

GINA LYNN LONATI

The Marine Mammal Center • Cetacean Conservation Biology
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EDUCATION

- 2020 – 2024** **University of New Brunswick Saint John (Saint John, NB, Canada)**
Doctor of Philosophy in Biological Sciences. GPA 4.3. Vanier Canada Graduate Scholar.
Ph.D. Dissertation: “*Remote sensing to measure the physiology and foraging ecology of North Atlantic right whales in the Gulf of St. Lawrence, Canada*” (Advisor: Dr. Kimberley Davies)
- 2012 – 2014** **University of North Carolina Wilmington (Wilmington, NC, USA)**
Master of Science in Marine Biology. GPA 4.0. Phi Kappa Phi.
Master’s Thesis: “*Nitrogen solubility in odontocete fats in relation to lipid composition*” (Advisor: Dr. Heather Koopman)
- 2008 – 2012** **Bowdoin College (Brunswick, ME, USA)**
Bachelor of Arts, Biology major (with Honors) and Chemistry minor. GPA 3.848. Magna cum laude. Phi Beta Kappa.
Honor’s Thesis: “*Simultaneous comparison of green sea urchin (Strongylocentrotus droebachiensis) growth in the lab and field using fluorochrome markers*” (Advisor: Dr. Amy Johnson)
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RESEARCH, WORK, AND VOLUNTEER EXPERIENCE

- 2025 – present** **The Marine Mammal Center – Cetacean Conservation Biology (Castroville, CA)**
Cetacean Conservation Biology Scientist II
- 2025 – present** **Anderson Cabot Center for Ocean Life at the New England Aquarium (Boston, MA)**
Contract Researcher
- 2019 – 2025** **University of New Brunswick Saint John – Department of Biological Sciences (Saint John, NB)**
Research and Teaching Assistant, Guest Lecturer
- 2014 – 2019** **Florida Fish & Wildlife Conservation Commission – Marine Mammal Pathobiology Lab (St. Petersburg, FL)**
OPS Fisheries & Wildlife Biological Scientist II
- 2018** **Woods Hole Oceanographic Institution (Woods Hole, MA)**
Guest Researcher
- 2014** **California Current Cetacean Environmental Assessment Surveys (off coast of OR and CA)**
Volunteer Oceanographer and Independent Marine Mammal Observer

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2014	Sea Turtle Camp (Wilmington, NC) <i>SCUBA Summer Camp Instructor</i>
2013 – 2014	University of North Carolina Wilmington (Wilmington, NC) <i>Research and Teaching Assistant</i>
2012 – 2014	Fort Fisher Aquarium (Fort Fisher, NC) <i>Volunteer Educator and Exhibit Diver</i>
2013	Grand Manan Whale and Seabird Research Station (Grand Manan, NB) <i>Summer Research Assistant</i>
2012	Sarasota Dolphin Research Program (Sarasota, FL) <i>Summer Intern</i>
2011	Bowdoin College Coastal Studies Center (Orr's Island, ME) <i>Doherty Coastal Studies Fellowship Researcher</i>
2010	New England Aquarium (Boston, MA) <i>Rescue/Rehabilitation Department Summer Intern</i>

PUBLICATIONS

- Lonati, G.L.**, Hirtle, N., Bierlich, K., Miller, C.A., Durban, J., Moore, M.J. and Davies, K.T.A. (*in prep*). Estimating body condition of whales using suboptimal aerial photographs.
- O'Hern, J.E., Slaathaug, J.M., **Lonati, G.L.**, Lane, R.S., Rodriguez, P., Faz, N.A., Wilkin, A.M., Grimes, A., Allen, D., Cristales, N., Peterson, S., Yee, E.A., Markowitz, T., Webber, M.A., Keener, W. and George, K. (*in prep*). Anomalous seasonal presence of gray whales (*Eschrichtius robustus*) in San Francisco Bay linked to widespread malnutrition and mortality.
- Lonati, G.L.**, Durette-Morin, D., Klymentieva, H., Roehl, L., Pavey, S., Baumgartner, M.F. and Davies, K.T.A. (2025). Groups of foraging North Atlantic right whales occur under diverse prey field conditions in the southwestern Gulf of St. Lawrence, Canada. *Marine Ecology Progress Series*, 72: 21–42. <https://doi.org/10.3354/meps14961>
- Davies, K.T.A., Webster, A., Babu, V., Brilliant, S., Carlyle, C.G., Edgell, R., Johnston, D., **Lonati, G.L.**, Sharma, H. and Tsui, O. (2025). Semi-automated detection of right whales (*Eubalaena* spp.) in very high resolution satellite imagery. *Marine Mammal Science*, 41(4): e70024. <https://doi.org/10.1111/mms.70024>
- Lonati, G.L.**, Hynes, N., Klymentieva, H., Warren, A., Zitterbart, D., Richter, S., Moore, M.J. and Davies, K.T.A. (2024). Drone-based infrared thermography to measure the intranasal temperature of baleen whales. *International Journal of Remote Sensing*, 46(1): 148–176. <https://doi.org/10.1080/01431161.2024.2399326>
- Napoli, C., Hirtle, N., Stepanuk, J., Christiansen, F., Heywood, E.I., Grove, T.J., Stoller, A., Dodds, F., Glarou, M., Rasmussen, M., **Lonati, G.L.**, Davies, K.T.A., Videsen, S., Simon, M.J., Boye, T.K., Zoidis, A., Todd, S.K. and Thorne, L.H. (2024). Drone measurements reveal differences in humpback whale body condition and mass across North Atlantic foraging grounds. *Frontiers in Marine Science*, 11: 1336455. <https://doi.org/10.3389/fmars.2024.1336455>

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- Lonati, G.L.**, Hynes, N., Howe, K., Durette-Morin, D., Brown, M. and Davies, K.T.A. (2022). Observations of adult-calf nonreproductive copulatory behavior in North Atlantic right whales (*Eubalaena glacialis*). *Aquatic Mammals*, 48(6): 639-645. <https://doi.org/10.1578/AM.48.6.2022.639>
- Lonati, G.L.**, Zitterbart, D.P., Miller, C.A., Corkeron, P., Murphy, C.T. and Moore, M.J. (2022). Investigating thermal physiology in large whales via aerial infrared thermography. *Endangered Species Research*, 48: 139-154. <https://doi.org/10.3354/esr01193>
- Lonati, G.L.**, Howell, A.R., Schueller, P. and Deutsch, C. (2021). Using tetracycline to validate age estimation in a long-lived aquatic mammal. *Wildlife Society Bulletin*, 45(2): 340-350. <https://doi.org/10.1002/wsb.1192>
- Bassett, B.L., Leone, E., Hostetler, J.A., Barbeau, B.D., **Lonati, G.L.**, Panike, A.L., Honaker, A. and Ward-Geiger, L. (2020). Quantifying sublethal Florida manatee-watercraft interactions by examining scars on manatee carcasses. *Endangered Species Research*, 43: 395-408. <https://doi.org/10.3354/esr01075>
- Lonati, G.L.**, Howell, A.R., de Wit, M., Hostetler, J., Schueller, P., Bassett, B.L., Deutsch, C. and Ward-Geiger, L. (2019). Accuracy, precision, and error in age estimation of Florida manatees using growth layer groups in earbones. *Journal of Mammalogy*, 100(4): 1350-1363. <https://doi.org/10.1093/jmammal/gyz079>
- Lonati, G.L.**, Singleton, E.M., Phelps, C.E., Koopman, H.N. and Pabst, D.A. (2019). The density of odontocete integument depends on blubber lipid composition and temperature. *Marine Mammal Science*, 35(2): 595-616. <https://doi.org/10.1111/mms.12554>
- Lonati, G.L.**, Westgate, A.J., Pabst, D.A. and Koopman, H.N. (2015). Nitrogen solubility in odontocete blubber and mandibular fats in relation to lipid composition. *Journal of Experimental Biology*, 218(16): 2620-2630. <https://doi.org/10.1242/jeb.122606>
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AWARDS AND SCHOLARSHIPS

University of New Brunswick Ph.D. Recruitment Award (2023-2024) - \$15,250 CAD total over two years
NSERC Vanier Canada Graduate Scholarship (2020-2023) - \$50,000 CAD/year for three years
University of New Brunswick Biology Graduate Student Society Photo Contest, Winner (2023)
University of New Brunswick Images of Research Photo Contest, Second Place (2022) - \$200 CAD
Natural Sciences and Engineering Research Council of Canada (NSERC) ScienceExposed Photo Contest, Jury Prize (2021) - \$2,000 CAD
Marine Environment Observation, Prediction and Response (MEOPAR) High Quality Personnel Training Travel Award (2020) - \$2,500 CAD
National Science Foundation Graduate Research Fellowship Program Honorable Mention (2019)
Fish & Wildlife Research Institute (FWRI) Excellence in Laboratory Work, Second Runner Up (2017, 2018)
FWRI Crisis Response Team top award (2017)
Phi Kappa Phi, UNC Wilmington (2014)
Peter Fensel Scholarship, UNC Wilmington (2013) - \$3,500 USD total
Owen Graham Kenan Scholarship, UNC Wilmington (2012, 2013) - \$13,600 USD/year
Phi Beta Kappa, Bowdoin College (2012)
Charles Carroll Everett Scholarship, Bowdoin College (2012)

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Donald and Harriet S. Macomber Prize in Biology, Bowdoin College (2012) - \$1,491 USD

Society of Bowdoin Women Athletic Award, Bowdoin College (2012)

Doherty Coastal Studies Fellowship, Bowdoin College (2011)

Sarah and James Bowdoin Scholar, Bowdoin College (2009, 2010, 2012)

Academic All-New England Small College Athletic Conference student athlete award (2009, 2010, 2011)

GRANT PROPOSALS

Canada Space Agency – smartWhales: Innovative, Space-Based Solutions for the Protection of the North Atlantic Right Whale (*assisted preparation under supervision of graduate advisor*)

Project Title: *Development of a smartWhales Space Based Detection System*

Collaborators: Hatfield Consultants LLP, Duke University, University of New Brunswick, Canadian Wildlife Federation, AltaML

Dates: February 2021 – December 2023; Value: \$1.2 million CAD

CONFERENCE AND WORKSHOP PRESENTATIONS

North Atlantic Right Whale Consortium – 2025 Annual Meeting, New Bedford, MA, USA

Video Presentation: “Heat signatures of free-swimming North Atlantic right whales (Eubalaena glacialis) from drone-based infrared thermography”

Drones and Unmanned Systems – 1st International Conference, Granada, Spain

Invited Oral Presentation: “Uncrewed aerial vehicles: taking cetacean research to new heights”

Society of Marine Mammalogy – 2024 Biennial Meeting, Perth, Australia

Oral Presentation: “Prey field characteristics that support the aggregation of foraging North Atlantic right whales in the southwestern Gulf of St. Lawrence, Canada”

MOSAIC Teaching Workshop – 2024 Annual Workshop, Saint John, NB, Canada

Oral Presentation: “A B Seas: the unique teaching and learning environment of UNB Saint John’s ‘Marine Semester’”

North Atlantic Right Whale Consortium – 2023 Annual Meeting, Halifax, NS, Canada

Video Presentation: “Diel patterns in the vertical distribution of North Atlantic right whale prey in the southwestern Gulf of St. Lawrence, Canada”

Canadian Wildlife Federation’s Right Whale Stakeholder Workshop – 2023 Annual Meeting, Halifax, NS, Canada

Oral Presentation: “Near-seafloor aggregations of North Atlantic right whale prey – implications for fishing ground lines”

North Atlantic Right Whale Consortium – 2022 Annual Meeting, New Bedford, MA, USA

Video Presentation: “Drone-based measurements of blowhole temperatures of North Atlantic right whales (Eubalaena glacialis) and humpback whales (Megaptera novaeangliae)”

Society of Marine Mammalogy – 2022 Biennial Meeting, hybrid (attended virtually)

Video Presentation: “Blowhole temperature as a health metric for free-swimming large whales”

Award: Best Student Regional Award

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The Wildlife Society – 2021 Annual Conference – Drone Applications for Wildlife Research, Management, and Conservation Symposium, virtual

Video Presentation: “Drone-based infrared thermography to study the health of large whales”

North Atlantic Right Whale Consortium – 2021 Annual Meeting, virtual

Video Presentation: “Observations of adult-calf non-reproductive copulatory behavior in North Atlantic right whales”

North Atlantic Right Whale Consortium – 2020 Annual Meeting, virtual

Video Presentation: “New methodology for using remotely piloted aircraft systems to measure body temperature of large whales, especially North Atlantic right whales”

Society of Marine Mammalogy – 2019 Biennial Meeting, Barcelona, Spain

Oral Presentation: “Investigating growth layer group deposition in the earbones of old Florida manatees via tetracycline marking”

Atlantic Regional Comparative Physiology Workshop – 2019 Annual Meeting, St. Andrews, NB, Canada

Oral Presentation: “The benefits of being fat: Some studies of lipid physiology in marine mammals”

Society of Marine Mammalogy – 2017 Biennial Meeting, Halifax, NS, Canada

Oral Presentation: “Accuracy, precision, and bias of Florida manatee aging using growth layer groups in earbones”

Society of Marine Mammalogy – 2015 Biennial Meeting, San Francisco, CA, USA

Poster: “Blubber density depends on lipid composition and temperature in three deep-diving odontocetes”

Fifth Florida Marine Mammal Health Conference – 2015 Biennial Meeting, Gainesville, FL, USA

Poster: “Anatomical and ecological patterns in carcass fat depots could provide insight into Florida manatee health”

Southeast and Mid-Atlantic Marine Mammal Symposium (SEAMAMMS) – 2014 Annual Meeting, Wilmington, NC, USA

Oral Presentation: “Differences in lipid composition may influence barotrauma risk in odontocete mandibular fats”

Award: Best Masters Student Oral Presentation

Society for Integrative and Comparative Biology – 2014 Annual Meeting, Austin, TX, USA

Oral Presentation: “Nitrogen solubility related to lipid composition in toothed whale fats”

Award: Best Student Oral Presentation in the Division of Comparative Physiology and Biochemistry, honoring Dr. Jeffery B. Graham

Society of Marine Mammalogy – 2013 Biennial Meeting, Dunedin, New Zealand

Poster: “Variation in lipid chemistry of odontocete acoustic fats may affect gas loading during dives”

Society for Integrative and Comparative Biology – 2012 Annual Meeting, Charleston, SC, USA

Poster: “Externally visible polyfluorochrome marking of urchins: growth comparisons between lab-reared and tidepool urchins”

GUEST/INVITED LECTURES

Semester By the Bay – University of Alaska Anchorage – Fall 2025

Guest Lecture: “Drones: Taking Cetacean Research to New Heights”

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MES670: Conservation and Management of Marine Mammals – University of Miami, Rosenstiel School of Marine and Atmospheric Science – Fall 2021-2025

Guest Lecture: “Marine Mammal Conservation: life as a whale biologist”

Hampton Nature Club – July 2024 Monthly Meeting, Hampton, NB, Canada

Invited Oral Presentation: “North Atlantic right whales and other marine mammals in the Bay of Fundy”

Marine Biology 120 – Harbour View High School, Saint John, NB, Canada – Winter 2023, Fall 2023, Spring 2024

Guest Lecture: “North Atlantic right whales and other marine mammals in the Bay of Fundy”

Biology Department Seminar – Bowdoin College, Brunswick, ME – December 2023

Invited Oral Presentation: “From sea and sky: new perspectives on studying whales & their prey”

BIOL4645: Biology and Conservation of Marine Mammals – University of New Brunswick Saint John – Spring 2020-2022

Guest Lectures: “Sirenian Evolution, Mating, Anatomy & Physiology”, “Overview of Diving Physiology in Marine Mammals”, “Marine Mammal Strandings & Necropsies”, “Florida Manatee Research & Conservation”

Saint John Naturalists Club – January 2022 Monthly Meeting, Saint John, NB, Canada

Invited Oral Presentation: “North Atlantic right whales and other marine mammals in the Bay of Fundy”

BIOL1202: Intro to Marine Science – University of New Brunswick Saint John – Spring 2021

Guest Lecture: “My Career in Marine Biology”

Wildlife and Invasive Species Education Workshop – 2018 Annual Meeting, Bushnell, FL, USA

Invited Oral Presentation: “Florida manatee biology and FWC research”

CERTIFICATIONS AND TRAININGS

Motorboat Operator Training Course, California State University Monterey Bay (2025-2030)

BoatUS Foundation’s Online Boating Safety Course (2025)

Advanced Remotely Piloted Aircraft Systems (RPAS) Operations Training (2022-2024) + 24-month recency program (2023-2025)

FAA Part 107 sUAS Pilot Certificate (2021-2023) + 24-month recency exam (2023-2025)

Mental Health First Aid (2023)

CPR/Marine Basic First Aid (2022-2025)

sUAS Level 1 Infrared Thermography Certification, ITC (2021-2025)

Canadian Whale Institute, Level 1 Whale Rescue Training, Apprentice (2021)

Domestic Vessel Safety Training, Survival Systems Training (formerly MED A1/A2) (2019-2024)

Workplace Hazardous Materials Information System Training (2020)

Radiotelephone Restricted Operator’s Certificate (2020)

Dalhousie’s Aquatic Animal Care Training at the University of New Brunswick (2019)

US Coast Guard Auxiliary Boater Safety Certification (2015)

NAUI Nitrox Certification (2014)

Florida Boating Safety Education Certification (2012)

SSI Advanced Open Water SCUBA Certification (2011)

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LEADERSHIP AND MEMBERSHIPS

Board of the Society for Marine Mammalogy, Secretary (2025-present)
The Society for Marine Mammalogy, DEI Committee, member (2025-present)
The Wildlife Society, Drone Working Group, member (2020-present)
The Wildlife Society, member (2018-present)
Bowdoin College Admissions, volunteer interviewer (2015-present)
Society of Marine Mammalogy, member (2013-present)
UNB BioGrads Society, administrator (2024-2025)
UNB Graduate Student Association, deputy of Bylaw Review Committee (2023-2025)
UNB Vice President's Teaching Excellence Committee, graduate student representative (2020-2024)
UNB Women's Varsity Volleyball, assistant coach (2019-2024)
UNB Graduate Student Association, elections officer (2020-2023)
BIOL6000 Graduate Student Seminar, student representative (2021-2022)
UNCW Biology Graduate Student Association, president (2013-2014)

SELECT MEDIA ENGAGEMENTS

CBC New Brunswick. January 6, 2025. Online Article & Radio. <https://www.cbc.ca/news/canada/new-brunswick/right-whale-drone-thermal-imaging-1.7423935>

Telegraph Journal. February 17, 2023. Online Article. <https://tj.news/greater-saint-john/102066159>

CBC New Brunswick. July 12, 2022. Online Article & Radio. <https://www.cbc.ca/news/canada/new-brunswick/humpback-whale-near-bathurst-1.6518128>

Botsford Media. Broadcast premiere on March 21, 2022 on UnisTV. Documentary. <https://www.tv5unis.ca/videos/le-dernier-chant-de-la-baleine>

Last of the Right Whales. Canadian theatrical premiere on February 20, 2022. Documentary and post-premiere Q&A panelist. <https://lastoftherightwhales.com/>

CBC Shift New Brunswick. January 19, 2022. Radio. <https://www.cbc.ca/listen/live-radio/1-83-shift-nb/clip/15890135-warming-waters>

CBC New Brunswick. December 5, 2021. Online Article. <https://www.cbc.ca/news/canada/new-brunswick/whales-research-unb-student-photo-1.6269999>

UNB Research Blog. November 22, 2021. Online Article. <https://blogs.unb.ca/research/2021/11/lonati-science-exposed.php>

Eco Magazine. September 7, 2021. Online Article. <https://www.ecomagazine.com/news/oceans/the-right-tools-for-right-whales>

Mainely History. September 1, 2021. Podcast. <https://mainelyhistory.podbean.com/?s=lonati>

Water Women Podcast. June 14, 2021. Podcast. https://open.spotify.com/episode/6Bhuih8sGypdGlk9oLAO71?go=1&utm_source=embed_v3&t=0&nd=1

Irving Nature Park. June 6, 2021. Facebook Live. <https://fb.watch/cKmJZ1Azso/>

UNB Research Impact. February 22, 2021. Online Article. <https://www.unb.ca/webdev/unbishere/research-impact/#water>

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UNB Research Blog. February 12, 2021. Online Article. <http://blogs.unb.ca/research/2021/02/smartwhales-unb.php>

UNB Research Blog. December 2, 2020. Online Article. <http://blogs.unb.ca/research/2020/12/lonati-davies-hynes-whales.php>

Canadian Geographic. October 16, 2020. Online Article.
<https://www.canadiangeographic.ca/article/punctuations-mark-can-we-save-critically-endangered-north-atlantic-right-whale>

Bowdoin College Alumni Updates. September 21, 2020. Online Article.
<https://www.bowdoin.edu/news/2020/09/gina-lonati-12-sets-out-on-bay-of-fundy-to-research-right-whales.html>