

FRB-CESAB and ALCUE NET Meeting
November 2014, Aix-en-Provence, France

La Fondation pour la Recherche sur la Biodiversité The French Foundation for Research on Biodiversity (FRB)

Jean-François Silvain
FRB's President



What is FRB?

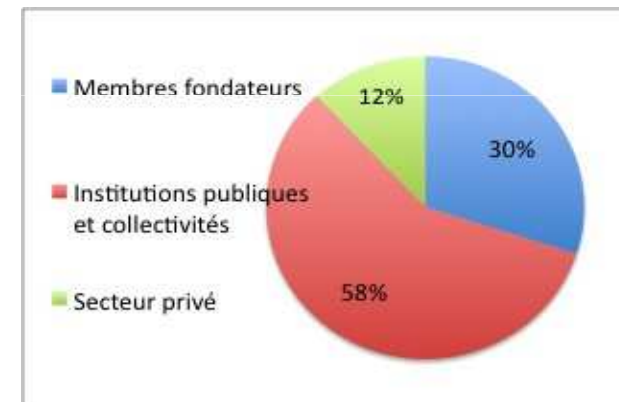
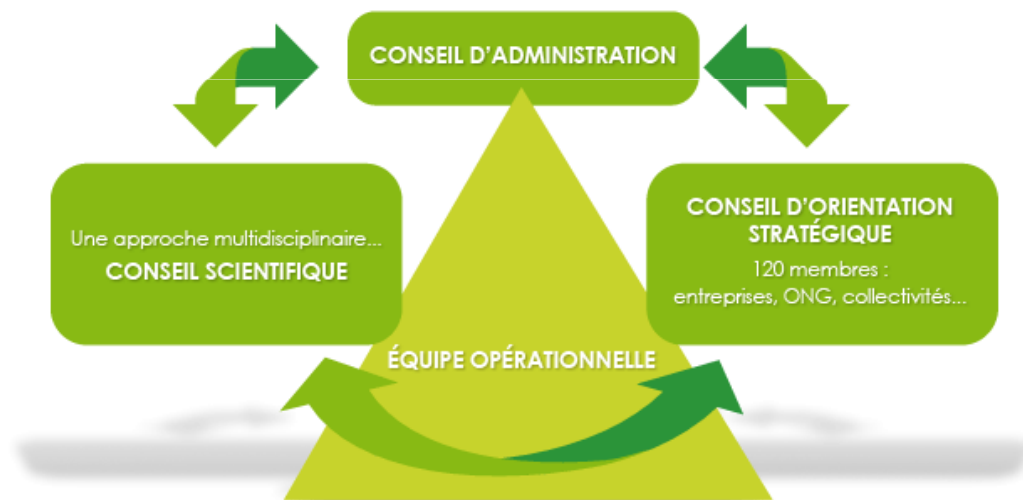
- A « **Foundation for Scientific Cooperation** » established in 2008 by the French Ministry for Research (FRB has the status of a private office)
- **Eight Founding Members, scientific French research institutes:** BRGM, Cirad, CNRS, Ifremer, INRA, IRD, IRSTEA, MNHN.
These members also belong nowadays to the National Alliance for Research on the Environment (AllEnvi)
- FRB's Missions: Foster, at the national, european and international levels, the **development, support and dissemination of research activity on biodiversity and its valuation**, in the areas of biology, socio-economy and legislation. FRB's mission also includes training and knowledge transfer activities.

These actions are framed within the context of the French National Strategy for Research (SNR) and the National Strategy for Biodiversity (SNB).



How it operates?

- Governance: The Executive Board gathers representatives from the Founding members, representatives from the Strategic Orientation Council, qualified personalities, and representatives from the operational team.
- Organization: a director, an operational team, a scientific council (SC), and a Strategic Orientation Council (SOC)
- Total Budget for 2013: ca. 3,4 millions Euros



FRB's Scientific Council (SC)

President: François Sarrazin, UPMC; Vice-president: Sébastien Barot, IRD

- **20 scientific covering different and complementary fields** of biodiversity researches, ranging from biodiversity description to the study of its interactions with human society. Knowledge about « the main groups of the living tree » can be mobilized.
- The SC **advises on FRB's main orientations** and activities, on its annual action plan , and on all scientific questions relating to biodiversity.
- It provides FRB with a **prospective vision** on biodiversity research major issues.
- It is a place for **open scientific discussions** relating to biodiversity research. *The SC in the speaking on behalf of FRB founders.*



The 2009 scientific prospective

The 2009 SC work defined 4 major research areas:

- To **document** (the current state of biodiversity)
- to **better understand** (the mechanisms that alter Biodiversity dynamics)
- to **develop models and scenarios** (on biodiversity changes and future)
- to **better integrate** (biodiversity in human activities)

To these axes have been added a thought on **biodiversity values**.

10 priorities have been settled that have been at the origin of the main FRB actions (Modelo-scenarios calls, Ecoscope, etc.).



The 2013 prospective

In 2013 the SC, in close interaction with the SOC red again the 2009 work to update the FRB scientific prospective:

Four thematic areas have been considered:

- 1. Values & actors
- 2. Functions & services
- 3. Pressures & risks
- 4. Responses & adaptation

A transversal area:

- 5. Information & knowledge systems

And one area on how to better use biodiversity knowledge for actions

- 6. Innovations & actions

These priorities aim to the **sharing of concepts and methods** and to favorize **interdisciplinary bridges**.



FRB's Strategic Orientation Council (SOC)

President : François Letourneux, IUCN France, Vice-president: Sylvie Bénard, LVMH

- The SOC gathers **biodiversity stakeholders** who are society actors who, by their activities, have to take into account biodiversity, and **seek guidance from the knowledge provided by scientific research**. These stakeholders can also **bring forward specific needs** in biodiversity knowledge.
- The SOC, working in conjunction with the SC, positions FRB as an **interface between research and society** in the field of knowledge, conservation and promotion of biodiversity.
- The SOC, *stricto sensu*, is made of a maximum of 40 members.
- However, so many stakeholders were interested in joining this Council that it was necessary to expand it, and FRB created an « **extended SOC** ». The latter currently gathers over 160 stakeholders, organized in 40 groups, each of them electing one representative to the « SOC at 40. » These 40 groups are themselves organized in 5 « colleges ».



SOC' s 5 « Colleges »

- College 1: Areas, environment and species management
- College 2: Genetic resources (domesticated and wild) management
- College 3: Nature conservation
- College 4: Economic and industrial activities
- College 5: Socio-political activities and relations with society at large



FRB' s strategy

- FRB's strategic vision is based on **CBD Aichi's biodiversity targets**:
«By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.»
- FRB contributes in particular to **Target 19**:
« By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.»

<http://www.cbd.int/sp/targets/default.shtml>



FRB's strategy

- Within France's current research strategy on Environment (coordinated by AllEnvi), and taking into account the major social challenges that are expressed by its SOC, FRB's activities for biodiversity research follow two strategic axes toward:

1. Efficiently incorporate scientific knowledge into decision making and biodiversity management.

→ *Benefit society from the acquired knowledge to preserve, to use in a sustainable manner and value biodiversity*

2. Support new research to address the main knowledge gaps

→ *Implement programmes to support research on prioritized issues.*



FRB' s strategy

- FRB's strategy is implemented in a Pluri-annual Action Plan, validated by its Executive Board. It includes 5 priority targets:
 - Target 1: Mobilize cross-disciplinary and inter-organisms **expertise** to support decision making.
 - Target 2: Support the structuration, the analysis and the synthesis of **data** and knowledge to know and understand the state and dynamics of biodiversity.
 - Target 3: Organize and foster strategic and prospective reflections, associating scientists and stakeholders, to identify biodiversity **research priorities**.
 - Target 4: Promote **research programmes** on themes of scientific and social importance.
 - Target 5: Disseminate and transfer **knowledge** on biodiversity.



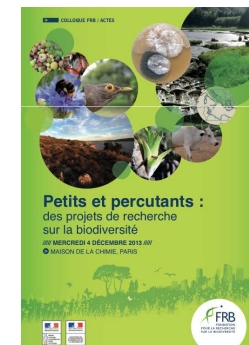
FRB's strategy for research on tropical biodiversity and on the effects of climatic changes on biodiversity

FRB's 2009 scientific prospective stated, in priority #8:

« ***Favor the crossing of temperate, tropical and Mediterranean areas problematic***, of terrestrial and marine problematic, and domesticated and wild life problematic. Putting together concepts and methods and the coherence of the research infrastructure require such crossing. ***A special effort should be made to help the development of research on biodiversity in the Southern countries, in coordination with the researches for development*** ».

In practice, since 2009, research on tropical biodiversity has been largely addressed in FRB's calls for projects:

- 2009 « White Call » (« Petits et percutants » with many tropical projects and several located in French overseas territories),
- 2010 and 2011 Call on Models and Scenarios of Biodiversity
- 2010, 2011 and 2012 CESAB's Calls for Research Projects



In 2013, one call for project **was entirely dedicated to Scenarios and Future of Biodiversity in sub-Saharan Africa**. It was co-financed by FFEM, RAPAC, AIRD, and the French ministry of foreign affairs. It was preceded by a Regional workshop to encourage local responses to this call.



FRB' s strategy for research on tropical biodiversity

BiodivERsA ERA-Net, that is coordinated by FRB, has financed two projects on the forests in the Congo Basin (CoForChange, 2008 and CoForTips, 2011-12), as well as one project on an invasive species of ants in New Caledonia (2012-2013).

BiodivERsA 3, the next version of the consortium that is cofinanced by an EU H2020 call, will include participants from the existing ERA-Net NetBiome. This ERA-Net comprises several French overseas communities who will contribute to BiodivERsA3's funding for biodiversity research.



Several CESAB projects address tropical biodiversity issues

NETSEED

AGROBIODIVERSITÉ ET RÉSEAUX SOCIAUX : COMMENT
LES SYSTÈMES D'ÉCHANGES DE SEMENCES AGISSENT
SUR LA DIVERSITÉ DES PLANTES DOMESTIQUÉES

Porteur de projet : McKey Doyle, CEFE – CNRS- INEE Université
Montpellier II, France

ISLANDS

ASSEMBLAGE DES COMMUNAUTÉS ÉCOLOGIQUES SUR
LES ÎLES LOINTAINES: VERS UN NOUVEAU MODÈLE DE
BIOGÉOGRAPHIE INSULAIRE?

Principal Investigator: Christophe Thébaud, Université Paul Sabatier,
Toulouse, France

GASPAR

RELATIONS « DIVERSITÉ- ABONDANCE », UNE CLÉ POUR
COMPRENDRE LES CONSÉQUENCES DES CHANGEMENTS
GLOBAUX SUR LES ÉCOSYSTÈMES : LES POISSONS
CORALLIENS COMME MODÈLE

Porteur de projet : Michel Kulbicki, Laboratoire Arago, IRD, Banyuls/mer,
France

BIODIS

DÉCRYPTER LES LIENS ENTRE BIODIVERSITÉ ET MALADIES
INFECTIEUSES ÉMERGENTES

Porteur du projet : Jean-François Guégan, IRD - UMR MIVEGEC,
Montpellier, France ; Co-porteurs : Benjamin Roche (IRD - UMMISCO,
Paris) et James N. Mills (Emory University, Atlanta, USA)
contact: jean-francois.guegan@ird.fr

RAINBIO

DYNAMIQUE DES FORÊTS TROPICALES HUMIDES EN
AFRIQUE : IMPLICATIONS POUR LA CONSERVATION DE
LA BIODIVERSITÉ TROPICALE ET L'ATTÉNUATION DU
CHANGEMENT CLIMATIQUE

AFROBIODRIVERS

DYNAMIQUE DE LA BIODIVERSITÉ AFRICAINE: INTER-
ACTIONS ENTRE PROCESSUS ÉCOLOGIQUES ET ACTIONS
DE CONSERVATION

Porteur de projet: Hervé Fritz (Hervé.Fritz@univ-lyon1.fr), Laboratoire
Biométrie et Biologie évolutive, CNRS, UCB Lyon 1, Villeurbanne

PELAGIC

ETABLIR DES AIRES PERTINENTES D'UN POINT DE
VUE ÉCOLOGIQUE ET IMPORTANTES À L'ÉCHELLE
PLANÉTAIRE POUR LA CONSERVATION DES
MAMMIFÈRES MARINS : UNE SYNTHÈSE DES
MEILLEURES CONNAISSANCES DISPONIBLES POUR
INFORMER LES POLITIQUES DE GESTION

Porteur de projet: David Kaplan, IRD, France
contact: pelagic@cesab.org

COREIDS

PRÉDIRE LA RÉSILIENCE DES COMMUNAUTÉS FACE AUX
INVASIONS, SELON LA DIVERSITÉ ET LA STRUCTURE DES
RÉSEAUX D'INTERACTIONS



Call for Projects: « Scenarios of the Future of Biodiversity in Sub-Saharan Africa »: 7 selected projects (FRB-FFEM)

[BIOSCENEMADA]

Scénarios d'évolution de la biodiversité sous l'effet conjoint du changement climatique et de la déforestation à Madagascar

Biodiversity scenarios under the effect of climate change and future deforestation in Madagascar

Porteur du projet : Ghislain VIEILLEDENT

Institutions : CIRAD (porteur), France; University of California, Berkeley, USA ; WCS Réseau de la Biodiversité, Madagascar - REBIOMA ; ETC Terra, France; Office National de l'Environnement - ONE, Madagascar

[CAMMiSolE]

Effet du Changement global en Afrique de l'ouest et à Madagascar sur la diversité des Microorganismes du Sol et ses conséquences sur les services Ecosystémiques

Global change effect on the diversity of soil microorganisms, in West Africa and Madagascar, and its consequences on ecosystem services

Porteur du projet : Laetitia BERNARD

Partenaires : IRD (porteur), France ; Université d'Antananarivo, Madagascar; IRD-ISRA, Sénégal ; INRA, France ; AgriSud International, France ; Association Song Koadba (ASK), Burkina Faso

[CERISE]

Scénarios d'invasion de rongeurs au Sahel : Impact des changements globaux sur l'expansion de la gerbille nigérienne et la souris domestique au Sénégal

Scenarios of Rodent Invasion in the Sahel: Global change impact on the expansion of the Nigerian Gerbil and the House Mouse in Senegal

Porteur du projet : Laurent GRANJON

Partenaires : IRD (porteur) France; INRA, France ; Ministère de l'Environnement et du Développement Durable, Sénégal ; Université Cheikh Anta Diop - Institut Fondamental d'Afrique Noire, Sénégal ; Association pour le Développement de Mbarigo - Ademba, Sénégal ; CNRS, France

[CoForSet]

Scénarios de Biodiversité et Mécanismes de compensation dans les Forêts du Bassin du Congo

Scenarios of Biodiversity and Biodiversity Offsetting Mechanisms in the Forests of the Congo Basin

Porteur du projet : Claude GARCIA

Institutions : CIRAD (porteur) France ; Institut de Recherches sur l'Ecologie Tropicale, IRET, Gabon ; International Union for Conservation of Nature - IUCN, Cameroun ; BIOTOPE, France ; Centre National de la Recherche Scientifique et Technique - CENAREST, Gabon ; World Conservation Monitoring Centre, WCMC, UK ; Faculté universitaire des Sciences agronomiques de Gembloux, Belgique; WWF Central Africa Office - WWF CARPO, Cameroun



[ELEBIOD]

La biodiversité comme compromis: modélisation de la dynamique d'une population d'éléphants et de son impact sur les habitats et les oiseaux, dans un contexte de changement du climat et des pratiques de gestion

Biodiversity as a trade-off: modelling elephant population size vs. habitat and bird diversity under climatic and management changes

Porteur du projet : Simon CHAMAILLE

Institutions : CNRS (porteur), France ; CIRAD, France ; Chinhoyi University of Technology, Zimbabwe ; Zimbabwe Parks and Wildlife Management Authority - Zimparks, Zimbabwe ; University of Cape Town - UCT, South Africa ; Birdlife Zimbabwe, Zimbabwe

[MOBIDIK]

MODélisation de la BloDiversité des parcs nationaux du Kenya

Scenario Modelling for Biodiversity and Policy Options in Kenya

Porteur du projet : Tri NGUYEN-HUU

Institutions : IRD (porteur), France ; African Conservation Centre - ACC, Kenya ; University of Nairobi, Kenya

[SC-BEDA]

Scénarios de Changement de Biodiversité des Eaux Douces Africaines

Scenarios of Change in African Freshwater Biodiversity

Porteur du projet : Pablo TEDESCO et Vincent DEVICTOR

Institutions : MNHN (porteur), France ; CNRS (porteur), France ; Naturalis Biodiversity Center, Pays-Bas ; IRD, France ; Stellenbosch University, Afrique du Sud ; International Union for Conservation of Nature - IUCN, United Kingdom

Financial requests varied from 140 000 to 285 000 €.
4 projects are being financed.



A first report on FRB inputs in the tropical biodiversity research area

- There are no basic differences in FRB's calls for projects between research on « temperate » areas and « tropical » ones. The questions regarding the state, the dynamics and the future of tropical biodiversity have found their place within FRB's calls for projects, as it has been well illustrated by CESAB's projects.

This shows the interest for the **stakes of biodiversity in the inter-tropical areas, and the strong involvement of the French scientists in their study**, both in Africa, South America or in the French overseas departments and communities.

- However, more specific work is needed to **identify the needs for research in the inter-tropical areas**, targeting in particular French territories (continental and insular) prior to launch a call dedicated to the study of the biodiversity in these areas. FRB, with the support of its SC and SOC will have to take into account some tropic LABEX studies as well as the recent prospective published by CNRS-INEE on tropical ecology. The expansion of **BiodivERsA** to areas beyond Europe also implies the elaboration of a targeted strategy since these additional areas plan specific funding.



A first report on FRB inputs in the tropical biodiversity research area

- As explained in our introduction, FRB's mission is twofold:
 - give society the scientific knowledge on biodiversity necessary to **preserve, use sustainably and value biodiversity**;
 - Help and support the **emergence of new researches to address knowledge gaps**, including the ones that relate to **tropical biodiversity** and **to the highly complex relationships between biodiversity losses, ecosystem alteration and climate changes** (*you can reverse the sentence!*).

We shall do as much as we can to help with the financing of such research.



Thank you for your attention

