

Nerea Lezama Ochoa



Personal information

Date of birth April 1st, 1984
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Education / Research

- 2020-** **Postdoctoral researcher**
Environmental Research Division, NOAA- Monterey, California
Develop of dynamic species distribution models to reduce the mortality of bycatch species .
- 2020** **Researcher in Fisheries Management and Conservation**
AZTI Foundation, Spain
Manage and implementation of the Code of Good Practices (BBPP) in tropical tuna purse-seine vessels. Evaluation of the correct implementation of handling and release techniques on vulnerable bycatch species. Analysis of tagging data. Study of post-release survival of mobulid rays and sharks in the Atlantic and Indian Oceans.
- 2017-2020** **Postdoctoral research in Fisheries and Marine Conservation**
Inter-American Tropical Tuna Commission (IATTC, San Diego) & AZTI-Tecnalia, Spain
Habitat and distribution of *Mobula mobular* in the Pacific, Atlantic and Indian Oceans. Conservation of mobulid rays. Frequentist and Bayesian Species Distribution Models.
- 2010-2016** **PhD in Marine biodiversity and Fisheries**
AZTI-Tecnalia – San Sebastian, Spain
Biodiversity and habitat preferences of the by-catch communities from the tropical tuna purse-seine fishery in the pelagic ecosystem: differences between the Indian, Atlantic and Pacific Oceans. Species Distribution Models.
Supervised by Dr. Hilario Murua
- 2008-2009** **European Master in Marine Science**
University of Barcelona – Barcelona, Spain
Master thesis: “Study of tuna discards and by-catch accessories species in the Purse Seine Fisheries in the Atlantic and Indian Oceans”
Oceanography and Marine Environment Management.
- 2002-2007** **Graduate in Biology**
University of Navarra – Pamplona, Spain
Environmental biology.

Work experience

- 2020** **AZTI Foundation**
Coordination of the project of Good Practices in tuna vessels.
- 2017-2020** **Inter-American Tropical Tuna Commission (IATTC).**
Study of mitigation measures for the conservation of mobulid rays in tuna vessels.
- 2016** **A.N.A.B.A.C (Asociación Nacional de Armadores de Buques Atuneros Congeladores)**
Coordinator of MSC (Marine Stewardship Council) project in the Atlantic Ocean.
- 2016** **Research project for “Save our Seas” Foundation**
“Spatial and temporal patterns of Manta and Mobula species in the Eastern Pacific Ocean”
Inter-American Tropical Tuna Commission (San Diego, California).
- 2010** **International research in the Martin Ryan Marine Institute (Galway, Ireland)**
- 2009** **Research assistant in E.I.B.E (Euskal Izurde eta Baleen Elkarte)**
Study of marine mammals in the Gulf of Biscay (Hondarribia, Spain).
- 2008** **Research assistant in CIRCE (Conservation, Information and Research on Cetaceans)**
Study of marine mammals in the Gulf of Cadiz in collaboration with ALNITAK (Cadiz, Spain).
- 2003** **Research assistant in Whale Watching**
Study of marine mammals in Tarifa (Cadiz, Spain).

Research Stays and Scientific Cruises

- 2020** **Hawaii Institute of Marine Biology (HIMB)**
Collaboration in research projects to study the habitat of hammerhead sharks in Hawaii.
Species Distribution Models and analyses of tagging data.
- 2018-2019** **Collaboration with the University of California Santa Cruz (UCSC).**
Participation on tagging techniques with turtles and mobulids in Baja California (Mexico)
- 2016** **Inter-American Tropical Tuna Commission (San Diego, California)**
Research project for “Save our Seas” Foundation
- 2015** **Inter-American Tropical Tuna Commission (San Diego, California)**
Modelling diversity and habitat preferences of the by-catch communities in the eastern Pacific Ocean.
- 2014** **University of Oxford (Oxford, UK)**
Modelling the potential habitat distribution of the *Carcharhinus falciformis* and *Canthidermis maculata* in the Indian, Atlantic and Pacific Ocean and the change of habitat under the A2 climate change impact.
- 2012** **Institute de Recherche pour le Développement (Sète, France)**
Project: “Large fish predator’s diversity highlighted by tuna fisheries data in the tropical Indian Ocean: differences between long-line and purse seine fisheries”.
Results presented in the MADE symposium, Montpellier.
- 2010** **Scientific cruise-observer onboard (Tropical Eastern Atlantic)**
Project: DCR (EU). Objective: work as observer in the Atlantic Ocean to learn the sampling methodology used to estimate the by-catch in the purse seine fisheries.

Awards/Congress

- 2020** FILAMO Research scholarship (University of Bergen, Norway).
- 2019** 70th Tuna Conference (Arrowhead, USA). Oral presentation.
- 2018** 69th Tuna Conference (Arrowhead, USA). Oral presentation.
- 2017** Annual ICES Conference (Fort Lauderdale, Florida). Poster presentation.
- 2017** Climate, Oceans and Society Challenges (Busan, Korea). Oral presentation.
- 2016** 67th Tuna Conference Desert Star Student Scholarship (Arrowhead, USA). Oral presentation.
- 2015** Save our Seas Foundation-Small grant (Switzerland).
- 2015** 12th Ecology and Behavior meeting (Toulouse, France). Poster presentation.

- 2014 65th Tuna Conference Desert Star Student Scholarship (Arrowhead, USA). Oral presentation.
- 2014 11th Ecology and Behavior meeting (Montpellier, France). Oral presentation.
- 2014 Fishery dependent information symposium (Rome, Italy). Poster presentation.
- 2013 EURO -OCEANS conference: A changing Ocean (Canarias, Spain). Poster presentation.
- 2012 Towards ecosystem-based management of tuna fisheries (Montpellier, France).
- 2012 Leonardo Da-Vinci international scholarship (Galway, Ireland).
- 2008 Effects of Climate Change on the World's Ocean (Gijon, Spain).

Selected publications

- 2020 **Lezama-Ochoa et al. 2019.** Main areas of importance for Spinetail devil ray (*Mobula mobular*) bycatch species from the tropical tuna purse-seine fishery in the eastern Atlantic Ocean (Endangered Species Journal).
- 2020 **Lezama-Ochoa et al. 2019 (co-author).** Can conservation and management measures allow industrial tuna fisheries to co-exist with the near-threatened Spinetail devil ray (*Mobula mobular*) in the eastern Pacific Ocean? (in preparation).
- 2020 **Lezama-Ochoa et al. 2019.** Modelling the impacts of climate change for a data-poor bycatch species: the case of the Spinetail Devil Ray (*Mobula mobular*) in the Gulf of California (in preparation).
- 2019 **Lezama-Ochoa et al. 2019.** Assessing a Bayesian modelling approach (INLA-SPDE) to predict the occurrence of the Spinetail Devil Ray (*Mobula mobular*). Scientific Reports.
- 2019 **Lezama-Ochoa et al. 2019.** Environmental characteristics associated with the presence of the Spinetail devil ray (*Mobula mobular*) in the eastern Pacific Ocean. Plos One.
- 2019 **Lezama-Ochoa et al. 2019.** Spatial and temporal distribution of mobulid ray species in the eastern Pacific Ocean ascertained from observer data from the tropical tuna purse-seine fishery. Environmental Biology of Fishes.
- 2018 Research priorities to support effective Manta and Devil ray conservation (**co-author**). Frontiers in Marine Science.
- 2018 **Lezama-Ochoa et al. 2018.** Biodiversity and habitat characteristics of the by-catch assemblages from the tropical tuna purse-seine fisheries in the Eastern Atlantic Ocean. Marine Ecology.
- 2017 **Lezama-Ochoa et al. 2017.** Biodiversity and environmental characteristics of the bycatch assemblages in the eastern Pacific Ocean. Frontiers in Marine Science.
- 2016 **Lezama-Ochoa et al. 2016.** Present and future habitat distribution of *Carcharhinus falciformis* and *Canthidermis maculata* by-catch species in the tropical tuna purse-seine fishery under climate change. Frontiers in Marine Science.
- 2015 **Lezama-Ochoa et al. 2015.** Biodiversity and habitat preferences of the by-catch species assemblages in the Western Indian Ocean. Biodiversity and Conservation.
- 2014 Torres-Irineo, E; Amandé, J; Gaertner, D; Delgado de Molina, A; Murua, H; Chavance, P; Ariz, J; Ruiz, J; **Lezama-Ochoa, N** (2014). By-catch species composition over time by tuna purse-seine fishery in the Eastern tropical Atlantic Ocean. Biodiversity and Conservation.
- 2013 Ruiz, J; Batty, A; McElderry, H; Restrepo, V; **Lezama, N**; Murua, H; Urtizberea, A and Urrutia, X (2013). Pilot study of an electronic monitoring system on a tropical tuna purse seine vessel in the Atlantic Ocean. Collect. Vol. Sci. Pap. ICCAT (SCRS).
- 2010 José Silva; **Nerea Lezama** & Jordi Rull Lluç (2010). Mapas de distribución de algas marinas de la Península Ibérica y las Islas Baleares. XXIV. Catenella caespitosa, Caulacanthus ustulatus y Feldmannophycus rayssiae. Bot. Complut.34: 89-93

Courses/Seminars

2020	Seminar presented at NOAA (Oahu, Hawaii): “Mitigation measures for mobulid rays”.
2020	Analysis of tagging data for bycatch species (sharks and mobulids) (Oahu, Hawaii; granted).
2019	Deploy of post-release survival tags in mobulid rays on purse-seine vessels (workshop to observers) (Manta, Ecuador).
2018	Seminar presented at Scripps Institution of Oceanography (SIO) (San Diego, USA): “Integrating science and management into a strategy to reduce bycatch of mobulid rays”.
2018	FILAMO course: Connecting Field work and Laboratory experiments to numerical Modelling in a changing marine environment (Cape Town, South Africa; granted).
2018	Seminar presented at CICESE marine institute (Ensenada, Mexico): “The use of habitat distribution models based on fisheries data for bycatch mitigation”.
2018	CAPAM: Development of spatial-temporal models of fishery catch-per-unit-effort-data to derive indices of relative abundance.
2017	Ecological Risk Assessment for bycatch species (IATTC course by Shane Griffiths).
2016	Course Modeling Species distributions: Methods and Applications (Bayesian).
2015	Marine Litter and pollution.
2015	Geographic Information System (GIS).
2014	Introduction to Generalized Linear Models with R.
2014	II Devotes Summer School: From Species to Ecosystems, Modelling Marine Ecology for Management Application.
2014	Measuring Biodiversity. University of Lisbon.
2013	Modelling and mapping species distribution. University of Amsterdam.
2013	Generalized Additive Models with R.
2008	Recovery and management of degraded marine ecosystems and estuaries.
2008	Technical session: “Marine turtles in the Bay of Biscay and East Atlantic”.

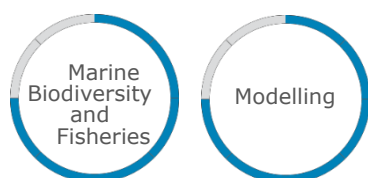
Languages

Spanish	● ● ● ● ●
English	● ● ● ● ●

Motivation

Highly dedicated and passionate researcher. Working on tropical tuna fisheries and concretely, on the conservation and management of bycatch species since 2010. My main research interests are ecological modeling, spatial ecology, oceanography and ecosystem-based management approach for the conservation of marine top predators. I understand marine conservation as a way of life. Good communication and interpersonal skills.

Skills



- IT Skills: Microsoft Office, qGIS, ArcGis, MapInfo, R, Maxent software.
- Data analysis and managing softwares: R, PgAdminIII.
- Analysis: “INLA”, “vegan”, “BiodiversityR”, “maps”, “mgcv”, “Rchivaltag” and “dismo” packages with R.
- Reviewer of scientific papers in Journal of Fish Biology (2016) and Ecological Indicators (2017).
- Photo- identification of marine mammal skills.
- Experience with Electronic Monitoring Systems in tropical purse-seine vessels.
- Bibliography management: Internet browsers, Endnote, Mendeley.
- Driving license, Spain (2008).
- P.A.D.I diving title with a star. San Sebastian, Spain (2002).

Ongoing projects

- Develop of the Integrated Nested Laplace Approximation (INLA) Bayesian model to predict the occurrence of *Mobula mobular* species from the tropical tuna purse-seine fishery in the eastern Pacific Ocean and eastern Atlantic Ocean.
- Develop of the Ecological Assessment of Sustainable Impact of Fisheries (EASI-Fish) model to quantify the impact of the purse-seine fishery on the data-poor Spinetail Devil Ray (*Mobula mobular*) in the Pacific and Atlantic Oceans.
- Pilot project to study the post-release survival of mobulid rays in the tropical tuna purse-seine fishery in the eastern Pacific to verify the use of good release and handling practices.
- Develop of Generalized Additive Models (GAMs) and Boosted Regression Tress (BRT) to study the habitat of the *Eretmochelys imbricate* in Baja California (Mexico). Teaching a PhD student.
- Develop of GAMs to study the habitat of the hammerhead sharks in Hawaii. Collaboration with the University of Hawaii and NOAA.

References

Dr. Donal Croll

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Dr. Martin Hall

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Dr. Hilario Murua

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<https://saveourseas.com/project/pacific-mobulids-unwanted-catch/>