

ABIGAIL H.P. HAYNE

EDUCATION

University of New England, College of Arts and Sciences, Biddeford, ME. 2021–2023

Degree: M.S. Marine Science

Cumulative GPA: 4.0

Thesis: Using chemical histories to solve elasmobranch mysteries. Advisor: Dr. John Mohan

University of New England, College of Arts and Sciences, Biddeford, ME. 2015–2019

Degree: B.S. (with honors) Marine Science, concentration in Marine Biology; minor in English

Cumulative GPA: 3.6

Honors Thesis: A reassessment of the age and growth of the Atlantic sharpnose shark (*Rhizoprionodon terraenovae*) in the Gulf of Mexico. Advisor: Dr. James Sulikowski

RESEARCH EXPERIENCE

Maine Coast Heritage Trust, *Contracted Research Associate* March 2023–Current

- Lead a three-person team to identify and evaluate conservation tools and strategies around the U.S. for integration in Maine's coastal lands and river systems.

Mohan Fish and Shark Research Laboratory *Graduate Research Assistant* May 2021–Current

- Conduct master's thesis on the use of vertebral elemental chemistry of the blacktip shark (*Carcharhinus limbatus*) to answer questions surrounding age information and population connectivity.
- Mentor and manage a group of undergraduate researchers, including offering guidance on focused research projects, training in laboratory equipment, scheduling, and conflict resolution.
- Facilitate hiring of undergraduate interns to the research lab, including writing, receiving, and reviewing applications as well as interviewing and selecting candidates.
- Assist with other lab research projects, including the field and laboratory testing of electronic bycatch reduction devices on spiny dogfish, winter flounder feeding ecology, and offshore shark fishing.
- Develop and maintain social media (Facebook, Instagram) for the Mohan Research Lab.
- Support research advisor by assisting with grant and final report writing and guest lecturing for upper-level fisheries courses.
- Co-founded the first American Fisheries Society UNE Student Subunit, serving as vice president.
- Serve as president and treasurer of the Marine Science Graduate Student Government.

Sulikowski Shark and Fish Laboratory *Undergraduate Research Assistant* June 2016–May 2019

- Conducted two independent research projects studying the age and growth of Gulf of Mexico elasmobranchs.
- Assisted with various research projects including ecology and movement of sturgeon, ecology, movement, age, growth, and reproduction of elasmobranchs, long term data collection and management of benthic invertebrate and estuarine fish assemblages, movement of winter flounder, bycaught fish species in the commercial lobster fishery, hormone regulation in elasmobranch reproduction, and preparation of elasmobranch tissues for histology.

Pratt Whitney Fellow: Experiential based learning *Research Assistant* June 2016–August 2016

- Focused research project on collaborating with marine science faculty to improve experiential learning in marine science lab courses at the University of New England. Results of this fellowship included re-designed laboratory projects with an emphasis on experiential learning that were incorporated directly into course syllabi.

PUBLICATIONS

Hayne AHP, Richards TM, Drymon JM, Falterman B, Cruz-Uribe A, Carlson J, Miller N, Wells RJ, Mohan JA. 2023. Elemental chemistry reveals uncoupling of vertebral bands, mineralization, and time in blacktip sharks (*Carcharhinus limbatus*) in the northern Gulf of Mexico. *Journal of*

Fish Biology. *In review*.

Hayne AHP, Poulakis GR, Seitz JC, Sulikowski JA. 2018. Preliminary age estimates for female southern stingrays (*Hypanus americanus*) from southwestern Florida, USA. *Gulf and Caribbean Research* 29 (1): SC1-SC4.

WORK EXPERIENCE

Normandeau Associates Inc. Environmental Consulting Fisheries Scientist June 2019–April 2021

- Assisted with multiple large-scale radio telemetry studies evaluating passage effectiveness for a variety of diadromous fish including river herring, American shad, American eel, and Atlantic salmon smolts.
- Sampled resident fish community in freshwater systems using visual surveys and boat/backpacking electrofishing.
- Reviewed fish passage videos for fishways on the Merrimack and Mystic River watersheds, and aged teleosts via otoliths and scales.
- Provided support in analysis of radio telemetry data sets as well as technical report writing and editing.
- Underwent training certification as a NOAA Protected Species Observer.

University of New England, Marine Science Laboratory Assistant 2015–2016

- Prepared and broke down marine biology teaching lab set-ups, fed captive organisms, cleaned tanks, collected field samples, and assisted with cleaning and storage of laboratory equipment.

PRESENTATIONS

ORAL

Hayne AHP, Richards TR, Drymon M, Falterman B, Carlson J, Miller NR, Wells RJD, and Mohan JA. Using Chemical Tracers to Assess the Population Connectivity of Blacktip Sharks (*Carcharhinus limbatus*) in the Northern Gulf of Mexico. In: American Fisheries Society Southern New England Chapter–Northeastern Division–Joint Meeting. Oral Presentation. January 10, 2023. Boston, MA.

Hayne AHP, Richards TR, Drymon M, Falterman B, Carlson J, Cruz-Urbe A, Miller NR, Wells RJD, and Mohan JA. Using chemical histories to solve blacktip shark mysteries. In: 152nd Annual Meeting of the American Fisheries Society. Oral Presentation. August 23, 2022. Spokane, WA.

Hayne AHP, Richards T, Wells R.J.D., and Mohan JA. Using chemical histories to solve elasmobranch mysteries. In: University of New England College of Arts and Sciences Research Symposium. Oral presentation. University of New England. May 6, 2022. Biddeford, ME.

Hayne AHP, Hoffmayer ER, Driggers WB, Sulikowski JA. A reassessment of the age and growth of the Atlantic sharpnose shark (*Rhizoprionodon terraenovae*) in the Gulf of Mexico. In: University of New England College of Arts and Sciences Symposium. Oral presentation. University of New England. May 3, 2019. Biddeford, ME.

Hayne AHP, Hoffmayer ER, Driggers WB, Sulikowski JA. A reassessment of the age and growth of the Atlantic sharpnose shark (*Rhizoprionodon terraenovae*) in the Gulf of Mexico. Honors thesis presentation and defense. University of New England. April 26, 2019. Biddeford, ME.

Hammer LJ, **Hayne AHP**, Furey NB, Sulikowski JA. Using telemetry to monitor movements and habitat use of juvenile winter flounder (*Pseudopleuronectes americanus*) in a southern Maine estuary. In: 148th Annual Meeting of the American Fisheries Society. Oral Presentation. August 21, 2018. Atlantic City, NJ.

Hayne AHP, Poulakis GR, Seitz JC, Sulikowski JA. Preliminary age estimates for female southern stingrays (*Hypanus americanus*) from southwestern Florida, USA. In: University of New

England College of Arts and Sciences Symposium. Oral presentation. University of New England. May 4, 2018. Biddeford, ME.

POSTER

Hayne AHP, et al. Exploring element patterns in shark vertebrae cartilage to enhance age estimates. In: 151st Annual Meeting of the American Fisheries Society. Poster presentation. November 7, 2021. Baltimore, MD.

Hayne AHP, Hoffmayer ER, Driggers WB Sulikowski, JA. Determining age and growth of the Atlantic sharpnose shark (*Rhizoprionodon terraenovae*) in the Gulf of Mexico. In: University of New England Summer Undergraduate Research Experience Symposium. Poster presentation. University of New England. September 29, 2018. Biddeford, ME.

Hayne AHP, Poulakis GR, Seitz JC, Sulikowski JA. Preliminary age estimates for female southern stingrays (*Hypanus americanus*) from southwestern Florida, USA. In: University of New England Summer Undergraduate Research Experience Symposium. Poster presentation. University of New England. September 30, 2017. Biddeford, ME.

Hayne AHP, Cicia AC. Making Connections: Integrating lecture, the local environment, and current marine research through the restructuring and development of new experiential learning opportunities in the marine science teaching labs. In: University of New England Summer Undergraduate Research Symposium. Poster presentation. University of New England. October 1, 2016. Biddeford, ME.

GRANTS & HONORS

American Fisheries Society Mote Fisheries Fellowship; \$1,500	2022
American Fisheries Society Skinner Award, Honorable Mention; \$360	2022
American Fisheries Society Estuaries Section Student Travel Award; \$400	2021
UNE Graduate Research Assistantship; \$20,000/yr	2021-2023
Best Honors Oral Presentation, UNE College of Arts and Sciences Symposium; \$100	2019
UNE Undergraduate Research and Scholarship Award for Natural Sciences	2019
UNE Undergraduate Honors Program	2017-2019
UNE Summer Undergraduate Research Stipend	Summers 2017 & 2018
Pratt Whitney Research Fellowship	Summer 2016
UNE Dean's List	2015-2019

FREELANCE WORK

Women in Ocean Science C.I.C., *Blog Writer + Editor* 2022

- Wrote and edited blog articles that highlighted women marine scientists, featuring scientific publications with women first authorship.
- Coordinated content with an international team of volunteers to create a consistent voice.

Patagonia- Community Grants Program, *Grant Reader* 2022

- Read and recommended 6 grant proposals submitted to Patagonia's Community Grants Program.
- Underwent implicit bias and grant reading trainings to properly assess each proposal.

Gulf of Maine Research Institute (GMRI), *Freelance Writer* 2022

- Participated in and took detailed notes for GMRI's "Trawl to Table: Tuna School" day-long event, which brought together members of the bluefin tuna fishery in Maine for networking.
- Wrote an article, in collaboration with Elijah Miller, summarizing the contents of the event for GMRI's blog and newsletter to engage industry members and local community.

Landings: Maine Lobstermen Alliance Newsletter, *Guest Student Writer* 2018

- Authored a monthly article on current fisheries related topics in the Gulf of Maine, such as the impacts of the invasive black sea bass on lobster and rising white shark sightings.
- Worked alongside editor in chief to select relevant topics to best connect to the Maine

lobstering community.

ACADEMIC SERVICE

Reviewed manuscript submitted to “Journal of Fish Biology” 2023
Mentor high school student in marine biology through “Branching Out” program 2022-Current
Reviewed manuscript submitted to “Frontiers in: Marine Science” 2022

TEACHING EXPERIENCE

University of New England, Teaching Assistant- Marine Science Speaker Series 2022

- Led small group (~20 undergraduate seniors) discussions regarding current scientific literature.

INVITED GUEST LECTURES, LABS, AND SEMINARS

Rocky Intertidal Population Ecology Lab, Introductory Marine Biology Course, *UNE* 2022
Shark Fisheries Lecture, Elasmobranch Biology Course, *UNE* 2022
Gene Expression Lecture, Introductory Marine Biology Course, *UNE* 2022
Age and Growth Workshop (lecture and lab), Fisheries Techniques Course, *UNE* 2021
Phytoplankton Growth Lab, Introductory Marine Biology Course, *UNE* 2021
Alumni Career Advice Panel, *UNE* 2020

LEADERSHIP, SOCIETY AND NON-PROFIT SERVICE

Our Climate Common: Intergen Climate Group, Member 2023-Current

- Engage in a collaborative, intergenerational group of climate activists seeking to promote youth voices to combat climate change on a local scale.
- Project-team member of the first cohort of a “Youth on Boards” initiative, an effort to increase youth presence on the boards of Maine environmental non-profits.

Marine + Biological Science Graduate Student Association, President & Treasurer 2022-Present

- Organize weekly lunch and learn events to connect graduate students.

American Fisheries Society 2021-Present

- Spearheaded first University of New England Student Subunit, serving as vice president.
- Serve as secretary-treasurer for the Student & Early Career Professional subsection.
- Attend & present at three annual meetings, & one regional meeting.

VOLUNTEER EXPERIENCE

Kennebunkport Conservation Trust, Outreach Volunteer 2019

- Planned and facilitated educational environmental activities to school groups of up to 50 students, such as snowshoe hikes to identify animal tracks and lab-based erosion demos.
- Assisted outreach coordinator with organization and improvement of activities.

University of New England Educational Outreach (K-12), Outreach Volunteer 2016-2019

- Led experiential activities in the lab & field as well as facility tours to 20 different southern Maine school groups (up to 500 students).

RESEARCH SKILLS

Laboratory and Analytical Techniques

- Laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) of elasmobranch vertebrae & teleost otoliths
- Sectioning elasmobranch vertebrae using a low speed IsoMet saw
- Age determination of elasmobranchs and teleosts
- Taxonomic identification of juvenile and adult freshwater, estuarine, and marine fish species
- Dissections of elasmobranchs, teleosts and crustaceans
- Histology of elasmobranch tissues and vertebrae
- Phlebotomy of elasmobranchs, teleosts and crustaceans

- Blood processing (analysis of hematocrit, hemoglobin, osmolarity, glucose and lactate levels)

Field Techniques

- Research Vessel Hours: 300+
- Commercial Vessel Hours: 100+
- Backpack and boat electrofishing
- Commercial and recreational fishing methods: rod and reel, gillnet, lobster trap, and otter trawl
- Beach seining
- Plankton tows
- Tag deployment: acoustic, radio, t-bar, PIT, satellite, fin mount
- Management, use and care of acoustic and radio receivers
- Water quality sampling and measurement
- NOAA Protected Species Observer certified

Software

- R, RStudio (Intermediate)
- Salmonsoft Fish Counting Software (Advanced)
- Microsoft Office: Word, Excel (Advanced)
- Systat (Intermediate)
- SPSS (Intermediate)
- Leica Imaging Software (Advanced)
- Iolite (Beginner)