**Nathaniel Spada**

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**RESEARCH INTERESTS**

Viewing systems at the ecosystem level allows one to observe anthropogenic impacts more effectively. Current climate and fishing trends, and their effects on aquatic flora and fauna, are two issues that are interest me ecologically. Species interactions with each other (symbiosis and invasive species in particular) is an area of research I would be interested in participating in as well.

**EDUCATION**

**University Of New Hampshire (UNH)** - Durham, NH

*Master’s of Science: Biological Sciences: Marine Biology* **January 2020 to December 2021**

*GPA: 4.00*

*Bachelor of Science: Marine, Estuary, and Freshwater Biology* **September 2016 to May 2019**

* Honors student *GPA: 3.96*
* Dean’s List: Fall 2016 – Spring 2019

*Honors and Awards:*

* UNH Teaching Assistantship - $19,640/year (stipend) and Tuition waiver
* UNH Dean’s Academic Merit Scholarship - $3,000/semester
* Rutman Fellows Scholarship - $3,000/year
* Lee Company Scholarship - $2,250/year

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**PUBLICATIONS**

Spada, N.N., Fairchild, E.A., Burr, G., Pietrak, M. (in progress). The effect of protein source and protein/lipid concentration on the growth, survival, and aggression of juvenile lumpfish (*Cyclopterus lumpus*). Aquaculture.

Spada, N.N., Fairchild, E.A. (in progress). Density dependent effects on the growth, survival, and aggression of juvenile lumpfish (*Cyclopterus lumpus*). Aquaculture.

Gutzler, B.C., Spada, N.N., Sykes, S., Goldstein, J.S., Watson III, W.H. (in progress). Ocean Acidification Impairs the Response of American Lobsters to Food Odors. Scientific Reports.

O’del, J.N., Walsh, S.R.M., Spada, N.N., Harris, L.G. (submitted). Green sea urchins need friends: Decision making and risk in *Strongylocentrotus droebachiensis* in competitive and non-competitive foraging environments. Behavioral Ecology.

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**PRESENTATIONS**

**“The Optimization of Larval and Juvenile Lumpfish Aquaculture”**

* Coauthors: Dr. Elizabeth Fairchild
* Atlantic International Chapter of the American Fisheries Society – October 28th, 2020
* Oral Presentation

**“Ocean acidification impairs the ability of American lobsters (*Homarus americanus*) to respond to food odors”**

* Coauthors: Dr. Benjamin Gutzler, Dr. Win Watson, and Dr. Jason Goldstein
* Regional Association for Research on the Gulf of Maine 2020 Conference – October 15th, 2020
* Oral Presentation

**“Ocean acidification impairs the ability of American lobsters (*Homarus americanus*) to respond to food odors”**

* Coauthors: Dr. Benjamin Gutzler, Dr. Winsor Watson, Dr. Jason Goldstein, and Stephanie Sykes
* Gulf of Maine 2050 International Symposium – The Westin Harborview, Portland, ME – November 4th, 2019
* Oral Presentation

**“The Impact of Ocean Acidification on *Homarus americanus* Olfaction During Prey Acquisition”**

* Coauthors: Dr. Benjamin Gutzler and Dr. Winsor Watson
* UNH Undergraduate Research Conference – UNH, Durham, NH – April 21st, 2019
* Poster Presentation

**PROFESSIONAL SKILLS**

**Laboratory Skills:** Recirculating aquaculture system (RAS) maintenance, fish grading, water quality analysis,*Artemia* culture,infrared spectroscopy, gel electrophoresis, gas chromatography, crystallization, purification, distillation, titration, horseshoe crab blood extraction, growth and isolation of bacteria on solid media, micropipetting, cell staining and mounting, use of centrifuge and rotary evaporator, data analysis, microscopy, specimen preparation using ethanol preservation, microscopy

**Software Skills:** RStudio, JMP Pro, Logger Pro, LabQuest, ImageJ,Microsoft Access, Microsoft Excel, PowerPoint and Word

**Field Skills:** Boat handling, acoustic tag tracking, quadrat and transect sampling, watercraft operation, lobster pot extraction, data recording, compass navigation

**Certification:** Boating License (July 2017), UNH Environmental Health and Safety Training (June 2019), Animal Care and Use Certification (June 2019); UNH Boating Safety Certification (July 2019); UNH Defensive Driving (June 2019)

**RESEARCH EXPERIENCE**

**Dr. Elizabeth Fairchild’s Laboratory, UNH Coastal Marine Laboratory** – New Castle, NH July 2019 to December 2019

*Aquaculture Technician*

* Ran diet experiment for larval lumpfish aquaculture looking at different fat and protein compositions
* Collected sea lice samples from a steelhead trout aquaculture sea cage
* Raised and fed *Artemia* to the larval lumpfish; dip netted for larval lumpfish
* Performed water changes and backflushes on a RAS system connected to a bio-filter while monitoring and maintaining pH, ammonia, nitrite, nitrate, temperature, and salinity for the lumpfish
* Transported adult lumpfish from fishermen to the Coastal Marine Laboratory using a live well

**Dr. Winsor Watson’s Laboratory, UNH Coastal Marine Laboratory** – New Castle, NH July 2019 to November 2019

*Laboratory Technician*

* Collected data for 8 separate experiments, within 5 different areas of research including:
* The effect of ocean acidification on lobster olfaction
* Alternative bait trials for the lobster fishery (in lab and in field)
* Alternative bait trials for the whelk fishery
* Growth and molting patterns of Jonah crabs
* The effect of claw removal on the mating, claw strength, and survival of Jonah crabs
* Performed data analyses using Microsoft Excel and JMP Pro
* Operated watercraft during data collection; assisted in data logger assembly and in lobster pot extraction
* Took photos of lobster sperm receptacles using a microscope to help with a graduate student’s research
* Cleaned and maintained water quality for the research organisms; fed all the research organisms

**Dr. Larry Harris's Laboratory** – Durham, NH September 2018 to December 2018

*Laboratory Technician*

* Maintained the salinity and bacterial colony of the marine systems
* Assessed the health of invertebrates in marine systems and adjusted water chemistry to resolve health issues
* Performed larval urchin counts on urchin recruitment panels; preserved the specimens in ethanol; constructed urchin recruitment envelopes and panels
* Fed a variety of marine invertebrates in a salt water cold room
* Examined macroscopic and microscopic marine invertebrates under dissection microscopes
* Prepared activities for introductory marine biology laboratory course of about 30 students

**Lakes Lay Monitoring Program** – Durham, NH January 2017 to May 2019

*Laboratory Technician*

* Entered pH, dissolved oxygen, secchi disk, weather, phosphorus, chlorophyll, color, depth, conductivity, and temperature profile data into Microsoft Access and Excel for over 30 major lakes in New Hampshire
* Prepared graphs of lake chemistry data for a yearly report on the lakes of New Hampshire
* Checked spelling and data for final lake report at the end of the season
* Cleaned and prepared equipment for volunteer lake monitors; organized volunteer data sheets
* Followed directions from lab coordinator and performed tasks in a timely manner

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**TEACHING EXPERIENCE**

**Introductory Biology: Evolution, Biodiversity and Ecology, UNH** – Laboratory Sections January 2020 to May 2020

* Taught two lab sections weekly
* Taught students the scientific process and how to develop experiments
* Taught students how to use Microsoft Excel
* Held weekly office hours to address student issues

**Human Anatomy and Physiology I, UNH** – Laboratory Sections September 2020 to December 2020

* Taught three lab sections weekly
* Taught students cellular, anatomical, and systematic features of the human body
* Held weekly office hours to address student issues

**Human Anatomy and Physiology II, UNH** – Laboratory Sections January 2021 to Present

* Taught four lab sections weekly
* Taught cellular, anatomical, and systemic features of the human body
* Held weekly office hours to address student issues

**COLLEGIATE INVOLVEMENT AND OUTREACH**

**Marine Biology Outreach and Education via TikTok** – New Castle, NH July 2020 to Present

*Social Media Educator*

* Accumulated 1.8 million followers on the social media app TikTok through science education of marine creatures and experiments performed by researchers at the UNH Coastal Marine Laboratory
* Perform outreach events for schools and colleges on science education and communication

**UNH Student Subunit of the American Fisheries Society, UNH** – Durham, NH Spring 2020 to Winter 2020

*Vice President*

* Organized meetings and guest lectures for the subunit; developed social media pages to engage members on upcoming events; participated in discussions with other subunits to brainstorm ideas for events and meetings

**Sustainable Fisheries and Aquaculture Club, UNH** – Durham, NH Spring 2017 to Spring 2019

*Member*

* Participated in semesterly beach clean ups; attended meetings on current topics in the field and guest lectures

**Best Buddies Club, UNH** – Durham, NH Fall 2019 to Spring 2019

*Member*

* Participated in monthly events that aimed at creating an inclusive and friendly environment for people with physical and developmental disabilities

**ADDITIONAL EXPERIENCE**

**Magic Memories Photography, Mystic Aquarium** – Mystic, CT June 2016 to January 2019

*Supervisor/Sales Photographer*

* Managed a team of up to fifteen to ensure staff performance in a proficient manner while maintaining efficient operations
* Greeted guests utilizing a professional and friendly manner in a heavy volume and fast paced environment
* Multi-tasked during busy periods while remaining calm; answered questions in an effective and pleasant manner

**Tri-Town Foods** – East Lyme, CT January 2015 to April 2016

*Cashier*

* Provided prompt and efficient customer service with high level of accuracy at register