 technical report.
- Supervised and mentored 4 undergraduate research technicians.

### Graduate Research Assistant

Aug. 2011 – May 2014      Cornell University      Ithaca, NY  
(40+ hours/week)      Natural Resources Department  
New York Cooperative Fish and Wildlife Research Unit

- Developed innovative spatial tools to predict where species will be most vulnerable to climate change and what management actions could reduce vulnerability at landscape scales.
- Collaborated and regularly communicated my research with project partners (e.g., New York Department of Environmental Conservation) including at 3 invited presentations and by organizing 1 conference symposium.
- Published 3 peer-reviewed articles and 1 technical report.

### Wildlife Biologist

Mar. 2002 – Aug. 2011      University of Arizona      Tucson, AZ  
(40+ hours/week)      Natural Resources Department  
Arizona Cooperative Fish and Wildlife Research Unit

- Planned, conducted, and directed applied research in collaboration with state and federal partners to improve the management and monitoring of rare birds, including tests of innovative landscape-level management strategies (e.g., prescribed fire) and novel spatial analyses.
- Acquired \$201,680 in research grants in collaboration with state and federal partners.
- Published 10 peer-reviewed articles and 16 technical reports.
- Communicated with project partners including 6 invited presentations and organizing 3 workshops.
- Supervised and mentored 4–8 field technicians and 1-3 undergraduate researchers per year.

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### OTHER RELEVANT EXPERIENCE

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2001	Ontario Ministry of Natural Resources, Rabies Research Unit	Field Technician
2000 – 2001	Ontario Ministry of Natural Resources, Wildlife Section	License Clerk
2000	Canadian Cooperative Wildlife Health Center	Field Technician
2000	Ducks Unlimited Canada	Field Technician
1997 – 1999	Ontario Ministry of Natural Resources, Information Center	Information Officer

### TEACHING

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2018	Freshwater Ecology (Teaching Assistant)	Undergraduate
2017	Ecological Modeling (Teaching Assistant)	Graduate
2016	Detectability, Occurrence, and Abundance Seminar	Graduate
2012	Decision Analysis for Climate Change	Professional

### PEER-REVIEWED PUBLICATIONS

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- [22] **Nadeau C. P.**, A. Giacomazzo, and M. C. Urban. *In Prep.* Climate change induces a live-fast die-young life history strategy, but does not reduce fitness of a freshwater crustacean.
  - [21] Pastore, A. K., **C. P. Nadeau**, and M. C. Urban. *In Prep.* Dissolved CO<sub>2</sub> does not hinder morphological plasticity and increase predator prey interactions as predicted.
  - [20] **Nadeau C. P.**, A. Giacomazzo, and M. C. Urban. *In Prep.* No local adaptation and reduced evolutionary potential at high temperature increase climate change vulnerability.
  - [19] **Nadeau C. P.**, A. Giacomazzo, and M. C. Urban. *In Prep.* Fine-scaled refugia conserve regional biodiversity under climate change.
  - [18] **Nadeau, C. P.**, T. E. Farkas, A. M. Makkay, R. T. Papke, & M. C. Urban. *In Review.* Adaptation overcomes competitive dominance to alter community assembly. *Ecology Letters*.
  - [17] Tingley, M. W., **C. P. Nadeau**, and M. E. Sandor. 2020. Multi-species occupancy models as robust estimators of community richness. *Methods in Ecology and Evolution: early view*.
  - [16] **Nadeau C. P.** and M. C. Urban. 2019. Eco-evolution on the edge during climate change. *Ecography* 42: 1280 - 1297. *\*Finalist for the E4 Award*
  - [15] **Nadeau C. P.**, M. C. Urban, and J. R. Bridle. 2017. Climates past, present, and yet-to-come shape climate change vulnerabilities. *Trends in Ecology and Evolution* 32: 786-800.
  - [14] **Nadeau C. P.**, M. C. Urban, and J. R. Bridle. 2017. Coarse climate change projections for species living in a fine-scaled world. *Global Change Biology* 23: 12-24.
  - [13] Glisson, W. J., C.J. Conway, **C. P. Nadeau**, and K. L. Borgmann. 2017. Habitat models to predict wetland bird occupancy influenced by scale, anthropogenic disturbance, and imperfect detection. *Ecosphere* 8.
  - [12] **Nadeau C. P.** and A. K. Fuller. 2016. Combining landscape variables and species traits can improve the utility of climate change vulnerability assessments. *Biological Conservation* 202: 30-38.
  - [11] **Nadeau C. P.**, N. Rathbun, and C. J. Conway. 2015. Depth of artificial burrowing owl burrows affects thermal suitability and occupancy. *Journal of Field Ornithology* 86: 288-297.
  - [10] **Nadeau C. P.**, A. K. Fuller, and D. L. Rosenblatt. 2015. Climate-smart management of biodiversity. *Ecosphere* 6: 91.
  - [9] **Nadeau C. P.** and A. K. Fuller. 2015. Accounting for multiple climate components in estimates of the magnitude and velocity of climate change. *Methods in Ecology and Evolution* 6: 697-705. *\*Selected for republication in a biogeography special issue.*
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- [8] **Nadeau, C. P.** and C. J. Conway. 2015. Optimizing water depth for wetland-dependent wildlife could increase wetland restoration success, water efficiency, and water security. *Restoration Ecology* 23: 292-300.
- [7] Glisson, W. J., C.J. Conway, **C. P. Nadeau**, and K. L. Borgmann. 2015. Range-wide wetland associations of the king rail: a multi-scale approach. *Wetlands* 35: 577-587.
- [6] **Nadeau, C. P.**, C. J. Conway, L. Piest, O. Hinojosa-Huerta, and B. Burger. 2013. Multi-species call-broadcast improved detection of endangered Yuma clapper rail compared to single-species call-broadcast. *Wetlands* 33: 699-706.
- [5] **Nadeau, C. P.** and C. J. Conway. 2012. Field evaluation of distance-estimation error during wetland-dependent bird surveys. *Wildlife Research* 39: 311-320.
- [4] Conway, M. A., **C. P. Nadeau**, and C. J. Conway. 2012. Intraspecific variation in reproductive traits of burrowing owls. *Ethology* 30: 395-402.
- [3] Conway, C. J. and **C. P. Nadeau**. 2010. Effects of broadcasting conspecific and heterospecific calls on detection of marsh birds in North America. *Wetlands* 30: 358-368.
- [2] Conway, C. J., **C. P. Nadeau**, and L. Piest. 2010. Fire helps restore natural disturbance regime to benefit rare and endangered marsh birds endemic to Colorado River. *Ecological Applications* 20: 2024-2035.
- [1] **Nadeau, C. P.**, C. J. Conway, B. S. Smith, and T. E. Lewis. 2008. Maximizing detection probability of wetland-dependent birds in northwestern Florida. *Wilson Journal of Ornithology* 120: 513-518.

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## TECHNICAL REPORTS

- Nadeau, C. P.**, A. Giacomazzo, and M. C. Urban. 2019. Biodiversity and climate change in globally relevant model system at Acadia National Park. Final Report for Second Century Stewardship Fellowship.
- Nadeau, C. P.** and A. K. Fuller. 2014. Managing species of conservation need in the face of climate change: a landscape and trait based approach, Interim report. U.S. Geological Survey, New York Cooperative Fish and Wildlife Research Unit, Department of Natural Resources, Cornell University, Ithaca, NY, USA.
- Satistiban, L., **C. P. Nadeau**, and C. J. Conway. 2012. Evaluating Population Trends, Breeding Density, and the Effect of Habitat Management and Environmental Variables for 14 Species of Secretive Marsh Birds in North America. Wildlife Research Report #2012-01. USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Conway, C. J. and **C. P. Nadeau**. 2011. Managing rails with fire. Wildlife Research Report #2011-05. USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Conway, M. A., **C. P. Nadeau**, C. J. Conway, B.S. Smith and J. P. Reinman. 2011. Evaluating the efficacy of night surveys for eastern black rails. Wildlife Research Report # 2011-02. USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Nadeau, C. P.**, C. J. Conway, M. A. Conway, and M. Ogonowski. 2011. Habitat requirements of Yuma clapper rail, California black rail, and western least bittern: an adaptive management approach, Final Report. Wildlife Research Report #2011-06, USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ, USA.
- Nadeau, C. P.**, C. J. Conway, M. A. Conway, and M. Ogonowski. 2011. Restoration of managed marsh units to benefit California black rails and other marsh birds: an adaptive management approach, Final Report. Wildlife Research Report #2011-01, USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ, USA.
- Conway, M. A., **C. P. Nadeau**, and C. J. Conway. 2010. Optimal seasonal timing of marsh bird surveys and the effect of water quality on marsh bird relative abundance in south Florida. Wildlife Report # 2010-4. USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, Arizona.
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- Nadeau, C. P.**, C. J. Conway, M. A. Conway, and J. Reinmen. 2010. Variation in the detection probability of clapper rails and least bitterns on the northern coast of the Gulf of Mexico. Wildlife Research Report # 2010-01. USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, Arizona.
- Satistiban, L., **C. P. Nadeau**, C. J. Conway, and M. A. Conway. 2010. Evaluating Habitat Use and Effects of Regional Call Dialects on the Effectiveness of Call-broadcast Surveys for Secretive Marsh Birds at St. Marks and St. Vincent National Wildlife Refuges. Wildlife Research Report #2010-3, USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ, USA.
- Conway, C. J., **C. P. Nadeau**, and M. S. Ogonowski. 2009. Relative abundance of Yuma clapper rails and California black rails within a proposed geothermal power plant site in Imperial Valley, California. Wildlife Research Report #2009-04, U.S. Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Conway, C. J., **C. P. Nadeau**, R. J. Steidl, and A. Litt. 2008. Relative Abundance, Detection Probability, and Power to Detect Population Trends of Marsh Birds in North America. Wildlife Research Report #2008-02. U.S. Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Conway, C. J., and **C. P. Nadeau**. 2006. Development and field testing of survey methods for a continental marsh bird monitoring program in North America. Wildlife Research Report # 2005-11. USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Conway, C. J., and **C. P. Nadeau**. 2006. Relative abundance of Yuma clapper rails, California black rails, and burrowing owls within a proposed geothermal power plant site in Imperial Valley California. Wildlife Research Report # 05-10. Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Nadeau, C. P.**, B. S. Smith, C. J. Conway, and T. Lewis. 2006. Effects of survey method on observer bias and detection probability of marsh birds on St. Vincent NWR. Wildlife Research Report No. 2006-04. USGS Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Conway, C. J., and **C. P. Nadeau**. 2005. Effects of Fire on Yuma Clapper Rails and California Black Rails, 2004 Annual Report. Wildlife Research Report Number 2005-01. Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Conway, C. J., and **C. P. Nadeau**. 2004. Relative abundance of Yuma clapper rails, California black rails, and burrowing owls within a proposed geothermal power plant site in Imperial Valley California. Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.

## GRANTS, FELLOWSHIPS, AND HONORS

(research funding amounts specified in the left column)

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2020	Smith Conservation Research Fellowship. <i>Is genetic management critical to the success of climate change adaptation or a costly distraction?</i>	\$32,000
2019	University of Connecticut, Department of Ecology and Evolutionary Biology, Research Grant. <i>Testing multiple predictions of species responses to climate change using whole-ecosystem warming experiments.</i> University of Connecticut, Department of Ecology and Evolutionary Biology, Headship Award for Merit. Ecography, E4 Award Finalist.	\$1500
2018	University of Connecticut, Department of Ecology and Evolutionary Biology, Headship Award for Merit. University of Connecticut, Doctoral Student Travel Fellowship.	
2017	Second Century Stewardship Fellowship. <i>Biodiversity and climate change in a globally relevant model system.</i> University of Connecticut, Doctoral Dissertation Research Fellowship	\$20,000 \$2000

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2016	University of Connecticut, Department of Ecology and Evolutionary Biology, Research Grant. <i>Evaluating the efficacy of a commonly recommended conservation strategy under climate change.</i>	\$1500
	Schoodic Institute Research Grant. <i>Evaluating the resilience of populations to climate change in protected areas: a generalizable framework and a specific application in Acadia National Park.</i>	\$1500
2015	University of Connecticut, Center of Conservation and Biodiversity, Research Grant. <i>Resurrecting historical populations to evaluate evolution under climate change.</i>	\$750
	University of Connecticut, Department of Ecology and Evolutionary Biology, Research Grant. <i>Resurrecting historical populations to evaluate evolution under climate change.</i>	\$1000
2014	University of Connecticut, Next Generation Connecticut Fellowship.	
2013	International Association of Landscape Ecologists, Student Travel Award.	
2012	National Science Foundation, Graduate Research Fellowship.	
2009	Arizona Game and Fish Department, Wildlife Conservation Grant Program. <i>A spatial modeling approach to determine the habitat preferences of imperiled wetland-dependent birds on the lower Colorado River.</i> (With C. J. Conway).	\$58,926
	Arizona Bighorn Sheep Society, Undergraduate Scholarship.	
	University of Arizona, Department of Natural Resources, Outstanding Graduating Senior.	
	Arizona Geospatial Information and Technology Association, Excellence in GIS Award.	
2008	Arizona Game and Fish Department, Heritage Grant Program. <i>Managing rail habitat with prescribed fire in AZ.</i> (With C. J. Conway).	\$63,754
	U.S. Fish and Wildlife Service, Webless Migratory Game Bird Research Grant. <i>Estimating population trends, relative abundance, and effects of management actions on 7 species of webless migratory game birds.</i> (With C. J. Conway).	\$57,500
	U.S. Geological Survey, Research Partnership Program Grant. <i>Evaluating the efficacy of night surveys for eastern black rails.</i> (With C. J. Conway).	\$10,000
	Ben Meadows, Undergraduate Scholarship.	
2007	U.S. Geological Survey, Research Partnership Program Grant. <i>Effects of tide stage on detection probability of secretive marsh birds in coastal wetlands: providing guidance for implementing the National Marsh Bird Monitoring Program on coastal National Wildlife Refuges.</i> (With C. J. Conway).	\$10,000
	Arizona Association of Environmental Professionals, Undergraduate Scholarship.	
2006	University of AZ, Undergraduate Research Grant. <i>An evaluation of the use of distance sampling for estimating population change of secretive marsh birds in North America.</i>	\$1500
	American Ornithological Society, Student Travel Award.	
	Cooper Ornithological Society, Outstanding Poster Presentation Award.	

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### ORGANIZED SYMPOSIA AND WORKSHOPS

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2018	<i>Identifying Research Priorities to Improve Climate Change Adaptation Planning.</i> Ecological Society of America Annual Meeting (with Abe Miller-Rushing).
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- Puddles of Knowledge: A Workshop to Understand Biodiversity in a Model System for Climate Change Research and Science Communication.* Acadia National Park.
- 2017 *Connecting Ideas Across K-12 Science Education to Prepare Students to Think About Biodiversity and Climate Change*, RISE, Maine Center for Research in Stem Education 2017 Summer Conference (with B. Zoellick and H. Webber).
- 2013 *Spatial Tools to Address Climate Change Impacts*, 69th Annual Meeting of the Northeast Association of Fish and Wildlife Agencies (with C. Hilke, and A. Kane).
- 2004-2009 *National Marsh Bird Monitoring Program Training Workshop*. Yuma, AZ. (with C. J. Conway).

### INVITED PRESENTATIONS

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- 2020 *Park puddles provide new insights about climate change conservation.* Acadia National Park, Bar Harbor, ME.
- 2019 *Is climatic variation key to understanding climate change vulnerability?* Departmental Seminar, School of Biology and Ecology, University of Maine, Orono, ME.
- 2018 *Why are you starring in that puddle? Identifying and testing climate change conservation strategies in an underappreciated model system.* Acadia Science Symposium, Bar Harbor, ME.
- Why are you starring in that puddle? Climate change communication in Acadia National Park.* Research and Outreach in National Parks, A Special Session at the Ecological Society of America Annual Meeting, New Orleans, LA.
- 2017 *Are we accurately predicting species responses to climate change? Insights from model systems.* Acadia National Park, Bar Harbor, ME.
- 2014 *Managing species of conservation need under climate change: a landscape and trait-based approach.* Northeast Fish and Wildlife Diversity Technical Committee, Blue Mountain Lake, NY.
- Managing species of conservation need under climate change: a landscape and trait-based approach.* New York State Wildlife Action Plan Advisory Committee Meeting, Albany, NY.
- 2012 *A climate change vulnerability assessment to aid in the management of New York Species of Greatest Conservation Need.* Annual Coordinating Committee Meeting of the New York Cooperative Fish and Wildlife Research Unit, Albany, NY.
- 2011 *A spatial modeling and adaptive management approach to determine the habitat preferences of California black rails.* U.S. Bureau of Reclamation, Boulder City, NV.
- 2010 *Marsh bird research on Imperial National Wildlife Refuge and the Lower Colorado River: adaptive management in practice.* Lower Colorado River MSCP Terrestrial Biology Conference, Laughlin, NV.
- 2009 *Restoration of managed marsh units to benefit California black rails and other marsh birds: an adaptive management approach.* USFWS Lower Colorado River Refuge Complex, Yuma, AZ.
- 2008 *Developing a standardized protocol for marsh bird monitoring.* USFWS Rail and Snipe Management Strategy Expert Workshop, Denver, CO.
- 2007 *Improving the management of secretive marsh birds through the North American Marsh Bird Monitoring Program.* Arizona Cooperative Fish and Wildlife Research Unit, Annual Co-operator Meeting, Tucson, AZ.
- 2006 *The North American Marsh Bird Monitoring Protocol: a summary of the protocol and its use on the lower Colorado River.* Lower Colorado River MSCP Terrestrial Biology Conference, Laughlin, NV.