

Natasha J. Gownaris
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Professional Positions

Assistant Professor, August 2019-Present
Gettysburg College, Gettysburg, Pennsylvania
Department of Environmental Studies

Post-Doctoral Researcher, February 2016-July 2019
University of Washington, Seattle, Washington
Department of Biology; Center for Ecosystem Sentinels

Lead Spatial Analyst, May 2017-June 2019
Ocean Sanctuary Alliance, New York, New York
10x20 Initiative (SDG 14, Target 5)

Education

Stony Brook School of Marine and Atmospheric Sciences, Stony Brook, New York
Doctor of Philosophy, December 2015
Marine and Atmospheric Sciences
Best Dissertation of the Year Award

Gettysburg College, Gettysburg, Pennsylvania
Bachelor of Science, May 2009
Double Major: Environmental Studies and Biology
Summa Cum Laude; Member Phi Beta Kappa and Omicron Delta Kappa; Goldwater Scholar

-----Scholarship-----

Publications

17. **Gownaris, N.J.**, K. Vermeir, M. Bittner, L. Gunawardena, S. Kaur-Ghumaan, R. Lepenies, G.N. Ntsefong, and I.S. Zakari. 2022. Barriers to Full Participation in the Open Science Life Cycle Among Early Career Researchers. *CODATA Data Science Journal*. DOI: 10.5334/dsj-2022-002
16. **Gownaris, N.J.** and P.D. Boersma. 2021. Feet First: Adaptive Growth in Magellanic Penguin Chicks. *Ecology and Evolution*. DOI: 10.1002/ece3.7331
15. Kao, Y., M. Rogers, D. Bunnell, I. Cowx, S. Qian, O. Anneville, T. Beard Jr., A. Brinker, R. Britton, R. Chura-Cruz, **N.J. Gownaris**, J.R. Jackson, K. Kangur, J. Kolding, R. Chura-Cruz, A.J. Lynch, N. Mercado-Silva, R. Moncayo-Estrada, F.J. Njaya, I. Ostrovsky, L.G. Rudstam, A.L.E. Sandstrom, Y. Sato, H. Siguayro-Mamani, A. Thorpe, P.A.A. van Zwieten, P. Volta, Y. Wang, A. Weiperth, O.L.F. Wely, and J. Young. 2020. Assessing Effects of Climate and Land-Use Change on Fish Catches Across Global Lakes. *Nature Communications*. DOI: 10.1038/s41467-020-14624-2
14. **Gownaris, N.J.**, P.D. Boersma, and P. García Borboroglu. 2020. Sex Ratio is Variable and Increasingly Male-Biased at Two Colonies of Magellanic Penguins. *Ecology*. DOI: 10.1002/ecy.2939.
13. **Gownaris, N.J.**, E.K. Pikitch, C.M. Santora, and J. Davis. 2019. Gaps in Protection of Important Ocean Areas: A Spatial Meta-Analysis of Ten Global Mapping Initiatives. *Frontiers in Marine Science*. DOI: 10.3389/fmars.2019.00650.
12. Boersma, P. D., P. García Borboroglu, **N.J. Gownaris**, C.A. Bost, A. Chiaradia, S. Ellis, T. Schneider, P.J. Seddon, A. Simeone, P.N. Trathan, L.J. Waller, and B. Wienecke. 2019. Applying science to pressing conservation needs for penguins. *Conservation Biology*. DOI: 10.1111/cobi.13378.

11. **Gownaris, N.J.** and P.D. Boersma. 2019 Sex-Biased Survival Contributes to Population Decline in a Long-Lived Seabird, the Magellanic Penguin. *Ecological Applications*. DOI: 10.1002/eap.1826.
10. Hodbod, J., E.G.J. Stevenson, G. Akall, T. Akuja, I. Angelei, S. Avery, A.B. Elias, L. Buffavand, S. Derbyshire, J. Eulenberger, F. Mercy, **N.J. Gownaris**, B. Kamski, A. Kurewa, M. Lokuruka, D. Okenwa, C. Rodgers, and E. Tebbs. 2019 Social-Ecological Change in the Turkana Basin: A Synthesis of Current Developments. *Ambio*. DOI: 10.1007/s13280-018-1139-3.
9. **Gownaris, N.J.**, K.J. Rountos, L. Kaufman, J. Kolding, K.M.M. Lwiza, and E.K. Pikitch. Water Level Fluctuations and the Ecosystem Functioning of Lakes. 2018. *Journal of Great Lakes Research*. DOI: 10.1016/j.jglr.2018.08.005.
8. **Gownaris, N.J.**, E.K. Pikitch, J. Aller, L. Kaufman, J. Kolding, K. Lwiza, K. Obiero, W. Ojwang, J. Malala, and K. Rountos. 2017. Fisheries and Water Level Fluctuations in the World's Largest Desert Lake. *Ecohydrology*. DOI: 10.1002/eco.1769.
7. Hundey, E.J., J.H. Olker, C. Carreira, R.M. Daigle, A.K. Elgin, M. Finiguerra, **N.J. Gownaris**, N. Hayes, L. Heffner, R. Razavi, P.D. Shirey, B.D. Tolar, E.M. Wood-Charlson. 2016. A Shifting Tide: Recommendations for Incorporating Science Communication into Graduate Training. *Limnology and Oceanography Bulletin*. DOI: 10.1002/lob.10151
6. Ojwang, W.O., K.O. Obiero, O.O. Donde, **N.J. Gownaris**, E.K. Pikitch, R. Omondi, and S. Agembe. 2016. Lake Turkana, the World's Largest Permanent Desert Lake. In Max Finlayson, Randy Milton and Crawford Prentice (Ed.) *The Wetland Book: Distribution, Description and Conservation*.
5. Toscano, B.J., **N.J. Gownaris**, S.M. Heerhartz, and C.J. Monaco. 2016. Personality, Foraging Behavior, and Specialization: Integrating Behavioral and Food Web Ecology at the Individual Level. *Oecologia*. DOI: 10.1007/s00442-016-3648-8.
4. Commito, J.A., **N.J. Gownaris**, D.B. Haulsee, S.E. Coleman. 2016. Separation Anxiety: Mussels Self-Organize into Similar Power-Law Clusters Regardless of Predation Threat Cues. *Marine Ecology Progress Series*. DOI: 10.3354/meps11642.
3. **Gownaris, N.J.**, E.K. Pikitch, W.O. Ojwang, R. Michener, and L. Kaufman. 2015. Predicting Species' Vulnerability in a Massively Perturbed System: The Fishes of Lake Turkana, Kenya. *PLOS ONE*. DOI: 10.1371/journal.pone.0127027.
2. Commito, J.A., A.E. Commito, R.V. Platt, B.M. Grupe, W.E. Dow, **N.J. Gownaris**, K.A. Reeves, and A.M. Vissicelli. 2014. Recruitment Facilitation and Spatial Pattern Formation in Soft-Bottom Mussel Beds. *Ecosphere*. DOI: 10.1890/ES14-00200.1.
1. Pikitch, E.K., K.J. Rountos, T.E. Essington, C. Santora, D. Pauly, R. Watson, U.R. Sumaila, P.D. Boersma, I.L. Boyd, D.O. Conover, P. Cury, S.S. Heppell, E.D. Houde, M. Mangel, É Plagányi, K Sainsbury, R.S. Steneck, T.M. Geers, **N.J. Gownaris**, and S.B. Munch. 2014. The Global Contribution of Forage Fish to Marine Fisheries and Ecosystems. *Fish and Fisheries*. DOI: 10.1111/faf.12004.

**Editing
and
Reviewing**

Associate Editor: Ecological Solutions and Evidence (October 2020 – Present)

Journal Reviews: American Naturalist, Applied Mathematical Modeling, Biological Conservation, Biology Letters, Current Biology, Ecological Applications, Ecosphere, FEMS Microbiology Ecology, Frontiers in Ecology and the Environment, Hydrobiologia, Journal of Fish Biology, Knowledge and Management of Aquatic Systems, Lakes and Reservoirs, PeerJ, PLOS ONE

Other Reviews: External Reviewer NSF Proposal (2016), Environmental Biology Open Textbook Reviewer (2020)

Recent Funding

- N.J. Gownaris.** Waterbird Society (\$2,100). April 2022. PI. Intraspecific Variation in Tern Foraging Plasticity in Response to Rapid Environmental Change.
- N.J. Gownaris,** N. Brouwer, A. Howard, C. Olmstead, D. Wetzel, K. Whittinghill, A. Wilson, T. Zallek. PA GOAL OER Development Grant (\$15,200). July 2021. PI. "Ecology for All! Development of a Comprehensive Intermediate-Ecology Open Textbook".
- N.J. Gownaris.** Gettysburg College JCCTL OER Grant (\$1,000). April 2021. PI. "Principles of Ecology OER Remix".
- N.J. Gownaris,** A. Crall, S. Donovan, G. Goins, S. Hurt, A. Racelis. Code for Science and Society Grant (\$20,000). August 2020. PI. "Culturally Relevant Data Science".

Conference Talks and Invited Seminars

*denotes an undergraduate collaborator

- Gownaris, N.J.,** L. Welch, L. Kaufman, B. Michener. Intraspecific Variation in Seabird Foraging Responses to Rapid Environmental Change in the Gulf of Maine. Gulf of Maine Seabird Working Group. Virtual. 2022.
- Gownaris, N.J.** Intraspecific Variation and the Ability of Populations to Adapt to Rapid Environmental Change. Invited Seminar, McGill University Department of Natural Resource Sciences. 2022.
- Gownaris, N.J.,** B. Toscano, A. Patterson, and K. Elliot. Individual Variation in the Foraging Personality and Plasticity of an Arctic Seabird. Ocean Sciences Meeting. Virtual. 2022.
- Gownaris, N.J.,** B. Toscano, A. Patterson, and K. Elliot. Individual Variation in the Foraging Personality and Plasticity of an Arctic Seabird. Waterbird Society. Virtual. 2022.
- Gownaris, N.J.** CO₂ and pH in a System with Seasonal Upwelling: Using Large Oceanographic Datasets to Build Data Literacy Skills (Teaching Demo). Earth Educators' Rendezvous. Virtual. 2021.
- Keene, M.* and **N.J. Gownaris.** Ecosystem Service Trade-offs in Coral Reefs: A Global Analysis. Association for Limnology and Oceanography. Virtual. 2021.
- Keene, M.* and **N.J. Gownaris.** Ecosystem Service Trade-offs in Coral Reefs: A Global Analysis. Lehigh Valley Ecology and Evolution Society. Virtual. 2021.
- Gownaris, N.J.** and P.D. Boersma. Feet First: Do Magellanic Penguin Chicks Show Adaptive Growth? American Society of Naturalists. Virtual. 2020.
- Gownaris, N.J.** and P.D. Boersma. Feet First: Do Magellanic Penguin Chicks Show Adaptive Growth? Ecological Society of America. Virtual. 2020.
- Gownaris, N.J.,** C.M. Santora, and E.K. Pikitch. Gaps in Protection in Important Ocean Areas: A Spatial Meta-Analysis of Ten Global Mapping Initiatives. OpenChannels. Virtual. 2020.
- Gownaris, N.J.** and P.D. Boersma. Causes and Consequences of Skewed Sex Ratios in Magellanic Penguins. The Waterbird Society. Princess Anne, MD. 2020.
- Gownaris, N.J.** Bachelor Birds: Skewed Sex Ratios and Penguin Population Decline. Invited Seminar. Stony Brook University. Stony Brook, NY. 2019.
- Gownaris, N.J.** and P.D. Boersma. Causes and Consequences of Skewed Sex Ratios in Magellanic Penguins. Fish and Wildlife Seminar (University of Washington). Seattle, WA. 2019.

- Gownaris, N.J.**, E.K. Pikitch, C.M. Santora, and J. Davis. Opportunities for Protection of Global Marine Priority Areas. Pacific Seabird Group. Lihue, Hawaii. 2019.
- Gownaris, N.J.**, E.K. Pikitch, C.M. Santora, and J. Davis. Revealing a “Global Scientific Consensus Map” on Areas for Marine Protection. International Marine Conservation Congress. Kuching, Malaysia. 2018.
- Gownaris, N.J.** and P.D. Boersma. Feet First: Adaptive Growth in Magellanic Penguin Chicks. Biology Department Postdoctoral Research Symposium (University of Washington). Seattle, WA. 2017.
- Pikitch, E.K., **N.J. Gownaris**, and C.M. Santora. Consolidating Current Knowledge on Marine Priorities: A Follow-Up to the Rome Call for Action. UN Oceans Conference. New York, NY. 2017.
- Gownaris, N.J.**, K.J. Rountos, L. Kaufman, J. Kolding, K.M.M. Lwiza, and E.K. Pikitch. Lake Level Fluctuations, Ecological Attributes, and Fish Productivity in African Lakes and Reservoirs. African Great Lakes Conference. Entebbe, Uganda. 2017.
- Gownaris, N.J.** and P.D. Boersma. Bachelor Birds: Why Models Must Consider Seabird Sex. Pacific Seabird Group Meeting. Tacoma, WA. 2017.
- Gownaris, N.J.** and P.D. Boersma. Bachelor Birds: Why Models Must Consider Seabird Sex. Fisheries Department Quantitative Seminar (University of Washington). Seattle, WA. 2017.
- Gownaris, N.J.** and P.D. Boersma. Bachelor Birds: Female Biased Mortality Contributes to Magellanic Penguin Population Decline. Wildlife Seminar Series (University of Washington). Seattle, WA. 2017.
- Gownaris, N.J.** and P.D. Boersma. Single Males: Skewed Sex Ratio Fosters Population Decline in Magellanic Penguins. International Penguin Conference 9. Cape Town, South Africa. 2016.
- Kao, Y.C., **N.J. Gownaris**, K. Kangur, A. Sandström, D.B. Bunnell, M.W. Rogers, A.L. Sakas, A.J. Lynch, P.B. McIntye, T.D. Beard, and W.W. Taylor. Potential Effects of Climate Change and Land Use on Inland Fisheries Production. Busan, Korea. 2016.
- Gownaris, N.J.**, E.K. Pikitch, W.O. Ojwang, R. Michener, and L. Kaufman. Impacts of Upstream Dams and Irrigation on the Fish Communities of the World’s Largest Desert Lake. Global Conference on Inland Fisheries. FAO Headquarters, Rome. 2015.
- Gownaris, N.J.** Hutchinson’s Hypervolume in the Age of Stable Isotope Ecology. Ecological Dissertations in the Aquatic Sciences (NSF Funded Workshop). Honolulu, Hawaii. 2014
- Gownaris, N.J.**, E.K. Pikitch, L. Kaufman, W.O. Ojwang, and R. Michener. Diet Flexibility as an Indicator of Resilience in Lake Turkana, Kenya Fish Communities. American Fisheries Society Annual Meeting. Québec City, Québec. 2014.
- Bouraad, T.* and **N.J. Gownaris**. Understanding the Different Ecological Roles of Three Tilapia Species in Lake Turkana, Kenya. Undergraduate Research and Creative Activities Symposium. Stony Brook, New York. 2014.
- Gownaris, N.J.** The Incidence of Omnivory Among Key Fishes of Lake Turkana, Kenya. School of Marine and Atmospheric Sciences Graduate Student Symposium. Stony Brook, New York. 2014.
- Gownaris, N.J.** Understanding the Impacts of Climate Change and Dam Development on the Lake Turkana Ecosystem. Student Conference on Conservation Science. New York, New York. 2011.
- Gownaris, N.J.** and M.J. Brush. Nutrient Uptake Dynamics of Macroalgae and Phytoplankton in Shallow Marine Systems. Atlantic Estuarine Research Society Meeting. Fairfax, Virginia. 2008.

Gownaris, N.J. and J.A. Commito. Spatial Threat Response in a Marine Bivalve: Mussels Self-Organize into Fractal Aggregations. Benthic Ecology Meeting. Providence, Rhode Island. 2008.

**Recent
Media
Coverage**

“Initiative pushes to make journal abstracts free to read in one place” Quirin Schiermeier. Nature News. October 2020.

“New marine map study provides guidance on where to place marine protected areas” Erika Peters. Stony Brook Statesman. November 2019.

“Scientists strapped cameras to African penguins—Here’s what they saw” Kashmiri Gander. Newsweek. June 2019.

“The number of single male Magellanic penguins is rising at this breeding colony. Here’s why” James Urton. University of Washington News. January 2019.

-----**Service**-----

**College
Service &
Governance**

Member of Institutional Animal Care and Use Committee (Fall 2021-present)
Leader of Gettysburg College JCCTL Faculty Working Group on Effectively Teaching R (2019, 2021)
Faculty Advisor of Gettysburg College Honor Commission (Fall 2020)
Member of Gettysburg College Celebration Planning Committee (Fall 2020)

**External
Service &
Governance**

Committee Chair of Culturally Relevant Education in Environmental Data Science Workshop (2021)
Lead of the Global Young Academy Open Science Working Group (2020-present)
Member of the Global Young Academy (2020-2025)
Data Labs Implementation Fellow for Oceanographic Observatories Initiative (2020)

-----**Teaching**-----

**Gettysburg
College**

Seven undergraduate assistants, six on research and one on open textbook development (2019-present).

Instructor: Area-Based Conservation Senior Seminar (Spring 2022). Environmental Studies Department, Gettysburg College. 12 students.

Instructor: Marine and Freshwater Fisheries (Spring 2020 and Spring 2022). Environmental Studies Department, Gettysburg College. 20 students.

Instructor: Ecology, Ecology Labs (Fall 2019, Fall 2020, Fall 2021). Environmental Studies Department, Gettysburg College. 36 students and two lab sections of 18 students.

Instructor: Marine Ecology, Marine Ecology Labs (Spring 2021). Environmental Studies Department, Gettysburg College. 19 students and one lab section of 19 students.

Instructor: Oceanography (Spring 2020). Environmental Studies Department, Gettysburg College. 36 students.

**Stony Brook
University**

Sixteen undergraduate research assistants (2009-2015).

Instructor: Oceanography (Fall 2014). School of Marine and Atmospheric Sciences, Stony Brook University. 75 students.

Instructor: Water Quality and Plankton Communities of Long Island (Spring 2014). Women in Science and Engineering, Stony Brook University. 6 students.

Co-Instructor: Environmental Problems and Solutions (Spring 2014). School of Marine and Atmospheric Sciences, Stony Brook University. 45 students.

Teaching assistantships and course development assistantships at Gettysburg College and Stony Brook University in Ecology (Fall 2006), Environmental Science and Society (Fall 2008), Ichthyology (Fall 2009), Oceanography (Fall 2009), Marine Conservation (Spring 2009, Fall 2010, Fall 2011)