



Research evaluation

FINAL RESUME ON THE RESEARCH UNIT  
EABX - Aquatic Ecosystems and Global Changes

UNDER THE SUPERVISION OF THE  
FOLLOWING INSTITUTIONS AND RESEARCH  
BODIES:

Institut national de recherche pour l'agriculture,  
l'alimentation et l'environnement - INRAE

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**EVALUATION CAMPAIGN 2020-2021**  
GROUP B

Report published on May, 25 2021

High Council for evaluation of research and higher education



In the name of Hcéres<sup>1</sup>:

Mr Thierry Coulhon, President

In the name of the experts committee<sup>2</sup>:

Ms Elisabeth Maria Gross, Chairwoman of the committee

Under the decree No.2014-1365 dated 14 November 2014,

<sup>1</sup> The president of Hcéres "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5);

<sup>2</sup> The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

Tables in this document were filled with certified data submitted by the supervising body on behalf of the unit.

## UNIT PRESENTATION

**Unit name:**

Aquatic Ecosystems and Global Changes

**Unit acronym:**

EABX

**Current label and N°:**

UR 1454

**ID RNSR:**

201421785Y

**Application type:**

Renewal

**Head of the unit (2020-2021):**

Mr Eric Rochard

**Project leader (2021-2025):**

Mr Henrique Cabral

**Number of teams and/or themes:**

2

## EXPERTS COMMITTEE MEMBERS

**Chair:**

Ms Elisabeth Maria Gross, Université de Lorraine, Metz

**Experts:**

Mr Jean Armengaud, CEA, Bagnols-sur-Cèze

Ms Sandrine Charles, Université de Lyon (representative of CSS INRAE)

Mr Patrick Kestemont, Université de Namur, Belgique

Ms Monique Simier, IRD, Sète (supporting personnel)

## HCÉRES REPRESENTATIVE

Ms Catherine Mouneyrac

## REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Jérôme Joubès, Université de Bordeaux

Mr Mohamed Naaim, INRAE

## INTRODUCTION

### HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The research unit (RU) EABX was created in 2014 by merging two teams of the "Estuarine ecosystems and diadromous fish" (EPBX) unit, "Estuarine Ecosystems" (EE) and "Diadromous fish" (PMA), and one team of the former unit "Networks, water treatment and water quality" (REBX), "Anthropic contaminants and responses of aquatic environments" (CARMA). After a reorganization in 2018 by IRSTEA, the former EPBX teams merged and were renamed "Functioning and restoration of Estuarine Ecosystems and populations of diadromous fish" (FREEMA) and the former team CARMA became team "Ecology of Aquatic Plants' communities and impact of multiple stressors" (ECOVEA). The unit is located in Cestas/Bordeaux. It has a field station 60 km north-east (Saint Seurin sur l'Isle) and a research vessel located 100 km north. Since 2020, EABX is part of INRAE, after IRSTEA & INRA fusion.

### RESEARCH ECOSYSTEM

Since January 2020, EABX is part of department Aquatic ecosystems, water resources and risks (AQUA) of INRAE, focusing on ecology, ecotoxicology and environmental chemistry of aquatic ecosystems. The research infrastructure has strongly evolved with the merger of IRSTEA and INRA into INRAE. Both teams FREEMA and ECOVEA contribute to the Research Infrastructure (RI) for research in Living In Freshwaters and Estuaries (LIFE) from the AQUA and ECODIV departments, contributing to the axis "Aquatic systems submitted to multiple stressors". The evolution of the main focus from water chemistry towards the study of exposure biomarkers in the EABX unit became stronger by a collaboration with the "Unité Mixte de Recherche" (UMR) CNRS "Environnements et paléo-environnements océaniques et continentaux" (EPOC) from Bordeaux University, with the associated unit "Groupement de Recherche Eau Sol Environnement" (GRESE) at Limoges University, with the "Institut des Sciences Analytiques (ISA)" from Lyon and with Riverly chemistry laboratories (INRAE, Lyon). EABX also collaborates with its neighbor unit "Environment, Territories and Infrastructures" (ETBX) of Bordeaux University (Bordeaux Sciences Agro). The unit actively contributed to the "laboratoire d'excellence" (LabEx) "Evolution, adaptation et gouvernance des écosystèmes continentaux et côtiers (COTE)", which ended in 2019. Since 2019, the unit is participating in scientific and management committees of the "Observatoire Aquitain des Sciences de l'Univers" (OASU). It also participates in the coordination and scientific direction of the "Zone Atelier Pyrénées-Garonne (ZA PYGAR)". EABX is associated to the "Sciences de l'Environnement" Department of the Bordeaux University.

### HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE1\_2 Évolution, écologie, biologie des populations  
ST4\_4 Chimie du et pour le vivant

EABX is a unit with research in ecology, ecotoxicology and environmental chemistry of aquatic systems based on observations, experiments and modelling, working on fundamental and applied research perspectives in support of public policies.

### MANAGEMENT TEAM

Current director: Mr Eric ROCHARD

Director for the next contract: Mr Henrique CABRAL

### UNIT WORKFORCE

Active staff	Number 06/01/2020	Number 01/01/2022
Full professors and similar positions	0	
Assistant professors and similar positions	0	
Full time research directors (Directeurs de recherche) and similar positions	5	5
Full time research associates (Chargés de recherche) and similar positions	5	6
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	

High school teachers	0	
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	30	31
<b>Permanent staff</b>	<b>40</b>	<b>42</b>
Non-permanent professors and associate professors, including emeritus	0	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	7	
PhD Students	10	
Non-permanent supporting personnel	10	
<b>Non-permanent staff</b>	<b>27</b>	
<b>Total</b>	<b>67</b>	<b>42</b>

## GLOBAL ASSESSMENT OF THE UNIT

The two-team EABX unit (ECOVEA and FREEMA) is a research unit in ecology, ecotoxicology and environmental chemistry that investigates the responses of continental aquatic biodiversity to global changes, at various biological scales.

The global assessment of the unit taking into account the different criteria is excellent. EABX has an excellent scientific output in publications (155, with 73 % in Q1 and 19 % in Q2 journals, average of 3.4 per scientist/year) and involvement as leaders in regional, national ("Office Français de la Biodiversité", OFB) and international (Interreg) research projects. It has an excellent reputation as reference laboratory at the national level, with strong expertise in diatom and macrophyte bioindication or eel migration and sturgeon conservation. Its international recognition and attractiveness are very good, and the unit is visible through the increasing number of international contracts and co-direction of international PhD theses. The involvement in socio-economic partnerships is outstanding, visible by eight industrial and R&D contracts and involvement in expert committees (AFNOR, ANSES). The unit has an excellent involvement in training through research shown by the large number of PhD students (26), and eighteen that were defended within the contract. The unit's life and organization are excellent. This is ensuring a very good cohesion within and between both teams, and between the different categories of employees. The unit proposes an equilibrated mix of applied projects for regional and national end-users and more fundamental research. The numerous levels of biological organization, biological models and methodologies that can be tackled by the unit are quite unique. The team ECOVEA presents an excellent project based on very innovative and timely themes with bioindication as main strength, allowing to be involved in the elaboration of guidance documents for stakeholders. It has an excellent reputation at the national and international level for its expertise on phytoplankton and phototrophic biofilms, visible by the coordination of one international (Canada), 20 national and regional projects, the participation in an USA NSF Eager project and its recognized expertise at the European level (European Water Framework Directive, WFD). FREEMA is presenting an excellent project focusing on diadromous fish at different spatial and temporal scales, with specific projects targeting questions of biodiversity or the effect of climate change, pollutants and other stressors on fish populations and communities. The team has an excellent recognition at the European and national level for its expertise on migratory fish, visible in the coordination of one European project (Interreg DiadES), the participation in three European projects and the coordination of two national projects. Overall, the proposed project for the unit for the next five years is excellent, ambitious and of high quality. It is built on the expertise and means of the two teams of EABX, and roughly 50 % of the corresponding budget is already secured. Finally, the themes developed by the unit are well integrated in the AQUA Department of INRAE and in the research field: Department "Environmental Sciences" from Bordeaux University.

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