
Contact

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Summary

I am an interdisciplinary researcher, with experience in social science, individual-based modeling, and policy development. My PhD research includes an individual-based model of endangered basking sharks in Ireland, assessing model use in policy at an international level, and qualitative research on communication of scientific results for policy development. I am a practicing science communicator and have experience with different audiences, including students, policymakers, and the public; and with diverse mediums, including video editing, social media outreach, and in-person presentations. I have experience working on international teams and with project management. I speak intermediate Irish and am proficient in R, Netlogo, Microsoft Office Suite, and Canva.

Education

PhD, Environmental Science and Policy, 2023. George Mason University, Fairfax, VA.

Dissertation: *An Individual-based Model of Basking Sharks as a Case Study of Model Communication for Policy*

M.S., Environmental Science and Policy, 2019. George Mason University, Fairfax, VA.

Thesis: *Public Perceptions of Basking Sharks in Donegal, Ireland*

B.S., Biology, 2013. University of Mary Washington (UMW), Fredericksburg, VA.

Professional Experience

Knauss Fellow, (2024 - Present), NOAA NMFS Office of International Affairs, Trade, and Commerce

- Coordinate data and information gathering for complex, multi-year international projects, such as the Biannual Report to Congress on IUU Fishing, Bycatch, and Shark Catch.
- Analyze legislation for impacts on a program or administration goals and developing reports. Provide technical drafting assistance to congressional representatives.
- Collect international data on IUU fishing, shark catch, conservation measures, and RFMO compliance.
- Planned and implemented bilateral and multilateral meetings between the USA and other nations to address the management of shared resources.
- Develop correspondence or responses to congressional and inter-agency inquiries.
- Developed US positions and proposals at international fisheries agreement meetings.

Researcher and Science Communicator (2018 - Present), Irish Basking Shark Group

- Collaborate with international researchers on basking shark research and policy.
- Create bilingual content for social media outreach and science communication.
- Use social media to track basking shark sightings and request users report them.
- Develop press releases related to basking shark conservation and policy, respond to media inquiries on behalf of the IBSG, represent the group in radio/podcast interviews.
- Respond to government inquiries for comment or scientific advice, such as the submission to Department of Housing, Local Government and Heritage Public Consultation on the MPA Advisory Group's Report.
- Developed multi-year national "Save our Shark" campaign with the promotion of a 12,900-signature petition to protect basking sharks Under the Wildlife Act of 1976 (legislation passed in Oct. 2022).

President (2021- 2022), **Vice President** (2020 - 2021), **Secretary** (2018 - 2019), Conservation Marketing Working Group, Society of Conservation Biology

- As president, raised enough funds to increase the treasury by 450%.
- Organized two international conferences (one in-person, one virtual) with over 200 attendees and speakers.
- Managed communications and outreach strategy.
- Developed multi-year development plans and strategic goals.

The Commonwealth of Virginia Engineering & Science (COVES) Fellowship, Virginia Academy of Science Engineering and Medicine, Richmond VA, 23219 (2021)

- Served as a science advisor for State Delegate Rodney Willett.
- Distilled complex research into 1-3 achievable policy goals for the upcoming legislative session.
- Research diverse environmental and social issues that impact the Commonwealth.
- Wrote responses to constituent concerns regarding diverse policy issues.
- Provided recommendations on current and future legislation as well as funding.

Research and Outreach Assistant Potomac Environmental Research and Education Center, George Mason University, Fairfax VA 22031 (2014 - 2023)

- Create and managed content for PEREC social media and website, such as videos and blogs.
- Communicated interdisciplinary water quality research to stakeholders, community leaders and legislators.
- Assisted with data collection (water, sediment, fish/zooplankton samples) on Potomac River watersheds.
- Identified and counted zooplankton samples.
- Educated thousands of local youths via the Meaningful Watershed Education Experience Program.

Graduate Teaching Assistant, George Mason University, Fairfax VA 22031 (2016 - 2023)

- Taught entry level and high-level Environmental Science Labs.
- Designed lab manuals and activities, with a focus on improving writing and communication skills.
- Awarded “Best Graduate Student Teacher” in 2019 and “Honorable Mention” in 2017.

Freelance Writer, (2013 - Present)

- Create content for websites and blogs, ranging in topics from the environment to law.
- Develop websites and webpages for private and scientific organizations.

Publications

Gray, C., Rothman, D.S., Peters-Burton, E., Smith, C. & Parsons, E.C.M. (2022). Individual-Based Model Use in Marine Policy. *Journal of Integrative Environmental Sciences*, 20(1), 2271550.

<https://doi.org/10.1080/1943815X.2023.2271550>.

Gray, C., Peters-Burton, E., Smith, C. & Parsons, E.C.M. (2022). Basking Shark Tourism in Donegal, Ireland - A Case-Study of Public Interest and Support for Shark Conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 1–14. DOI: [10.1002/aqc.3774](https://doi.org/10.1002/aqc.3774).

Gray, C., Schuler, A. R., & Parsons. (2022). Recent Advances in Whale Watching Research: 2019–2020. *Tourism in Marine Environments*. <https://doi.org/10.3727/154427322X16497485866411>.

Conference Presentations

An Individual-Based Model of Basking Sharks in Ireland (July 2023). Oral presentation at the Joint Meeting of Ichthyologists and Herpetologists 2023. Norfolk, VA USA.

Assessing Individual-Based Model Use in Policy: Ensuring Your Model is Utilized (May 2023). Oral presentation at International Society for Ecological Modelling Global Conference 2023. Toronto Canada.

An Individual-Based Model of Basking Sharks in Ireland (May 2023). Poster presentation at International Society for Ecological Modelling Global Conference 2023. Toronto Canada. *[Won second place for student posters]*

Making a Difference: How to Realize Policy Change (October 2022). *Sharks International*. Valencia, Spain.

Keynote: Getting the Messenger Right (October 2021). *ConsMark 2021: Changing Behavior in a Changing Climate*. Online.

Empathy for People and Nature: An ingredient to achieving success in every environmental conservation journey (January 2021). *Mindful Conservation Conference*. Online.

Using Short Videos to Bring Attention to Cutting Edge Research (February 2018). *Virginia Sea Grant Graduate Symposium*. Glen Allen, Virginia.

Science Communication Materials

Videos

- Gray, C. Director. (2021). “Watershed COVID-19 Monitoring at George Mason”. PEREC. https://www.youtube.com/watch?v=GBsSJoiWUFw&feature=emb_title.
- Gray, C. Production Assistant. (2020). “Elasmo Week: Irish Basking Shark Group”. Minorities in Shark Science. <https://www.youtube.com/watch?v=KwB111oTTM8&t=3s>.
- Gray, C. Director (2020). “Water Quality Mapping on the Potomac River”. PEREC. <https://www.youtube.com/watch?v=7doAwQHZpbs>.
- Gray, C. Director. (2019). “First Generation Student Turned Researcher.” Potomac Environmental Research and Education Center. <https://youtu.be/k7yX4ZemXBI>.
- Gray, C. Director. (2019). “Research Experience for Undergraduates- What can GMU students do?” Potomac Environmental Research and Education Center. <https://youtu.be/dzRZDP4sr-4>.
- Gray, C., Parsons, C. Director. (2018). “Does Knowledge Affect Support for Shark Conservation?” Ocean 180 Video Challenge. <https://vimeo.com/263665427> [One of ten finalist for 2018 Ocean 180 Video Challenge].
- Gray, C. Director. (2018). “Occoquan River Clean Up.” Potomac Environmental Research and Education Center. <https://youtu.be/ry-6uDxKZYw>.
- Gray, C. Director. (2018). “What’s in Our Water?” Potomac Environmental Research and Education Center. <https://youtu.be/iFh1fIITcuc>.
- Gray, C. Director. (2018). “Micropollutants in the Potomac River.” Potomac Environmental Research and Education Center. <https://youtu.be/cTpO-M2q4o8>.
- Gray, C., Smith, C. Director. (2018). “What is PEREC?” Potomac Environmental Research and Education Center. <https://youtu.be/ry-6uDxKZYw>.
- Gray, C. Director. (2017). “Zooplankton Net.” Potomac Environmental Research and Education Center. <https://youtu.be/6N6amA1pbjw>.
- Gray, C. Director. (2017). “Macroinvertebrates of the Potomac.” Potomac Environmental Research and Education Center. <https://youtu.be/kKvi7RqkQ6E>.
- Gray, C. Director. (2017). “Chemical Analysis of Water, Sediment, and Fish in the Potomac River.” Potomac Environmental Research and Education Center. <https://youtu.be/z0HZWJqQ9Rc>.
- Gray, C. Director. (2017). “Constructing the Potomac River Food Web.” Potomac Environmental Research and Education Center. <https://youtu.be/jRWMbKusqnE>.

Articles

- McInturf, A., Gray, C., Griffin, D., Johnston, E. (2021) Irish Basking Shark Group (IBSG) submission to Department of Housing, Local Government and Heritage. Public Consultation on the MPA Advisory Group’s Report entitled “Expanding Ireland’s Marine Protected Area Network”. <https://www.baskingshark.ie/post/advocating-for-basking-sharks-using-science-to-inform-conservation-measures>.
- Gray, Chelsea. (2021). COVES: Serving as a Science Advisor. Engineers & Scientists Acting Locally. <https://www.esal.us/blog/coves-serving-as-a-science-advisor/>.
- Gray, Chelsea. Ireland’s “Best Kept” Secret (2020). *Irish Basking Shark Group*. <https://www.baskingshark.ie/post/irelands-best-kept-secrets>.
- Gray, Chelsea. (2017). “What’s at the bottom of the Potomac River?”. *Potomac Environmental Research and Educational Center*. <https://perec.science.gmu.edu/whats-at-the-bottom-of-the-potomac-river/>.
- Gray, Chelsea. (2017). “Taking the pulse of a stream”. *Potomac Environmental Research and Educational Center*. <https://perec.science.gmu.edu/taking-the-pulse-of-a-stream/>.

Media Appearances

- This Gigantic Shark is a Huge Mystery (2024). *Sharks Unknown with Jasmin Graham*. PBS Digital Video. <https://www.pbs.org/video/this-gigantic-shark-is-a-huge-mystery-saqqdo/>.
- Wild About Basking Sharks with Chelsea Gray (2021). *Wild about Conservation*. <https://anchor.fm/wildaboutconservation/episodes/Wild-About-Basking-Sharks-with-Chelsea-Gray---S2-E11-e1a0r25>.
- Prince William Community Marine Debris Project Part 5: Collecting Plankton from a Retention Pond (2020). George Mason University Television. <https://www.youtube.com/watch?v=1UuWiuEn04s>.

- Elasmo Week Live Q & A. (2020). *Minorities in Shark Science*. <https://www.youtube.com/watch?v=GP7mBO2sfHs>.
- Graduate School in Conservation and Sciences (2020). *The Guide to Mindful Conservation: Dancing In Pink Hiking Boots*. <https://pinkboots.libsyn.com/graduate-school-in-conservation-and-sciences-advice>.
- Using Nature To Heal Traumatic Experiences (2020). *The Guide to Mindful Conservation: Dancing In Pink Hiking Boots*. <https://pinkboots.libsyn.com/using-nature-to-heal-traumatic-experiences>.
- Protecting the Safety of Women Within Academia with Chelsea Gray (2020). *Speak Up for Blue*, Episode 971. <https://www.radio.com/media/audio-channel/sufb-971-protecting-the-safety-of-women-within-academia-with-chelsea-gray>.
- Record High Temperatures for the Decade (2020). *Marine Conservation Happy Hour*, Episode 160. <https://marineconservationhappyhour.libsyn.com/mchh-160-record-high-temperatures-for-the-decade>.
- Social Science Field Work in Ireland with Chelsea Gray (2019). *Marine Conservation Happy Hour*, Episode 92. <https://marineconservationhappyhour.libsyn.com/mchh-92-social-science-field-work-in-ireland-with-chelsea-gray>.
- Viability of Basking Shark Ecotourism with Chelsea Gray (2019). *Marine Conservation Happy Hour*, Episode 92. <https://marineconservationhappyhour.libsyn.com/mchh-93-viability-of-basking-shark-ecotourism-with-chelsea-gray>.

Fellowships and Awards

- Knauss Fellowship (2024-2025), NOAA Sea Grant
- Summer Research Fellowship (2023), George Mason University
- Doctoral Research Scholars (2022-2023), George Mason University [*declined*]
- Team Science Training (2023), Virginia Sea Grant
- Oskar Morgenstern Fellowship (2022-2023). Mercatus Center, George Mason University.
- Freshwater Ecology Research Fund at PEREC (2022). George Mason University.
- International Women's Fishing Association Scholarship Trust (2022).
- Frédéric Bastiat Fellowship (2021-2022). Mercatus Center, George Mason University
- Don Lavoie Fellowship (2021). Mercatus Center, George Mason University.
- “Best Graduate Student Teacher” (2019). College of Science, George Mason University. Received “Honorable Mention” in 2017.