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## QUASARE - Thème de recherche qualité des systèmes aquatiques et restauration écologique

Rapport Hcéres

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## REPORT ON THE RESEARCH THEME:

Quality and ecological restoration of aquatic systems

QUASARE

## UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Institut national de recherche en sciences et technologies pour l'environnement et l'agriculture - Irstea

**EVALUATION CAMPAIGN 2017–2018**  
GROUP D



In the name of Hcéres<sup>1</sup> :

Michel Cosnard, President

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

Gordon Copp, Chairman 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 expert committee". (Article 11, paragraph 2).

This report is the sole result of the unit's evaluation by the expert committee, the composition of which is specified below. The assessments contained herein are the expression of an independent and collegial reviewing by the committee.

## UNIT PRESENTATION

<b>Unit name:</b>	Quality and ecological restoration of aquatic systems
<b>Unit acronym:</b>	QUASARE
<b>Requested label:</b>	URs
<b>Application type:</b>	Restructuration
<b>Current number:</b>	
<b>Head of the unit (2017–2018):</b>	Mr Philippe Boët
<b>Project leaders (2018–2022):</b>	UR EABX (Bordeaux) Mr Eric ROCHARD; UR HYCAR (Anthony) Mr Vazken ANDRÉASSIAN; UR RECOVER (Aix-en-Provence) Mr Eric MARTIN; UR RIVERLY (Lyon) Mr Gilles PINAY

**Number of teams or themes:** 0

## COMMITTEE MEMBERS

**Chair:** Mr Gordon COPP, *Centre for Environment, Fisheries & Aquaculture Science, United Kingdom*

**Experts:** Mr Luc BRIENT, *university of Rennes 1, (supporting personnel)*

Ms Maria FEIO, *university of Coimbra, Portugal*

Mr David MCKENZIE, *CNRS Montpellier*

Mr Philippe USSEGIO-POLATERA, *university of Lorraine (representative of the CCS IRSTEA Water)*

Ms Anne VIVIER, *French Biodiversity Agency*

**HCERES scientific officer:**

Mr Christopher CARCAILLET

**Representatives of supervising institutions and bodies:**

Mr Bruno HAMELIN, *Aix-Marseille University*

Ms Dominique LABORDE, *Irstea*

Mr Mohamed NAAIM, *Irstea*

## INTRODUCTION

### HISTORY AND GEOGRAPHICAL LOCATION OF THE RESEARCH THEME

The research unit QUASARE (Qualité des systèmes aquatiques et restauration écologique) was established in September 2009, consisting of six teams across four regional locations and research units (URs):

SITES	TEAMS	UNITS
Antony:	HEF (Hydro-écologie fluviale)	HBAN Hydrosystèmes et Bioprocédés
Lyon:	DYNAM (Dynamiques et modèles en éco-hydrologie) LHQ (Hydro-écologie quantitative)	MALY (Milieux Aquatiques, Écologie & Pollutions)
Aix- en-Provence:	FRESHCO (Fonctionnement et restauration des systèmes hydrologiques continentaux)	RECOVER (Risques, ECOSystèmes, Vulnérabilité, Environnement, Résilience)
Bordeaux:	PMA (Poissons migrateurs amphihalins) FÉE (Fonctionnement des écosystèmes estuarien)	EABX (Écosystèmes Aquatiques et changements globaux)

Notable is the link between the team in Aix-en-Provence and the AFB–ONEMA (Agence française pour la biodiversité, formerly Office National de l'eau et des milieux aquatiques), which has a joint research pillar (« pôle ») on the hydro-ecology of still waters. This research pillar, which comprises IRSTEA and AFB staff, endeavours to understand better and to communicate to various stakeholders the structure and function of lacustrine hydrosystems in the face of various stressors (e.g. riparian/bank alterations, water-level fluctuations). This provides the necessary evidence to inform management decisions with regard to compliance of the European Water Framework Directive (WFD), including the development of tools to improve the management and rehabilitation of these water bodies in order to restore 'good status'. Two other teams (Hydro-ecology of running waters in Lyon [LHQ]; Hydraulic ecology in Toulouse [IMFT1] and Bordeaux [PMA]), which were previously associated with this AFB–ONEMA pillar, have returned to their respective affiliations during the investigation period.

### MANAGEMENT TEAM

Mr Philippe BOËT is the director of the TR QUASARE.

### HCERES NOMENCLATURE

SVE1\_2 Évolution, écologie, biologie des populations

### SCIENTIFIC DOMAIN

QUASARE's research examines the responses of continental hydrosystems (estuaries, running and still waters) and their biological communities (primarily macro-invertebrates and fishes) to local human (hydro-morphological alterations, interactions with chemical risks) and global (climate change) stressors. The major challenge in its research is the development of methods and techniques for conserving or restoring good ecological status of aquatic ecosystems, their communities and populations.

## UNIT WORKFORCE

Research theme workforce	Number 30/06/2017	Number 01/01/2019
<b>Permanent staff</b>		
Full professors and similar positions	0	nr
Assistant professors and similar positions	0	nr
Full time research directors and similar positions	6	nr
Full time researchers (Chargés de recherche) and similar positions	17	nr
Other scientists (Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.)		nr
High school teachers		nr
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	37	nr
<b>TOTAL permanent staff</b>	<b>60</b>	<b>nr</b>
<b>Non-permanent staff</b>		
Non-permanent professors and associate professors, including emeritus	0	
Non-permanent full-time scientists, including emeritus, post-docs	1	
Non-permanent supporting personnel	24	
PhD Students	15	
<b>TOTAL non-permanent staff</b>	<b>40</b>	
<b>TOTAL research theme</b>	<b>100</b>	

## GLOBAL ASSESSMENT OF THE RESEARCH THEME

The geographical separation and extensive overlap in research themes that characterised the *theme de recherche* (hereafter TR) that was QUASARE were both strengths and weaknesses. The geographical spread of the four sites has fostered a sense of scientific isolation in some cases and thus inhibited personal interchanges for the staff concerned. The distances between labs would have also rendered difficult any endeavours in the coordination of joint, collaborative field sampling. As a consequence, there has been considerable overlap in the research topics addressed at the four locations, and these shared research areas do not appear to have been particularly well defined. As such, it was not clear how the thematic overlaps were managed so as to reduce or eliminate duplication of effort. That said, QUASARE's presence in these disparate locations permitted the establishment of important local linkages/collaborations that enriched and broadened QUASARE's range of experience and expertise while, at the same time, providing it a nation-wide representation, which is not only inherent to, but also expected of, national institutions. Despite their geographical separation, each of the sites appears to have established a similar level of excellence in the training and pastoral care of early-career scientists, which was apparent in the comments received from the PhD candidates in attendance during the evaluation committee's visit. The quality of QUASARE's research and development (R&D) outputs ranges from very good to excellent. There were, nonetheless, areas where the TR could have been stronger, such as in its valorisation of its R&D outputs in terms of peer-reviewed scientific publications, especially amongst PhD student dissertations, and in its representation on journal editorial boards and international committees.

The timing of the evaluation visit coincided with the transition period from QUASARE's former construction and its new structure comprised of six new research units (URs) at QUASARE's four locations. It was apparent during the visit that there are the inevitable concerns and unease surrounding the uncertainties associated with the re-structuring process. These various issues are recognised by QUASARE's staff, and it appears that these are being relatively well managed, as there was also a sense of the forthcoming opportunities for the new four URs, to build on the R&D foundation established by QUASARE, and enhance their local and national collaborations, to integrate better through inter-UR collaboration on common research topics, and thereby raise IRSTEA's international status.

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