

Florescia Cerutti, PhD
Marine science and conservation

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EXPERTISE

My primary research interest is using multidisciplinary approaches to produce key information that will guide management and conservation planning of sharks and rays. I work in marine protected areas using a wide range of tools to understand habitat use, movement patterns, migration pathways of sharks and rays; and to understand how the boundaries and management of a protected area may affect their populations. I also work with the interaction of sharks and rays with fisheries and how these animals fit within the ecosystem to understand how vulnerable they may be to human-made threats and how to better manage them. I believe integrating stakeholders and socio-economic factors into the management plans is a critical step for such plans to be effective. I have led research and citizen science projects and used spatial ecology, stable isotopes, video analysis, genetics, citizen science, fisheries and vulnerability assessments in various countries to improve science and conservation of these amazing group of marine animals.

EDUCATION

Ph.D. Marine Ecology, Charles Darwin University/Australian Institute of Marine Science, Darwin, Australia. 2013.

Thesis: Spatial ecology, genetic barcoding, and vulnerability of tropical Indo-West Pacific batoids, with a focus on Australian species.

Supervisors: Mark Meekan, Chris Austin, Kareyn Edyvane, Peter Kyne

Marine Biology- Science Degree, Universidad Autónoma de Baja California Sur. La Paz, B.C.S. México. 2004.

Thesis: Trophic ecology and behavior of devil rays in the Gulf of California using stable isotope techniques. (CICIMAR-IPN).

Supervisor: Felipe Galván

CURRENT POSITION

Marine scientist. Charles Darwin Foundation. Puerto Ayora, Galapagos, Ecuador.

Analysis of Diver-Operated video surveys (DOVS) to assess effects of MPAs on sharks and other fish. Analysis of longline fishery in Galapagos to understand its impacts on protected mega fauna within the reserve's waters. Undertaking video surveys (DOVS) using SCUBA diving. Catching/handling tiger sharks for acoustic monitoring. Coordinating field work for BRUVS, DOVS, tissue sampling and tagging of sharks and mantas. Grant, paper and report writing. Selection and supervision of volunteers. Logistics for international workshops. Lab management, sample management, maintenance of field equipment, diving health & safety.

Environmental writer at The Playa Times. Playa del Carmen, Quintana Roo México.

Informative articles in English on trendy topics related to conservation, science and environment for a non-expert audience. <http://www.theplayatimes.com/author/florencia-cerutti/>

PREVIOUS PROFESSIONAL EXPERIENCE

Environment education consultant. Manatus México, S. A. de C.V. Puerto Morelos, Quintana Roo, México. 2016-2017.

Developing short-courses on environment and marine biology for recreational divers and guides for a better understanding and protection of coral reefs and marine ecosystems of the Riviera Maya.

Marine scientist. Colectividad Razonatura, A. C. Playa del Carmen, Quintana Roo, México. 2016- 2017.

Developing protocols for assessing the impact of spiny lobster fisheries (casitas) on the environment in two marine protected areas of Q. Roo with sound participation of stakeholders. Environmental education on sharks and rays to schools in remote locations of Q. Roo

Principal scientist. Blue Core A.C. Playa del Carmen, Quintana Roo, México. 2015- 2017.

Coordinator of project assessing the impact of tourism on coral reefs in the marine park Arrecifes de Puerto Morelos, in collaboration with the national commission of marine protected areas (CONANP). Coordinator of the Spotted Eagle Ray research and conservation project in the Mexican Caribbean, in collaboration with Mote Marine Lab and ECOSUR. Coordinator of the Citizen Science & Outreach Program for the Spotted Eagle Ray project. Coral reef health surveys (fish-ID) using AGGRA method for Healthy Reefs Initiative Mexico. Coordination of teams, timelines, and field work (coastal, SCUBA diving). Capacity building. Grant writing. Assisting science educational programs and fund raising activities.

Field assistant. Coastal seaweed visual surveys for project on Coastal Pollution. Universidad de Quintana Roo, Chetumal, Quintana Roo, México. 2014.

Visual surveys of seaweed meadows in shallow coastal environments of Majahual, Q. Roo.

Marine scientist. Conservation International Indonesia. Raja Ampat, West Papua, Indonesia. 2013.

Development of protocols for monitoring reef elasmobranchs in a network of marine protected areas. Production of baseline for the first Shark Sanctuary in Indonesia through an assessment of reef elasmobranch assemblages. Assessment marine protected areas effectiveness for populations of elasmobranchs using BRUVS. Identification of key areas of aggregations of manta rays in Raja Ampat to implement monitoring in collaboration with the Indonesian Manta Project. Coordination of a multidisciplinary team to undertake field work. Staff training on monitoring protocols. Coordination of the Bird's Head Seascape (BHS) Science Workshop to discuss biological monitoring strategies and needs across the marine protected areas of the BHS.

Marine biologist and PhD candidate. Charles Darwin University and Australian Institute of Marine Science. Darwin, Australia. 2008-2012.

Management of a four-year long project including administration, budgeting, permits, grant proposals and field work. Catching, sampling, tagging (internal & external) elasmobranchs. Using passive acoustic monitoring to identify a nursery areas of juvenile rays in a MPA and determine movement patterns and habitat use of juvenile and adult rays within and around a MPA. Visual surveys of reef elasmobranchs using transects. DNA barcoding for identification of rays. Assessment of the vulnerability (ERA) of 16 species tropical rays to the risk of fishing and habitat degradation, and of research gaps and priorities for those species for better management and conservation of tropical rays in the Indo-West Pacific. Coordination of multi-cultural teams and activities during field work in remote locations.

Field assistant. Charles Darwin University. Darwin, Australia. 2010-2012.

Sediment sampling using a sediment grab in Darwin Harbor. Tagging and nest surveying of marine turtles on nesting beaches at Sir Eduard Pellew Island Group turtle camp, Gulf of Carpentaria, Northern Territory.

Research assistant. Arafura Timor Research Facility. Australian Institute of Marine Science and Charles Darwin University. Darwin, Australia. 2006-2008.

Population genetics and phylogeny lab techniques. Measuring and identifying sawfish from fishermen collections. External tagging, photographing, and sampling of manta rays and whale sharks while snorkeling. Establishment of liaison with SCUBA dive operators to promote collaboration among dive operators, community, and researchers for manta research and conservation. Coordination of field work with international volunteers in remote locations. Photo identification data management for population structure of whale sharks and manta rays at Ningaloo Reef.

Field assistant for Sharks and Rays Ecology Project in the Gulf of California. Laboratory of Fish Ecology, CICIMAR-IPN. La Paz, B.C.S., México. 2001-2005.

Sampling organs, tissue, and vertebrae from fisheries landings. Coordinating field work. Stable isotope laboratory techniques for trophic ecology project.

OTHER RELEVANT EMPLOYMENT / EXPERIENCE

English teacher. Centro Universitario Inglés. Playa del Carmen, Quintana Roo, México. 2015-2016.

Intermediate English language (B1) classes to university students.

Conservation blogger. Eco-Tours Adventures. Playa del Carmen, Quintana Roo, México. 2015.

Informative blogs for a non-expert audience in English and Spanish on trendy marine conservation/science topics in the Mexican Caribbean region.

<http://www.ecotoursadventure.com/blog/>

Biosciences tutor. Tertiary Enabling Program, School of Academic Language & Learning. Charles Darwin University. Darwin, Australia. 2012

Tutoring students on basic scientific methods and scientific thinking.

Tutor and Lab demonstrator. School of Environmental and Life Sciences, Charles Darwin University. Darwin, Australia. 2008-2012.

Tutoring and assisting lab work for science undergraduate units: Anatomy and Physiology, Life of Cells, Medicinal Chemistry, Chemical Concepts, Design and Analysis of Biological Studies, Ecology of Plants, and Introductory Marine Science.

Tutor. Northern Territory Medical Program Flinders University. Darwin, Australia. 2011-2012.

Development of biology, anatomy, and physiology topic content for FUELS medical program. Medical students training.

PUBLICATIONS and REPORTS

Cerutti-Pereyra, F. Bassos-Hull, K., Arvizu, García-Carrillo, I. *In press*. Ciencia ciudadana apoyando la investigación y conservación de rayas águila en el caribe mexicano. Revista Ecofronteras-ECOSUR.

Salinas-de-León, P., Philips, B., Ebert, D., Shivji, M., **Cerutti-Pereyra, F.**, Ruck, C., Fisher, C., Marsh, L. *In press*. Deep-sea hydrothermal vents as natural egg-case incubators at the Galapagos Rift. Scientific Reports.

Cerutti-Pereyra, F. Bassos-Hull, K., Arvizu, X., Wilkinson, K., García-Carrillo, I., Perez-Jimenez, J., Heuter, R. 2017. First insight into spotted eagle ray (*Aetobatus narinari*) aggregations in the Mexican Caribbean using photo-ID. Environmental Biology of Fishes. <https://doi.org/10.1007/s10641-017-0694-y>

Article review by Graham, R. Science Network, Western Australia: Mangroves prove favoured hangout for young rays. 2014. <http://www.sciencewa.net.au/topics/fisheries-a-water/item/2890-mangroves-prove-favoured-hangout-for-young-rays>

Cerutti-Pereyra, F., Thums, M., Austin, C., Bradshaw, C., Stevens, J., Babcock, R., Pillans, R., and Meekan, M. 2013. Restricted movements of juvenile rays in the lagoon of Ningaloo Reef, Western Australia - evidence for the existence of a nursery. Environmental Biology of Fishes. 97:371-383

Cerutti, F. Indonesia's first Shark Sanctuary. 2013. Scubaverse- Marine Life & Conservation. <http://www.scubaverse.com/2013/08/27/indonesias-first-shark-sanctuary/>

Cerutti, F. 2013. Monitoring elasmobranchs at Raja Ampat & monitoring program support report. Final report to Conservation International. 122p.

Cerutti-Pereyra, F., M. G. Meekan, N.-W. V. Wei, O. O'Shea, C. J. A. Bradshaw, and C. M. Austin. 2012. Identification of Rays through DNA Barcoding: An Application for Ecologists. PLoS ONE 7:e36479.

Article review by Curran-Ragan, S. Science Network, Western Australia: Barcoding of rays in Western Australia, Science Network, WA. 2012 <http://www.sciencewa.net.au/topics/fisheries-a-water/item/1673-dna-identification-of-rays-for-fisheries-management-and-conservation.html>

Cerutti-Pereyra, F. 2011. Ecological and genetic connectivity of rays at Ningaloo Reef. Ningaloo research. CSIRO Ningaloo Collaboration Cluster, WAMSI, and AIMS.

Cerutti, F. 2011. Project 3.9: Nursery ground and movement patterns for tropical rays at Ningaloo Reef, W.A. *In* Simpson, C and Waples, K. (eds). Summary Report Node 3: Ningaloo Marine Park Research Program. Final report submitted to the Western Australian Marine Science Institution. Department of Environment and Conservation, Perth. <http://ningaloo-atlas.org.au/sites/default/files/article/510/wamsi-3-final-synthesis-report.pdf>

Cerutti, F. 2011. Project 3.9: DNA barcoding of rays at Ningaloo Reef. *In* Simpson, C and Waples, K. (eds). Summary Report Node 3: Ningaloo Marine Park Research Program. Final report submitted to the Western Australian Marine Science Institution. Department of Environment and Conservation, Perth. <http://ningaloo-atlas.org.au/sites/default/files/article/510/wamsi-3-final-synthesis-report.pdf>

GRANTS

Mote Marine Laboratory. Florida USA. 2015-2016.

2016. Conference attendance and field work in Cuba for the Spotted Eagle Ray Research and Conservation Project in the Mexican Caribbean at Blue Core A.C.

2016. Education and outreach program start-up grant for the Spotted Eagle Ray Research and Conservation Project in the Mexican Caribbean at Blue Core A.C.

2015. Citizen Science program start-up grant for the Spotted Eagle Ray Research and Conservation Project in the Mexican Caribbean at Blue Core A.C.

Charles Darwin University, Australia. 2008-2012.

Conference travel grant for paper presentation at the international conference of the ‘Oceania Chondrichthyan Society’, Gold Coast, Australia.

Conference travel grant for paper presentation at the international conference ‘Sharks International, Cairns’.

Workshop and travel grant for ‘Generalized linear mixed-effects modeling’ in the University of Western Australia.

Funding grant for genetics lab work.

Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia. 2008

Funding for acoustic tagging of tropical rays at Ningaloo Reef, Australia.

Consejo Nacional de Ciencia y Tecnología (CONACYT), México. 2007-2012.

International five-year long doctoral grant for research on ecology of rays in Australia.

Australian Institute of Marine Science (AIMS), Australia. 2008-2012.

Five-year long funding for ecological and genetic research on rays at Ningaloo Reef, Australia.

National Outdoors Leadership School (NOLS), USA-México. 2002.

Outdoors leadership course with sea kayak techniques in the Gulf of California.

CONFERENCES

Cerutti-Pereyra, F. (2016) First insight into the aggregations of spotted eagle rays *Aetobatus narinari* in the Mexican Caribbean. *ECOCIEC*. Cayo Coco, Cuba.

Cerutti- Pereyra, F. (2015). Spotted Eagle Ray Research and Conservation Project and the Citizen Science & Outreach Program. *Series of community conferences*. Quintana Roo, Mexico. 2015

Cerutti- Pereyra, F. (2015). Spatial ecology, genetic barcoding, and vulnerability of tropical Indo-West Pacific batoids, with a focus on Australian species. Invited seminar: Mote Marine Laboratory. Florida, USA

Cerutti- Pereyra, F. (2015). The life of a marine biologist, special guest high school marine science summer program. Invited seminar: Mote Marine Laboratory. Florida, USA

Cerutti- Pereyra, F. (2011). DNA Barcoding of rays at Ningaloo reef: an application for ecologists. *Oceania Chondrichthyan Society (OCS)*. Australia.

Cerutti- Pereyra, F. (2010). Movement patterns of rays at Ningaloo Reef, WA. *Sharks international*. Australia.

Cerutti- Pereyra, F. (2006). Stable isotopes in mobula rays. in *2^{do} Simposium Internacional de Tiburones y Rayas y 3^a In Semana del Tiburón* México.

Cerutti- Pereyra, F. (2004). Reproduction of mobuld rays. *1^{er} Simposium Internacional de Tiburones y Rayas y 3^a In Semana del Tiburón*. México.

ACADEMIC COURSES and WORKSHOPS

First aid provider. Ecuadorian Red Cross. Puerto Ayora, Santa Cruz, Galapagos, Ecuador. 2017
Atlantic and Gulf Rapid Reef Assessment (AGRRA) Reef fish ID certification. Healthy Reefs Initiative. 2016.

Sharks! Global biodiversity, biology, and conservation. Online courses at University of Queensland (UQx). Australia. 2016.

Community journalism. Online course. Cardiff University. England. 2016.

- Data to insight.** Online cours. University of Auckland. New Zealand. 2015.
- Managing people.** Online course. Henley Business School Future Learn, University of Reading. England. 2015.
- Fundraising: How to connect with Donors.** Online course. Philanthropy University. Berkeley Haas School of Business, University of California Berkeley. USA. 2015.
- Tropics101x. Tropical Coastal Ecosystem.** Online course. University of Queensland (UQx). Australia. 2015.
- Contemporary Issues in Ocean Governance.** Online course. University of Wollongong. Australia. 2015.
- Spotted Eagle Ray trilateral workshop- tagging, photo-identification analysis, diet preferences.** Mote Marine Laboratory. Florida, USA. 2015.
- Spotted Eagle Ray workshop- fisheries, age and growth, and diet preferences.** El Colegio de la Frontera Sur (ECOSUR). Campeche, México. 2015.
- Writing and presentation skills for science.** Charles Darwin University. Australia. 2011.
- Translate research into appropriate and relevant conservation and management workshop.** Oceania Chondrychthian Society conference. Australia. 2011.
- Advanced Endnote, Microsoft Word and Microsoft Excel for thesis writing and large data management.** Charles Darwin University. Australia. 2010.
- R software.** Charles Darwin University. Australia. 2009.
- Shark tagging workshop.** Australian Institute of Marine Science/ Northern Territory Fisheries Department. Charles Darwin University. Australia. 2008.
- The Biology of Cartilaginous Fish.** Centro Interdisciplinario de Ciencias Marinas, Mote Marine Laboratory and Universidad of California. México.2004.
- Stable Isotope workshop.** Centro Interdisciplinario de Ciencias Marinas and Interamerican Tropical Tuna Comission. México. 2004.

SKILLS & QUALIFICATIONS

- GIS,** ArcMap and Spatial Analyst Tools.
- Reporting,** written and verbally in English and Spanish.
- Managing,** teams and projects according to timelines and budgets.
- Tagging and handling,** marine megafauna. AIMS/CDU/NRETAS, Australia.
- Bird tagging,** Victoria University of Wellington, New Zealand
- Fish ID,** AGRRA healthy reefs certification. HRI
- Rescue Diver,** NAUI.
- Oxygen Provider,** DAN
- Red Cross Senior First Aid Provider & CPR,** Ecuadorian, Mexican and Australian Red Cross.
- Outdoors leadership with sea kayak techniques,** National Outdoor Leadership School (NOLS).

FOREIGN LANGAGUES

- English fluent, professional level.
- Spanish fluent, professional level.
- Indonesian, Italian, French, basic level.

REFERENCES

Kim Bassos-Hull, M. Sc.

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Mote Marine Laboratory
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