Sophie Loca, PhD, BSc

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Personal Profile

PhD-trained researcher with over 7 years' experience across marine surveys, data analysis, and conservation science. Turning complex data into actionable insights for conservation decision making is my passion and I'm excited to bring my expertise to a dynamic, impact-driven role.

www.sophieloca.com

Core Skills

Technical skills

- Advanced spatial & temporal models
- Bayesian statistics
- Geospatial data analysis
- Data visualisation and research infographics
- Scientific publication and public science writing
- Marine species identification
- Stakeholder engagement

Soft skills

- Project management
- Communication
- Empathy
- Adaptability
- Team work
- Organisation

Operational skills

- Full UK driving license
- Seafaring experience (MPA monitoring, commercial surveys, stock assessments)
- Sea survival cert (STCW)

Languages

English
French
German

Professional Experience

Oct 2024 to Present, Fjordstrong, Belfast
Project Lead/ Conservation & GIS Specialist
- Designed and implemented cloud data solutions and company-wide data migration.
- Collected and processed video-survey data, producing high impact visualisations and reports for diverse clients.
- Managed a data consultancy project, coordinating teams, driving project progress

Skills: Marine species identification, data analysis and visualisation, reporting, leadership.

June 2024 - July 2024, Data Intellect, Belfast
Project Lead/ Associate consultant
- Led technical software development projects using Agile/Scrum methodologies, coordinating teams, stakeholder meetings/workshops and overseeing project milestones.
- Reviewed code (Java Spring Boot, SQL), performed QA testing, and managed cloud resources (AWS).
- Worked on internal projects focused on complex data analysis, integrated AI applications.
- Authored technical documentation to support knowledge sharing and project continuity.

Skills: Agile project management, data analysis, communication, adaptability.

Oct 2022 - Mar 2023, Queen's University Belfast, Belfast
Research Assistant
- Successfully secured competitive funding for a 6-month independent research project.
- Conducted underwater video surveys in a highly sensitive conservation area, generating novel insights on species assemblages and essential fish habitats.
- Produced a formal government report tailored to inform policy and decision-making.

Skills: Data analysis & visualisation, project management, underwater video surveys, reporting.

Sep 2019 - Oct 2022, Queen's University Belfast, Belfast
Lab demonstration and teaching assistant
- Guided students through practical sessions in biodiversity, biochemistry, and marine systems, simplifying complex concepts.
- Marked assignments and provided detailed feedback for students.
- Supported field courses by ensuring safety and quality data collection

Skills: Teaching, practical field and lab techniques, health and safety, team coordination

Aug 2018 - Sept 2019, GenPact Pharmalink, Belfast
Regulatory Submissions Officer
- Oversaw quality control of regulatory documentation, ensuring compliance with SOPs and global standards.
- Coordinated with international health authorities and in-country agents to deliver submissions in respect of project deadlines.

Skills: Technical writing, team work, project management, communications, quality assurance.

Janvier 2018 – Juillet 2018, Pearl Court Guesthouse, Belfast
Manager
- Management of the hotel including pay, inventory, administration, payroll & repairs.
- Handled online reservation and salary system.

Skills: Hotel and team management, client relations, empathy, organisation, adaptability

Education

Oct 2019 - June 2025
PhD Marine ecology, Queen's University Belfast
Project : The conservation and management of the Critically Endangered flapper skate (*Dipturus intermedius*).
Skills: Advanced Bayesian predictive modelling, data mining and collation, GIS tools, stakeholder engagement methods, seafaring experience, manuscript preparation.

Sep 2014 - Sep 2017
BSc Zoology (First class honours), Queen's University Belfast
Project: The spatial ecology of domestic cats (*Felis catus*) in response to urbanisation, and conservation implications for wildlife.
Skills: Spatial data analysis (home range, habitat use, movement distances) and visualisation, animal biologging (GPS & accelerometry), modelling methods and GIS tools.

Sep 2012 - Sep 2014
A Levels, St Louis Grammar School, Ballymena
Subjets: Biology (A), Chemistry (B), Maths (C), French (C).

⚙️ Tools and Softwares

Langages: Python, R, SQL, Linux, q (KX)

Visualisation & BI: Power BI, QGIS, ArcGIS Pro

Collaboration: Jira, Confluence, Git, GitHub, Figjam, Figma

Cloud & Databases: AWS, SQL relational

🧩 Additional Training

In progress - **Certified Solutions Architect - Associate, AWS**. **Skills:** Scalable, resilient architecture design, cost-effective resource management, performance optimisation.

Aug 2023 - **3 month software engineering formation - Data intellect. Skills:** KDB+/Q, Linux, high-performance computing, data structures, algorithm optimisation, command-line workflows, version control (Git), data ingestion architecture, agile methodologies, professional communication.

Oct 2021 - **Regression models with spatial correlation using R-INLA, Highland statistics. Skills:** Statistical data exploration, Bayesian statistics, generalised linear models (GLM), mixed models, spatial and temporal models, time series analyses.

Aug 2020 - **R4ALL statistics course, R4ALL. Skills:** Data management, manipulation and exploration in R. Univariate and multivariate statistics, data visualisation, frequentist approaches.

Oct 2017 - **Conservation volunteer program, Rhino fund uganda. Skills:** Wildlife monitoring, behavioural data collection, animal tracking, species identification, conservation outreach, teamwork.

May 2017 - **Undergraduate skills program, Belfast hills partnership. Skills:** Ecological field surveys, data collection, GIS mapping, species identification, land-use assessment, stakeholder awareness.

📝 Recent Publications

On the Brink: Mapping the Last Strongholds of the Critically Endangered Flapper Skate (*Dipturus intermedius*). **2025**. Ecology and Evolution. **http://dx.doi.org/10.1002/ece3.71650**

A conceptual framework for regional data collection to support the conservation of large batoids: a case study on the critically endangered flapper skate. **2025**. Conservation Science and Practice. **https://doi.org/10.1111/csp2.70052**

A holistic and comprehensive data approach validates the distribution of the critically endangered flapper skate (*Dipturus intermedius*). **2023**. Journal of Fish Biology, 103(3), pp.516-528. **https://onlinelibrary.wiley.com/doi/10.1111/jfb.15466**

Spatio-temporal dynamics of the common skate species complex: Evidence of increasing abundance. **2022**. Diversity and Distributions, 28(11), pp.2403-2415. **https://onlinelibrary.wiley.com/doi/full/10.1111/ddi.13635**

The critically endangered flapper skate (*Dipturus intermedius*): Recommendations from the first flapper skate working group meeting. **2021**. Marine Policy, 124, p.104367. **https://www.sciencedirect.com/science/article/pii/S0308597X20310186**

Evidence of egg-laying grounds for critically endangered flapper skate (Dipturus intermedius) off Orkney, UK. **2021**. Journal of Fish Biology, 99(4), pp.1492-1496. **https://onlinelibrary.wiley.com/doi/full/10.1111/jfb.14817**

For full list of publications see sophieloca.com/publications

⭐ Awards and Public Speaking

Mar 2023 - Invited speaker at the 2nd Regional Flapper Skate Working Group

Apr 2022 - Department of Agricultural and Rural Development of Northern Ireland, Environmental challenge fund - funding obtained to carry out a 6-month postdoctoral research project.

Nov 2022 - Presented research at Sharks International conference, Valencia, ES.

Mar 2021 - Presented research at the European Elasmobranch Association conference, Leiden, NE.

Mar 2020 - Awarded best presentation at the PhD symposium at Queen's University Belfast.

Jul 2019 - Department of Agriculture and Rural Development of Northern Ireland PhD Studentship Award - funding obtained to carry out a 3-year PhD.

Jun 2017 - Queen's University Belfast John Muir studentship award - Bursary awarded to support extension of undergraduate research.

📇 References

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