Andrew **Villeneuve**

PhD Student

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Andrew is a marine ecologist with interests in global change across levels of organization. He is dedicated to working on applied questions in the face of climate and biodiversity crises.

Education

University of New Hampshire — *Durham*

PhD Student — *2022 - 2026*

University of Massachusetts Amherst — *Amherst Center*

Master of Science — *2018 - 2021*

Bowdoin College — *Brunswick*

Bachelor of Arts — *2012 - 2016*

Publications

JM Barley, BS Cheng, M Sasaki, S Gignoux-Wolfsohn, CG Hays, ... — *Proceedings of the Royal Society B*

Limited plasticity in thermally tolerant ectotherm populations: evidence for a trade-off — *2021*

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AR Villeneuve, LM Komoroske, BS Cheng — *Proceedings of the Royal Society B*

Environment and phenology shape local adaptation in thermal performance — *2021*

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AR Villeneuve, LM Komoroske, BS Cheng — *Conservation Physiology*

Diminished warming tolerance and plasticity in low-latitude populations of a marine gastropod — *2021*

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AR Villeneuve, I Thornhill, J Eales — *Aquatic Ecology*

Upstream migration and altitudinal distribution patterns of Nereina punctulata (Gastropoda: Neritidae) in Dominica, West Indies — *2019*

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AR Villeneuve — *Herpetological Conservation and Biology*

Habitat selection and population density of the world's smallest chameleon, Brookesia micra, on Nosy Hara, Madagascar — *2017*

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NT Wheelwright, LU Taylor, BM West, ER Voss, SY Berzins, ... — *Northeastern Naturalist*

Pupation site selection and enemy avoidance in the introduced pine sawfly (Diprion similis) — *2017*

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Selected Work and Research Experience

Department of Biological Sciences, University of New Hampshire — *Durham, NH*

PhD student — *2022 - Present*

- Role of extreme events and organismal physiology in the alteration of marine biogenic habitat

NOAA Fisheries — *Silver Spring, MD*

Knauss Marine Policy Fellow — *2021-2022*

- I worked with the Office of the Assistant Administrator for Fisheries on high-level science management and policy. I worked on improving the NOAA instutional repository, wrote fisheries survey communications materials, and create a bibliometric analysis of NOAA Fisheries publications. I supported NOAA Arctic policy by working on incorporating indigenous traditional ecological knowledge into the US position in a multilateral agreement.

Department of Environmental Conservation, University of Massachusetts Amherst *Amherst, MA*

Master's Student *2018-2020*

- I conducted research on the growth and survival of locally adapted populations of the Oyster Drill (Urosalpinx cinerea) collected from sites along the latitudinal gradient on the Pacific and Atlantic coasts of the US. I mentored an undergraduate research intern and their independent project as part of the Five College Coastal and Marine Science program. I was a teaching assistant for Marine Ecology and Introduction to Ecology.

Hurricane Island Foundation *Rockland, ME*

Research Assistant *2018*

- I assisted growth rate research on bottom culture and ear-hung scallop aquaculture in the Gulf of Maine. Operated outboard motorboats in variable coastal conditions. I mentored two students from the Women of the Sea Program on their independent research projects.

Operation Wallacea *Rosalie, Dominica*

Aquatic Ecologist *2017*

- Directed field season research for long-term stream monitoring project using macroinvertebrate biotic indices and tracked migration patterns of a freshwater snail. One published paper as product. I instructed high school students in field ecology methodology and directed data collection for both projects.

Smithsonian National Zoo *Washington, DC*

Conservation Intern *2017*

- I performed animal husbandry of threatened and endangered herpetofauna, and collected behavioral data of amphibians within exhibits

Smithsonian National Museum of Natural History *Washington, DC*

Reef Biodiversity Technician *2016*

- Analyed images and data on reef organism growth under ocean acidification conditions. Field processed photographic and genetic samples from settlement places on an expedition in Curaçao. I participated in two submersible dives to collect settlement plates.

The Wilderness Society *San Francisco, CA*

Wilderness Technician *2016*

- I completed a wilderness area assessment of Stanislaus and Eldorado National Forests using GPS tablets and ArcGIS. Performed tasks independently in remote mountain areas. I recommended the outlines of a new wilderness area based on observed human impacts and natural features.

Bowdoin Science Station *Kent Island, NB, Canada*

Kent Island Fellow *2014*

- I designed and collected data on the effects of current strength on intertidal invertebrate biodiversity.

Darling Marine Station, University of Maine *Walpole, ME*

Marine Science Intern *2013*

- I analyzed benthic images from the Drake Passage of species diversity focusing on corals with a master's student.

Cape Eleuethera Institute *Deep Creek, The Bahamas*

Lionfish and Aquaculture Intern *2012*

- I maintained open ocean aquaculture cage with juvenile Cobia, involved daily SCUBA diving. I conducted patch reef surveys of fish diversity and lionfish morphological data. REEF fish surveyor certified.

Field Schools

Bowdoin Marine Science Semester *2015*

Brunswick, ME *Bowdoin College*

- Immersive marine science semester. Final thesis on population genetics of an invasive tunicate

Madagascar Biodiversity and Natural Resource Management *2015*

Taolagnaro, Madagascar *School for International Training*

- Study abroad semester, taught in French

Grants, Fellowships, and Service

NOAA Sea Grant

2021 John A. Knauss Marine Policy Fellowship *2020*

PADI Foundation

PADI Foundation Grant, $3,141 *2019*

American Malacological Society

Melbourne R. Carriker Student Research Awards in Malacology, $950 *2019*

Environmental Conservation Graduate Council, University of Massachusetts Amherst

Treasurer *2019*

National Science Foundation Graduate Research Fellowship Program

Honorable Mention *2019*

Bowdoin Science Station

Kent Island Student Research Fellowship *2014*

Bowdoin College

Bowdoin Faculty Scholar *2012*

Journal Referee

- Aquatic Ecology
- Ecography
- Journal of Molluscan Studies

Skills

Field and Research

- Have used and trained others on ecological research methods, including transects, quadrats, water quality, species identification (highly proficient in rocky coast Atlantic and Caribbean), habitat classification, microscope and microphotography use, and general photography.
- Competent SCUBA diver and snorkeler. 100+ Dives in the Caribbean, Gulf of Maine, and tropical Pacific. PADI Rescue Diver. ~50 dives for scientific purposes (transect, REEF surveys, aquaculture farms). ~15 coldwater dives (Gulf of Maine, freshwater)
- Basic molecular and bioinformatic skills, including mDNA extraction, isolation, amplification (PCR), sequence assembly, and alignment. Construction of haplotype networks to model population structure, which I have previously used to analyze population structure in the invasive tunicate Didemnum vexillum (undergraduate term paper).
- Comfortable boating skills in the Caribbean, Chesapeake Bay, and Gulf of Maine. Small craft operation (up to 28') and basic maintenance experience. Trailering experience. US Boating Certified.
- Experience with animal husbandry and aquatic plumbing. System experience ranges from large open-water aquaculture systems to recirculating seawater systems to tropical reef systems.
- Trained Wilderness First Responder. Certified August 2013, recertified June 2018. Wilderness Medical Associates. Experience working in isolated field conditions (e.g. Madagascar, Bay of Fundy, Dominica).
- Advanced French reading, writing, and comprehension. CEFR level B2.

Organizational, Analytical and Computer Skills

- Experienced with R programming for data management and frequenstist statistical analysis. Extensive use throughout graduate career to analyze data for final thesis. RMarkdown and GitHub repository experience. Graphing using ggplot.
- ArcGIS analysis experience and map production. * Image analysis software, including Webplot digitizer, ImageJ, Tracker, and Leica microimaging products.
- Scientific figure alteration via Illustrator/Inkscape.
- Time management, distance learning, and collaboration applications usage includes Asana, Slack, Zoom, and Google Suite.
- Website and repository design in Weebly, Google Sites, Notion, and Github.
- Meeting facilitation throughout Knauss fellowship, especially as a member of IARPC secretariat.

References

- **Easton White**, PhD Advisor, `easton.white@unh.edu`
- **Brian Cheng**, Master's Advisor, `bscheng@umass.edu`