

EDUCATION

PhD in Oceanology on the socio-ecological approach to shore and offshore recreational fisheries in support of sustainable coastal areas management

proposed for the regional thesis prize on the unanimous opinion of the committee
congratulations from the French Secretary General for the Sea, Didier Lallement, and the President of the French maritime cluster, Frédéric Moncany de Saint Aignan
CEFREM, Perpignan Via Domitia University (France)

From 2017 to 2021

Dissertation: *"Socio-ecological approach to shore and offshore recreational fishing in support of coastal areas management. Characterisation and impact of fishing strategies on Catch per Unit Effort and the environment in a Mediterranean **Marine Protected Area**"*

Objectives:

- 1) To acquire protocolled data on sea uses (recreational and professional) and particularly on shore and offshore recreational fishing along the sandy coast of a marine protected area.
- 2) To characterise the effort using **interpolations**, the environmental impacts and the removals of daytime recreational fishing in a Mediterranean **MPA**, the Natural Marine Park of the Gulf of Lion (NMPGL), in order to initiate a reflection on the scales of impact of the different fishing activities (professional and recreational).
- 3) To study and hierarchize the factors of variation in CPUE linked to **management levers** using **Random Forest, GLM models and multi-regression trees** analysis to propose an approach of co-management specific to the activity.
- 4) To describe the profiles of shore and offshore anglers using **MCA and classification approaches** to analyze the impact of fishing strategies on CPUE and to validate the results previously acquired.

The aim of these three points was to set up a quasi-holistic (quantitative and qualitative) approach to recreational fishing that could be transferred to other study sites.

Keywords: Recreational fishing, Index of abundance, Uses, Co-management, Mediterranean Sea

Supervisors: Marion Verdoit-Jarraya and Philippe Lenfant

Committee: Nathalie Niquil, David Mouillot, José Garcia-Charton, Rachid Amara, Guillaume Laquement, Lauriane Vasseur (Guest)

Master (second year) in Functioning and Management of Marine Ecosystems (FOGEM)

passed with highest honour (grade: 16.464/20)

Littoral Côte d'Opale University (France)

From 2014 to 2015

Academic subjects: **Geomatic tools (QGIS)**, Anthropic threats on coastal and marine ecosystems, Environmental law, Coastal development and risks management, Citizen science, Approach to the professional world.

Dissertation: "*Diversity of cold coral biocenoses in the Lacaze-Duthiers canyon: definition of control reefs for the long-term monitoring defined in the framework of the management plan of **natural marine park of the Gulf of Lion (NMPGL)***"

Tasks: co-piloting of ROV and 3D-ROV campaign, data management, description of coral reefs (dynamics, functionality, associated species, identification of anthropogenic or climate impacts), video analysis, creation of a **GIS of coral reefs**, marine park-laboratory cooperation. Banyuls-sur-mer marine station, *Laboratoire d'Ecogéochimie des Environnements Benthiques (LECOB)*, UPMC-CNRS UMR8222, France

Supervisors: Pr. Nadine Le Bris and Pr. Franck Lartaud (UPMC), Dr. Bruno Ferrari (NMPGL)

Master (first year) in Biology and Environmental Health (BSE)

passed with high honour (grade: 15.026/20)

Nice Sophia Antipolis University (France)

From 2013 to 2014

Academic subjects: Evolutionary genetics, Environmental risks (terrestrial and marine, **global change**), Molecular ecology, Demogenetics of invasive species, Scientific behavior (ethics, bibliography and scientific writing), English

Dissertation: "*Management of heritage habitats: setting up a **Geographic Information System (GIS) for Mediterranean marine forests conservation***"

Tasks: collection of historical and field data for *Cystoseira* spp. communities (1890-2013), compilation of datasets along the French, Monegasque and Italian coasts and the **marine protected areas network** (from Toulon to **Portofino, including Tavorara**) in a GIS, recommendation for the conservation of Mediterranean marine forests. ECOMERS laboratory, Nice Sophia Antipolis University, France

Supervisors: Dr. Luisa Mangialajo and Dr. Lorraine Bottin, senior lecturers; Dr. Fabrizio Gianni.

Bachelor Degree in Biology of Organisms, Populations and Ecosystems (BOPE)

passed with distinction (grade: 13.281/20)

Toulouse III Paul Sabatier University (France)

From 2012 to 2013

Academic subjects: **GIS applied to ecology**, Behavioral Ecology, Quantitative ecology and biology (**Statistics on R**), Evolutionary biology and genomics, Zoology, Faunistics, Animal anatomy, Host-parasite interactions, Entomology and insect societies, English

SPECIFIC TRAINING

Mooc and Open Classroom (in progress): Python basics and Python basics applied to GIS analyses

Training school: Calculation Positions in Acoustic Telemetry

Description: Introduction to positioning, hidden Markov Models (HMM), YAPS (Yet Another Positioning Solver), Social Network Analysis (SNA), Hierarchical Generalized Additive Models (HGAMs), Step Selection Models (SSM), Gratia R package, GAM visualization.

European Tracking Network

From 18/05/2022 to 20/05/2022 in Ceske Budejovice, Czech Republic

Training school: Introduction to generalized linear modeling (GLM) and mixed models using R

Description: Introduction to R and R Studio, R Markdown, Basic programming on R, Plotting data and models, Likelihood, ANOVA, AIC and deviance, Simple linear regression, Multiple regression, Introduction to GLM, Mixed models, Generalized Additive Models (GAM)

Transmitting Science

From 14/10/2019 to 18/10/2019 in Gerakari-Rethymon, Greece

Training school: Modern R from A to Z

Description: Introduction to Tidyverse, dplyr and ggplot2 packages; dataset manipulations, visualisation and analysis of complex data, Inkscape, graphic productions for publications, Rmarkdown, Reprex package

Collège Doctoral Languedoc-Roussillon

From 18/03/2019 to 19/03/2019 in Perpignan Via Domitia University, France

Training school: Designing collaborative interdisciplinary studies

Description: participatory observatory of an interdisciplinary project (GIEAN) by focusing on the long-term work of an interdisciplinary research team, from the first constitutive meeting to the first restitutions, construction of dialogues and methodologies for inter-science analysis

Maison des Sciences et de l'homme (MSHSud) and Collège Doctoral Languedoc-Roussillon

From 27/11/2017 to 28/11/2017 in Paul Valéry University, Montpellier, France

Training school: National recreational clams fishing survey

Description: **Socio-ecological and regulatory diagnoses**, evaluation grids, in situ monitoring protocols (how to take into account the topology of the study areas), protocols for estimating dispersed visitor numbers, national or local survey protocols, setting up and testing questionnaires in situ, use of **national reporting databases** (ESTAMP), reading of environmental indicator grids

Centre Permanent d'Initiatives Pour L'Environnement (CPIE), VivArmor Nature, Littorea Network

From 23/05/2018 to 24/05/2018 in Syndicat Mixte pour l'Etang de Berre (GIPREB), France

Bachelor's degree in Humanities and Social Sciences - Sociology (UE in addition)

Description: Environmental Sociology, Sociological Data Analysis, Economics linked to Ecology, Political Sociology, Explanatory Pluralism in Sociology, Europeanisation of Social Issues, Critical Sociologies of Modernity

Toulouse Jean Jaurès University, UFR Sciences, Spaces and Societies, France

From 2016 to 2017

SPECIFIC LICENCES:

Observer and professional port access authorization

French Diving Level 1

Archipelplongee

2018, Argelès-sur-mer, France

Coastal Boating Licence (300h of sailing)

08/09/2016, Dunkerque, France

POSITIONS HELD

Post-doctorate on the MSP4BIO Project – “Improved Science-Based Maritime Spatial Planning to Safeguard and Restore Biodiversity in a coherent European MPA network”

Description: improve climate change impact considerations in Maritime Spatial Planning (MSP), evaluate ecological vulnerability, resilience and resistance, mitigation and adaptation capacities to climatic drivers (and their interaction with human impacts) of conservation features for Marine Protected Areas prioritization approaches by combining climate change monitoring at single MPA and MPAs network scales, also including Earth Observation systems.

Istituto ISMAR Sede di Lerici, Italie

From : 01/03/2023 - current

Post-doctorate USAEXTRAPARC for professional and recreational fishing co-management and spatial planning development

Description: joint analysis of biometric catch records from professional and recreational fisheries (trophic levels, sizes, weights, composition of catches), extrapolation of catches on **R**, description of professional fishermen's profiles (using MCA), in situ questionnaires to identify potential conflicts between activities, mapping of fishing sectors and spatialisation of efforts (**using QGIS**), writing of a summary report, support for partnerships and oral presentations to the **park's management board** bringing together representatives of the state, the police, scientists and users.

Perpignan Via Domitia University – French Office for the Biodiversity (OFB), Perpignan, France

From 01/01/2022 to 30/06/2022

PhD in Oceanology on the socio-ecological approach to shore and offshore recreational fisheries in support of sustainable coastal areas management

Data collection: management of the *PechGere 2017-2018* recreational fishing monitoring sampling plan (design of the questionnaire, collection and management of data on land and at sea, management and training of teams, maintenance of equipment, scheduling of trips and administrative support)

Data analysis on R (qualitative and quantitative) and QGIS: interpolation of frequentations and spatio-temporal description of efforts according to **environmental, climatic and human parameters**, assessment of the sustainability of the activity via extrapolation of the harvested stocks and the description of fishing impacts on the marine environment, prioritization of the efficiency of recreational fishing management measures using univariate and multivariate analyses (**random forests, generalized linear models using DHARMA and car packages, multivariate regression trees**), identification of priority species for monitoring or management, description of fishermen's profiles (**typological analyses, MCA, hierarchical classifications**) to assess the potential success of the implementation of measures according to the impacted public and fishing motivations, facilitation of awareness-raising and monitoring operations through the establishment of a calendar of actions and the identification of sites of priority importance. **Comparison with declarative data and evaluation of Local Ecological Knowledge contribution to historical and current fishing studies.**

Writing: Thesis, 3 partnership reports

Partnerships and trainees: Team management (18 people in total, including 12 trainees), partnerships management (government services, **MPA** managers, professionals in the field, boaters, scientists from different disciplines)

Fundraising

Perpignan Via Domitia University, Perpignan, France

Period: From 01/10/2017 to 31/10/2021

Scientific observer “small-scale fishing” in the Channel and the North Sea, OBSMER-OBSVENTE program (IFREMER)

Description: collection of vessel data (eg. techniques used, length of boats, effort expended) and catch data (species identification, number of individuals, biometric data) on board small-scale fishing boats (gillnet boats <15m) (OBSMER protocol) and in fish auctions (OBSVENTE protocol), management and negotiation of boardings and auctions' collection, team management and planning, data entry and reporting to the **SIH (Ifremer's software)**; management of relations with maritime services, freshness quality control services, fishermen's and wholesale fish merchants' groups.

Oceanic Développement, Concarneau/Boulogne-sur-mer/Dunkerque, France

From 01/03/2017 to 30/09/2017

Responsible for stimulating and coordinating the actors network, participatory monitoring and restoration of sensitive environments

Description: management and recruitment of volunteer teams, management of the smooth running of construction sites and linking volunteers and managers of protected sites (regional or national reserves), organization of unifying events for the association, management of calendars and environmental monitoring (eg. Odonata and floristics), communication (writing the newsletter, maintaining social networks, interviews and video editing)

Les Blongios, Lille/Camargue, France

Period: 2016

Fauna and Flora Inventory Officer (wetland - gravel pit in reconversion) and Regional Natural Reserve management

Société Tarnaise de Sciences Naturelles (STSN), Vielmur-sur-agout, France

Period: 2013 (3 months)

COLLABORATIONS

Modelling of extractive and non-extractive uses and land-sea disturbances for spatial planning and Strong Protected Areas development and habitats conservation in the natural marine park of the Gulf of Lion (*Predict fishing/USAEXTRAPARC*)

Description: active participation (model development and analysis, data and **GIS management**, meetings organization, articles and reports writing) in the development of a model based on boosted regression trees summarizing all the extractive and non-extractive uses within the Natural Marine Park of the Gulf of Lion and covering the main land-based pollution of the watershed, identification of areas favorable to fishing at high risk of postponement and intensification of pressures on habitats after the establishment of **Strong Protection Zones or climatic/socio-economical (eg. Blue growth, social crisis) changes**, proposal of Strong Protection Zones, **geospatial data analysis (R and QGIS)**

CEFREM-CRIOBE Collaboration

University Perpignan Via Domitia-CNRS-EPHE-PSL Labex Corail, Perpignan, France

Period: From 21/03/2022, *still in progress*

Participation in the supervision of Meryl Zimmermann's thesis "Habitat use and quantification of connectivity by acoustic telemetry within fish populations in a marine protected areas network"

Description: comparative analysis of fish-fishermen behaviors, highlighting of avoidance behavior, classification of **MPA** regarding the level of protection for the target species of the Franco-Spanish RESMED network, **revision of MPA performance indicators** and **identification of favorable sectors for the implementation of Strong Protection Zone**, contribution of fishing expertise for the analysis of telemetry results and during scientific and public meetings

CEFREM

University Perpignan Via Domitia – University of Barcelona, Perpignan, France

Period: From 01/10/2020, *still in progress*

<https://cefrem.univ-perp.fr/index.php/personnel/2-non-categorise/332-meryl-zimmermann>

<https://resmed.cat/fr/projet/>

Invited member of a Thesis Monitoring Committee

Description: advice and assistance in the analysis of data from the national monitoring of recreational and subsistence fishing in Lebanon as part of the thesis called **"Spatial and temporal characterization of shore and offshore recreational fishing along the Lebanese coast (Eastern Mediterranean) for a sustainable management of fisheries resources (PechRecLib program)"** (M. Imad Lahoud)

University Perpignan Via Domitia-CNRS Marine Research Center, Jounié, Lebanon

Period: From 27/11/2019, *still in progress*

Phenological study of fish movements between a Mediterranean lagoon and the sea: methodological crossing of acoustic camera videos and local ecological knowledge

Description: co-supervision of an internship, creation of a questionnaire targeting professional and recreational fishermen and aiming to better identify the species colonizing the Bages-Sigean lagoon as well as the ranges of sizes and seasonality of each of these species. The objective was to allow a more in-depth analysis of the fish flows between the lagoon and the sea captured by the acoustic cameras placed in the Grau. I participate actively to the acquisition of data in situ, the construction of the database and the R analysis.

Iona Le Gallou, Raphaël Lagarde, Eléonore Cambra, Marion Verdoit-Jarraya and Elisabeth Faliex

University Perpignan Via Domitia- CEFREM, Perpignan, France

Period: From 21/03/2022, *still in progress*

Declarative data acquisition advisor for the thesis "Climate and hydrological changes in the North-Western Mediterranean: evolutions over the last 60 years, for the 21st century and impacts on the vineyard activity", Dr. Camille Labrousse

Description: participation in preparatory meetings for the data acquisition about farmers' changes in practices related to water stress

CEFREM, University Perpignan Via Domitia

Period: 2019

WORKING GROUPS ON MPA MANAGEMENT AND MONITORING

Involvement in the development of monitoring protocols

September 2021/ June 2022 - *Sharing space and conflicts. Survey of professional small-scale fishermen for resource sustainability* (Natural Marine Park of the Gulf of Lion, France)

May 2021 - *Protocol and methodology exchange for monitoring frequentation in MPAs* (Fishing cantonment, Agde, France)

November 2019 - *Protocol exchanges, future basis of the Black Sea recreational fishing monitoring protocol* (Lebanon, PHC CEDRE 2019)

November 12, 2019 - *Formal exchanges and feedback*, thesis by Laura Iborra under the supervision of Michel Marengo (Stareso, Corsica, France)

May 23 and 24, 2018 - *Presentation of the PechGere project: study of recreational fishing in the Natural Marine Park of the Gulf of Lion, protocol exchanges for recreational fishing survey* (GIPREB, VivArmor Nature and the Littorea Network CPIE Marenne-Oléron, Etang de Berre, France)

2017-2018 - *Raising fishermen's awareness of good fishing practices and sharing monitoring protocols*, collaboration with the Label Bleu Association (France)

Working Groups

November 30, 2022 - Exceptional guest at the management council of the Natural Marine Park of the Gulf of Lion, presentation of thesis work on recreational fishing, with the Natural Marine Park of the Gulf of Lion, State Agencies, Scientific council, Prud'homies, Federations and fishing clubs

October 21, 2022 - Participation in the *Working Group for the creation of a Charter of good practices and a voluntary declaration of fishermen catches at sea within marine protected areas*, with the Natural Marine Park of the Gulf of Lion, Federations and fishing clubs

July 9, 2021 - Participation in the *Urchin and License Working Group*, with the Natural Marine Park of the Gulf of Lion, State Agencies, Prud'homies, Fishing Federations and Clubs

January 15, 2020 - Participation in the *Fishing Working Group on Sizes and Quotas*, with the managers of the Natural Marine Park of the Gulf of Lion, the Marine Natural Reserve of Cerbères-Banyuls, the fishing federations and clubs

October 29, 2019 - Participation in the Working Group *Inventory and prospects related to the charter of fishing competitions within the Natural Marine Park of the Gulf of Lion*, with the Natural Marine Park of the Gulf of Lion, the fishing federations and clubs

September 9, 2019 - Copil PechPro, *Monitoring professional small-scale fishing in the Gulf of Lion Marine Nature Park*, with the Natural Marine Park of the Gulf of Lion

January 23, 2019 - PechGere program, presentation of thesis first results, with the Natural Marine Park of the Gulf of Lion

June 27, 2018 - Copil PechGere, *Valorization of recreational fishing monitoring data on the rocky coast and on the sandy coast of the PNMGL*, Natural Marine Park of the Gulf of Lion

April 03, 2018 - Presentation of fisheries monitoring protocols and reflection on the axes of common management between Marine Protected Areas, French Agency for Biodiversity

February 11, 2018 - Round table on fishing indicators (professional and leisure fisheries), French Agency for Biodiversity

November 18, 2017 - Presentation of protocols to fishing federations, round table on the management of recreational fishing, with the National Federation of Plaisance and Sea Fishing and the Natural Marine Park of the Gulf of Lion

SUMMARY OF SKILLS

Softwares

Statistics: R, Excel, Past

Programming: R, Python (*in progress*)

Cartography: Qgis, ArcGIs, MapInfo

Image Analysis: EDIUS, ImageJ, VideoDeluxe

Technical and scientific skills

- **Transdisciplinary data collection and analysis (questionnaires, LEK)**
- Sea campaign logistics, field equipment management
- **Creation and management of large databases**
- **Statistical (R) and geospatial data analysis**
- Processing of quantitative and qualitative data, **use of climatic variables in models**
- **Modelling:** MRT (*Multi Regressional Tree*), GLM and Mixed models, Big Data Management (*Random forest*), Networks for telemetry, Boosted Regression Trees, TOPSIS Analysis
- Technical reports, **ecological and socio-economic diagnoses**
- Management of marine and coastal environments
- **Marine spatial planning analyses and diagnoses**
- **Multidisciplinary approach and linking of fisheries actors**
- Setting up and monitoring of projects, fundraising
- Reception of the public, team coordination, team training
- Information transmission and communication: popularisation of science, organisation and moderation of meetings, **mediation**

PUBLICATIONS' LIST

Articles

Cambra, E., Kayal, M., Bello, A., Lenfant, P., Vasseur, L., Verdoit-Jarraya, M., (*under correction*). Impact of offshore angler profiles on recreational stock indicators and harvest assessment in a mediterranean marine protected areas.

Cambra, E., Bello, A., Kayal, M., Lenfant, P., Vasseur, L., Verdoit-Jarraya, M., 2021. Holistic investigation of shore angler profiles to support marine protected areas management. Journal of Environmental Management 285, 112089. <https://doi.org/10.1016/j.jenvman.2021.112089>

Kayal, M., Cigala, M., **Cambra, E.**, Soulat, N., Mercader, M., Lebras, A., Ivanoff, P., Sébés, L., Lassus-Debat, A., Hartmann, V., Bradtke, M., Lenfant, P., Jabouin, C., Dubreuil, J., Pelletier, D., Joguet, M., Mellionnec, S.L., Brichet, M., Binche, J.-L., Payrot, J., Saragoni, G., Crec'hriou, R., Verdoit-Jarraya, M., 2020. Marine reserve benefits and recreational fishing yields: The winners and the losers. PLOS ONE 15, e0237685. <https://doi.org/10.1371/journal.pone.0237685>

Reports for the French Government

November 2022 - USAEXTRAPARC program report - First comparisons of professional and recreational fisheries in the Natural Marine Park of the Gulf of Lion in support of the development of **spatial planning policies**. **Cambra, E.**, Dametto, S., Kayal, M., Morel, M., Dieudonné, E., Vasseur, L., Cigala, M., Soulat, N., Mercader, M., Lebras, A., Ivanoff, P., Sébés, L., Lassus-Debat, A., Hartmann, V., Bradtke, M., Lapierre, B., Goossens, A., Lenfant, P., Jabouin, C., Dubreuil, J., Pelletier, D., Joguet, M., Mellionnec, S.L., Brichet, M., Binche, J.-L., Payrot, J., Saragoni, G., Crec'hriou, R., Verdoit-Jarraya, M., (*last version under correction*)

January 2019 - Multi-scale characterisation of recreational fishing in the Natural Marine Park of the Gulf of Lion. Raw results of the first biological analyses of the sandy coast from the 2017-2018 monitoring, **E.Cambra**, P. Salvado, M. Kayal, A.Bello, M. Cigala, P. Lenfant, M. Clairicia, G. Saragoni, R. Crec'hriou, Verdoit-Jarraya M.

July 2018 - Deliverable 3 of the agreement relating to the valorisation of monitoring data on recreational fishing on the rocky coast and the monitoring of recreational fishing activities on the sandy coast of the Gulf of Lion Marine Natural Park (PechGere). Sub-part 2/4: Multi-scale characterisation of recreational fishing in the Gulf of Lion Marine Natural Park. Socio-economic section (L3-2SE). Intermediate report by CEFREM for the French Agency for Biodiversity, manager of the Gulf of Lion Marine Natural Park, **Cambra E.**, Bello A., Kayal M., Cigala M., Soulat N., Mercader M., Lebras A., Huguet F., Ivanoff P., Sébés L., Lassus-Debat A., Bradtke M., Lenfant P., Clairicia M., Saragoni G., Crec'hriou R., Verdoit-Jarraya M.

January 2018 - Deliverable 2 of the agreement on the use of monitoring data on recreational fishing on the rocky coast and the monitoring of recreational fishing activities on the sandy coast of the Gulf of Lion Marine Natural Park (PechGere), VERDOIT-JARRAYA M., **E. CAMBRA**, G. SARAGONI, R. CRECHRIOU, P. LENFANT, M. CLAIRICIA, M. KAYAL

LECTURES AND PRESENTATIONS

Congress

20-22 February 2023 – 10th World Recreational Fishing Conference (accepted abstract), Melbourne, Australia - *Impact of offshore angler profiles on declarative data and harvest assessment in a Mediterranean marine protected areas.*

3-9 February 2023 - IMPAC 5 (speaker), Vancouver, Canada - *Socio-Ecological Approach Of Professional And Recreational Fisheries In Support Of The Concerted Management Of Marine Protected Areas.*

20-24 September 2021 – World Fisheries Congress (poster), Adelaide, Australia - *Socio-ecological analysis of drivers of CPUE variation related to recreational fishing strategies in support of Marine Protected Areas management.*

26-27 August 2021 - International Conference on Coastal Ecology and Oceanography (ICEO), Paris, France (associated: *I. Lahoud, G. Khalaf, S Jemaa, M. Lteif, E. Cambra, M. Verdoit-Jarraya*) - *A Baseline Study to Characterize the Recreational Fishing at a National Level in Lebanon, Eastern Mediterranean.*

28-30 June 2021 - 9th World Recreational Fishing Conference (speaker), Rotterdam, Netherlands - *Ecological variability and potential impacts of bait usage to support management actions in a north*

western Mediterranean marine protected area.

https://www.youtube.com/watch?v=_PBcIIULmqM&t=767s

06-11 October 2019 - 42nd CIESM Congress, Cascais, Portugal (poster and speaker) - *Evaluating recreational fishermen profiles to support management actions in the Gulf of Lion Marine Natural park (NW Mediterranean, France).*

http://ciesm.org/online/archives/abstracts/pdf/42/index.php#CIESM_Congress_2019_Cascais_article_0262.pdf

26-28 June 2019 - 14th conference of the *Association Française d'Halieutique* (AFH), Caen Normandie University, France (speaker) - *The description of anglers' profiles: an asset for adapting management strategies and analyzing the impacts on exploited stocks. Case study in the Natural Marine Park of the Gulf of Lion.*

(poster) - *Sharing of maritime space and spatialization of fisheries (professional and recreational) within the Natural Marine Park of the Gulf of Lion. Identification of potential conflicts in support of management.*

https://www.association-francaise-halieutique.fr/wp-content/uploads/presentations_AFH_2019-1.pdf

5-6 December 2018 - Reinforced Protection seminar: "maps on the table", French Agency for Biodiversity, Banyuls-sur-mer, France

RESEARCH INTERESTS

- Management of marine protected areas
- Impact of fisheries (recreational and professional) on marine socio-ecosystem and food webs
- Assessment of Local Ecological Knowledge quality
- Development of models attempting to anticipate the effects of changes in regulations or practices (related to societal or environmental changes in the context of global change) on the marine environment
- Citizen Science
- Better understanding the behavioral co-evolution between fishers and targeted fish
- Co-development of spatial planning including Strong Protection Zones

ACADEMIC SERVICE

Teaching (2018-2022)

- Master's degree (2nd year): **Marine Environment Management** (16h)
- Master's degree (1st year): Marine population ecology and participatory science (34h), Survey Techniques and **Applied Statistics on R** (48h), **GIS** (24h)
- Bachelor's degree: Marine Biology and Ecology (16h), Paleontology (6h)

Supervision

2021-2022:

Phenological study of fish movements between a Mediterranean lagoon and the sea: methodological crossing of acoustic camera videos and local ecological knowledge, Iona Le Gallou, Master's degree 2nd year, 6 months, validated with Highest honours. Co-supervisor with Raphaël Lagarde, Marion Verdoit-Jarraya et Elisabeth Faliex (CEFREM), Master's degree 2nd year, 6 months

2018-2019:

Variation factor of abundance indices of marine populations from recreational fishing: a case study along the sandy coast of the Natural Marine Park of the Gulf of Lion, Tiphaine Quintin, Master's degree 2nd year, 6 months

Recreational fishing abundances from 2015 to 2018 and effect of changes in regulations in the Natural Marine Reserve of Cerbère-Banyuls, Claire Valleteau, Master's degree 1st year, 2 months (50% co-supervision with the reserve)

Spatio-temporal comparison of professional and recreational fishing in Natural Marine Park of the Gulf of Lion and characterisation of the relationships between users for the year 2010-2011, Sarah Dametto, Master's degree 1st year, 3 months, validated with Highest honours

2017-2018:

Elaboration of recreational fishing calendars along the sandy coast of the Natural Marine Park of the Gulf of Lion, 2017-2018, Caoimhe White, L2, 4 months

Description of recreational fishing catches along the sandy coast of the *Natural Marine Park of the Gulf of Lion*, 2017-2018, Pascaline Salvado, L2, 2 months

Description of recreational fishing catches along the sandy coast of the Natural Marine Park of the Gulf of Lion, 2017-2018, Philippe Douchet, Master's degree 1st year, 2 months

Characterisation of shore anglers' profiles along the rocky coast of the Natural Marine Park of the Gulf of Lion (2013-2014), Robin Marsac, Master's degree 2nd year, 1 month

Characterisation of offshore anglers' profiles along the rocky coast of the Natural Marine Park of the Gulf of Lion (2010-2011), Sacha Corso, L2, 2 months

Importance of offshore recreational fishing on ports economy, Tristan Estaque, L2, 2 months

Ten-year assessment of recreational fishing yields in the vicinity of the Cerbère-Banyuls Natural Marine Reserve, Marine Cigala, Master's degree 2nd year, 6 months (supervision of the fieldwork and processing of the database)

Characterisation of shore anglers' profiles along the rocky coast of the Natural Marine Park of the Gulf of Lion (2010-2011), Alice Bello, Master's degree 1st year, 4 months

Discovery Workshop, Solène Cambreling, L2, 2 weeks

Examiner/Jury member:

Impact assessment for the implementation of a wind farm: chiropteran activity, 2019-2020. Emma Hipeaux, Master 1st year Biology, Chemistry, Environment, "Biodiversity and Sustainable Development" speciality, Perpignan Via Domitia University

Monitoring and analysis of fish populations in the Natural Marine Reserve of Cerbère-Banyuls marine nature reserve and its peripheral areas (2019), 2019-2020. Nicolas Lucchini, Master 1st year “Marine Sciences”, Perpignan Via Domitia University

LANGUAGES

French: native language

English: fluently written and spoken, main working language used in the framework of Franco-Spanish partnership exchanges, international congresses and supervision of non-French speaking trainees in the framework of Franco-Irish exchange (Caoimhe White), writing of scientific articles, several tourist stays in England

German: fluent, holder of the Goethe Zertifikat B1, learned for 8 years at school (2003-2011), 4 homestays in Munich, Hannover, Berlin and Stuttgart

Japanese: beginner, holder of the level A1 at the University Perpignan Via Domitia, level A2 in progress, 1 homestay in Tokyo (November 2018)

Italian: Basically understood

Spanish: Understood, beginner