



Index of Biodiversity Potential (IBP): for estimating the potential of forest stands for biodiversity

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Index of Biodiversity Potential (IBP): for estimating the potential of forest stands for biodiversity

P. Gonin¹, L. Larrieu^{1,2}, M. Deconchat²



¹CNPF

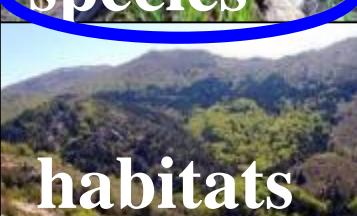
²INRA UMR Dynafor

Elaboration of IBP in 2008

❖Context

- **need for a practical tool** to take forest biodiversity into account in daily management:
 - simple & fast tool
 - does not require taxonomical knowledge or complex measurements
 - identifying the factors which can be improved
- knowledge of **stand key features for biodiversity**

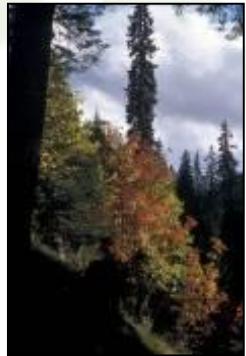
❖Features

BIODIVERSITY	object	level	status
	 species		
	 habitats		
	 genetic	(α diversity)	
		stand	region
		(γ diversity)	common
			 Lycopode des alpes <i>Diphasiastrum alpinum</i> (L.) Holub remarkable

IBP (Larrieu & Gonin, 2008):
capacity of forest stands
to support common taxonomic biodiversity
→ indirect indicator

IBP: a composite indicator

Vegetation



B - Vertical structure



C - Large standing deadwood



D - Large downed deadwood

Tree-related microhabitats



E - Very large living trees



F – Living microhabitat-bearing trees



A - Native tree species

7 factors
directly related to management
(max. total value = 35 points)



G - Openness
Forest-associated macrohabitats

3 factors rather concerning the context (max. total value = 15 points)



H – Continuity of
woody state



I - Aquatic habitats



J - Rocky habitats

Forest-associated
macrohabitats

Scoring system : 0, 2 or 5 for each factor

❖Ex. factor B « Vertical structure »



4 canopy layers to be observed ($\geq 20\%$)

.for ligneous, layers occupied by foliage:
high $> 15\text{ m}^*$

intermediate 5-15 m*

low $< 5\text{ m}^*$

.herbaceous and semi-ligneous
(*thresholds for the Mediterranean region)

Notation:

.1 & 2 layers → score 0

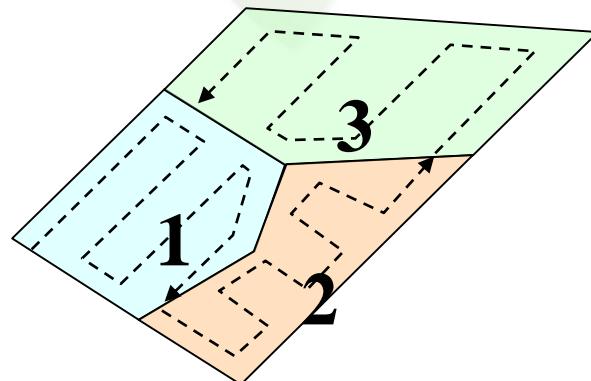
.3 layers → score 2

.4 layers → score 5

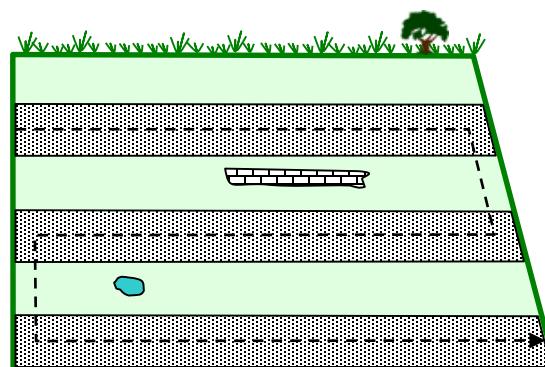
Survey methods: standardized & adapted to different contexts

Diagnose of a stand

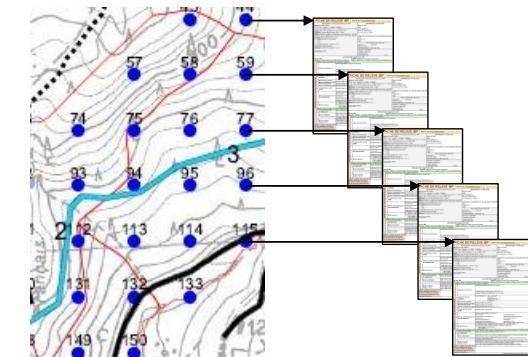
Full run



Partial run

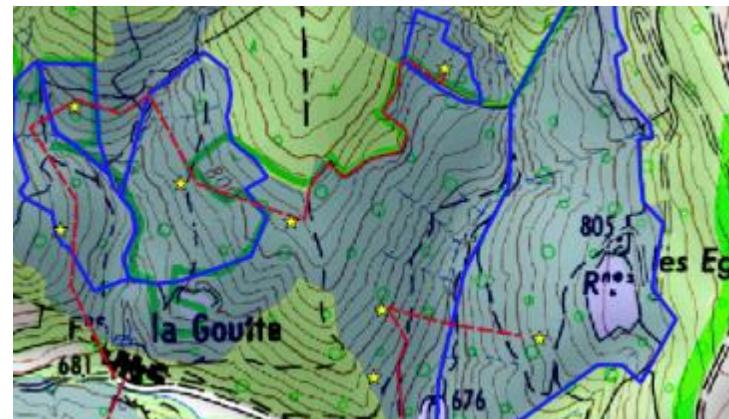


Systematic sampling run



Diagnose of stand types of or a large stand

Transect sampling



To help using the IBP method

A flyer about notation methods, Field sheet

Spreadsheet: registration & edit

Internet site

www.foretpriveefrancaise.com/ibp

 LE PORTAIL DE LA FORÊT PRIVÉE 

ACTUS **LA PROPRIÉTÉ & SES PROPRIÉTAIRES** **SERVICES ET FORMATION** **LIBRAIRIE** **TECHNIQUES SYLVICOLES**

Vous êtes ici : Fonction et productions > Biodiversité Sociale > IBP - Indice de biodiversité potentielle

IBP - INDICE DE BIODIVERSITÉ POTENTIELLE

L'IBP est un outil permettant aux propriétaires forestiers d'évaluer facilement la biodiversité savannah que connaissent dans leur gestion quotidienne.

Cet indicateur simple et rapide permet :

- d'évaluer la disponibilité d'habitats d'un propriétaire forestier pour les 1000 végétaux, animaux, bactéries... ;
- et d'identifier les points clés nécessaires à la conservation de ces éléments vitaux.

A télécharger :

- Rapport de présentation de l'IBP v1.8

RÉALISER DES RELEVÉS IBP
Document pour aider à réaliser vos relevés

SE DOCUMENTER SUR L'IBP ET LA BIODIVERSITÉ
Document pour améliorer vos connaissances sur l'IBP

SE FORMER À L'IBP ET TESTER SES CONNAISSANCES
Pour réaliser plus facilement vos relevés IBP et les utiliser avec la grille

TERROIRE ET BIODIVERSITÉ
Prise en compte de l'IBP dans les SPP

CONCEPTION DE L'IBP - PROGRAMME R&D - CONTACTS
Le programme IBP

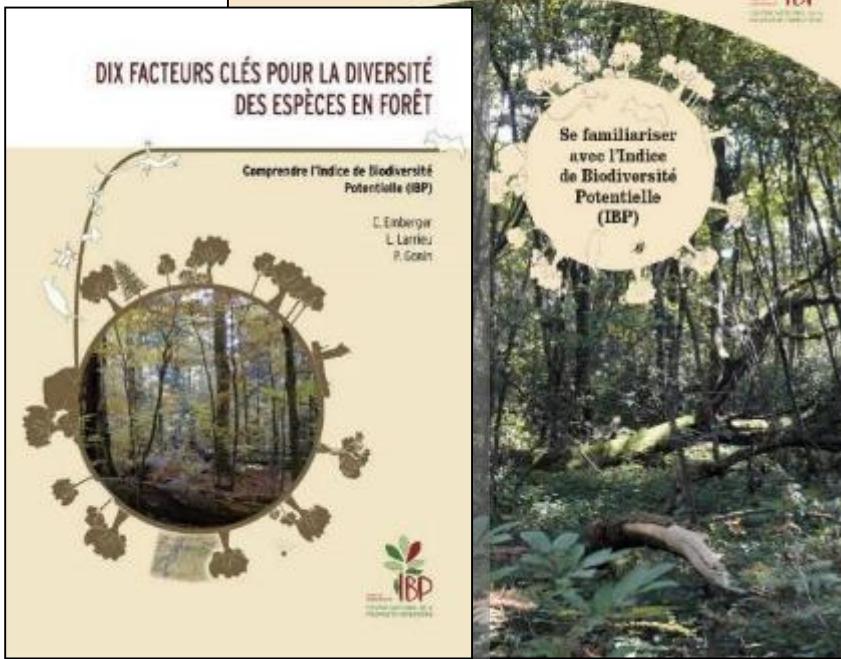
From IBP to practical recommendations

several possible recommendations
IBP # management norm

IBP

?

Objectives
Forest management



Context:
socio-economic,
regulatory framework,
type of property...

Features of the forest:
site conditions, stand,
environment, equipment...

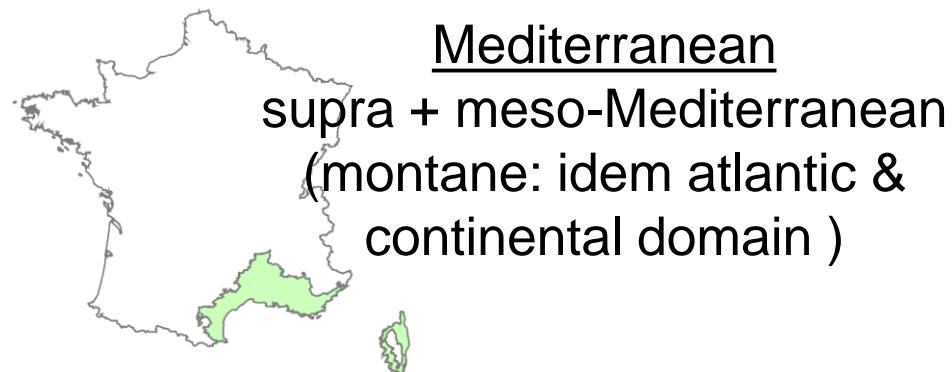
IBP: domain of validity

❖ Geographical

France: 2 versions according to the biogeographical regions



Atlantic & continental
lowland, montane &
sub-alpine levels



Mediterranean
supra + meso-Mediterranean
(montane: idem atlantic &
continental domain)

❖ Vegetation at the forest stage - from regeneration to adult stands

→ other vegetations excluded (e.g. matorral)

❖ A part of biodiversity

→ complementarity with others assessments:
naturalness, state of habitat conservation,
sustainable management...

IBP for comparison of stands biodiversity

Ex. : *Quercus ilex* : adult stand

mature stand

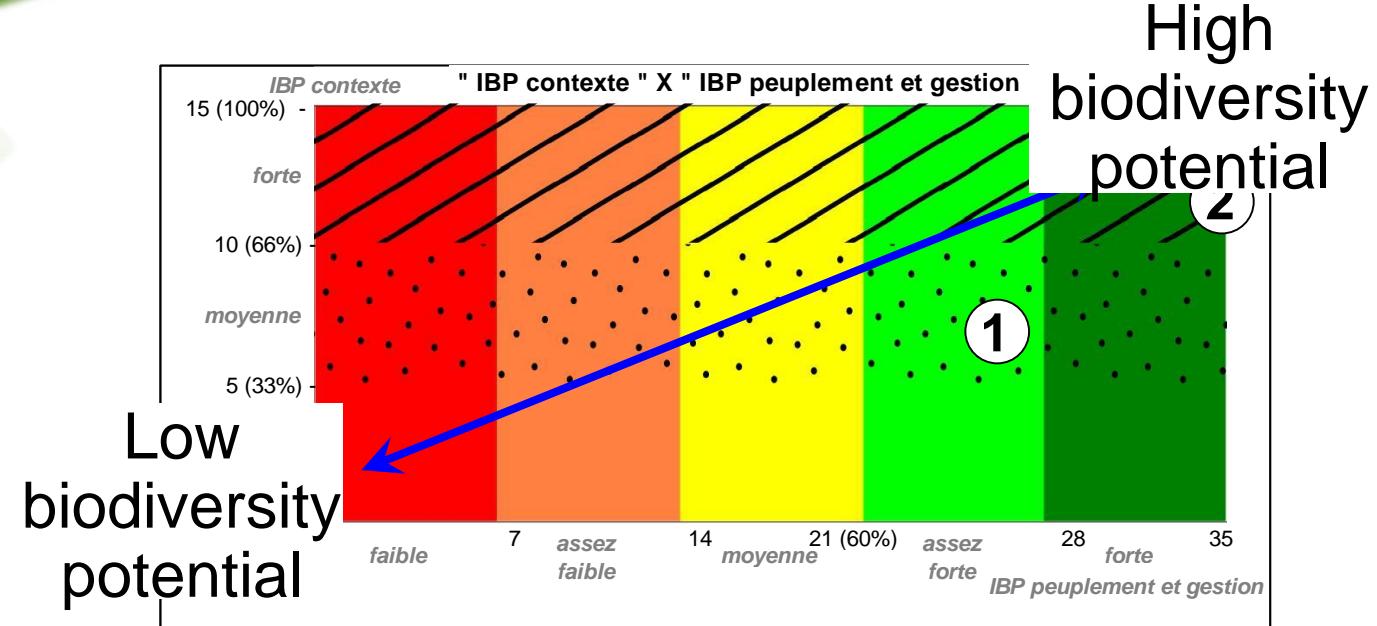


Field notation &
IBP calculation

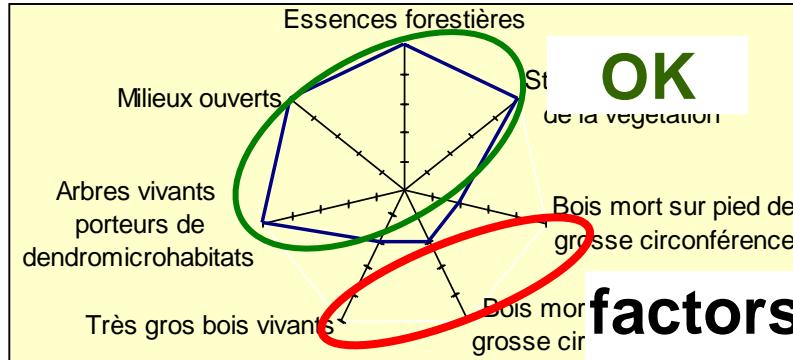
	Management factors							Context factors			Total
	A Native tree species	B Vertical structure	C Large standing deadwood	D Large downed deadwood	E Very large trees	F Living microhabitat-bearing trees	G Openness	H Continuity of woody state	I Aquatic habitats	J Rocky habitats	
1	score	5	5	2	2	2	5	5	0	2	33
	IBP			74 % (26/35)				47 % (7/15)		66 %	
2	score	5	5	5	5	5	5	5	2	5	47
	IBP			100 % (35/35)				80 % (12/15)		94 %	

A synthetic representation helping interpretation

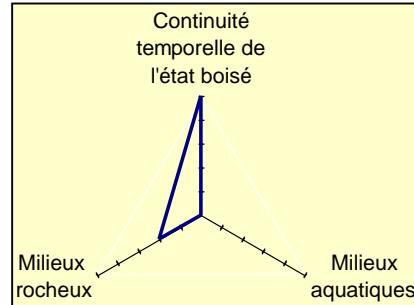
context management



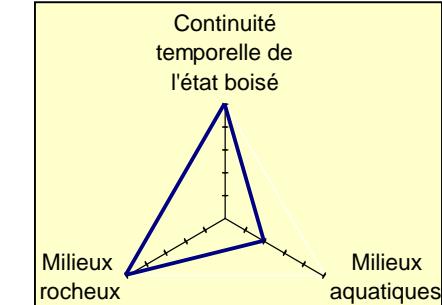
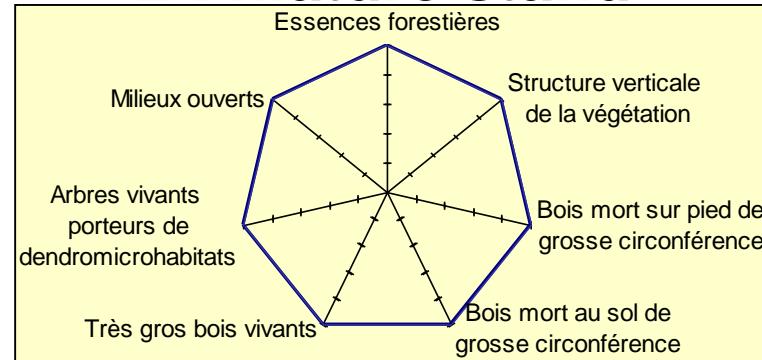
1 : adulte stand



factors to be improved



2 : mature stand

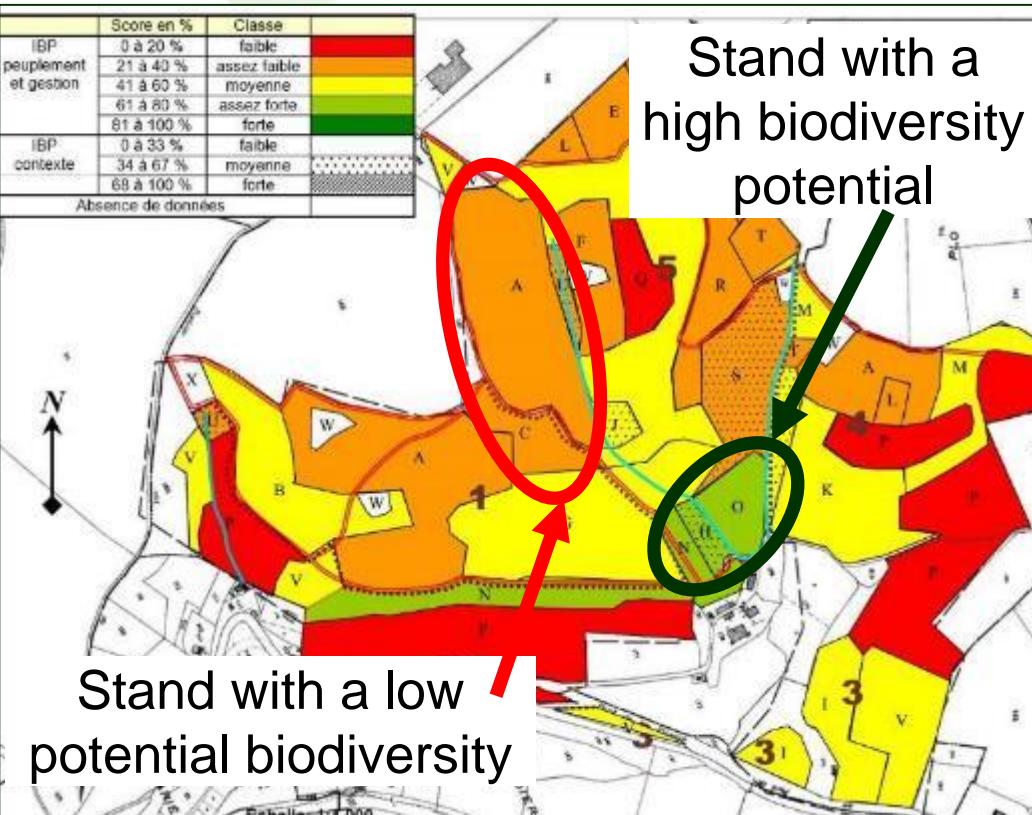


IBP for a biodiversity overview at the forest level

In a small forest (55 ha)

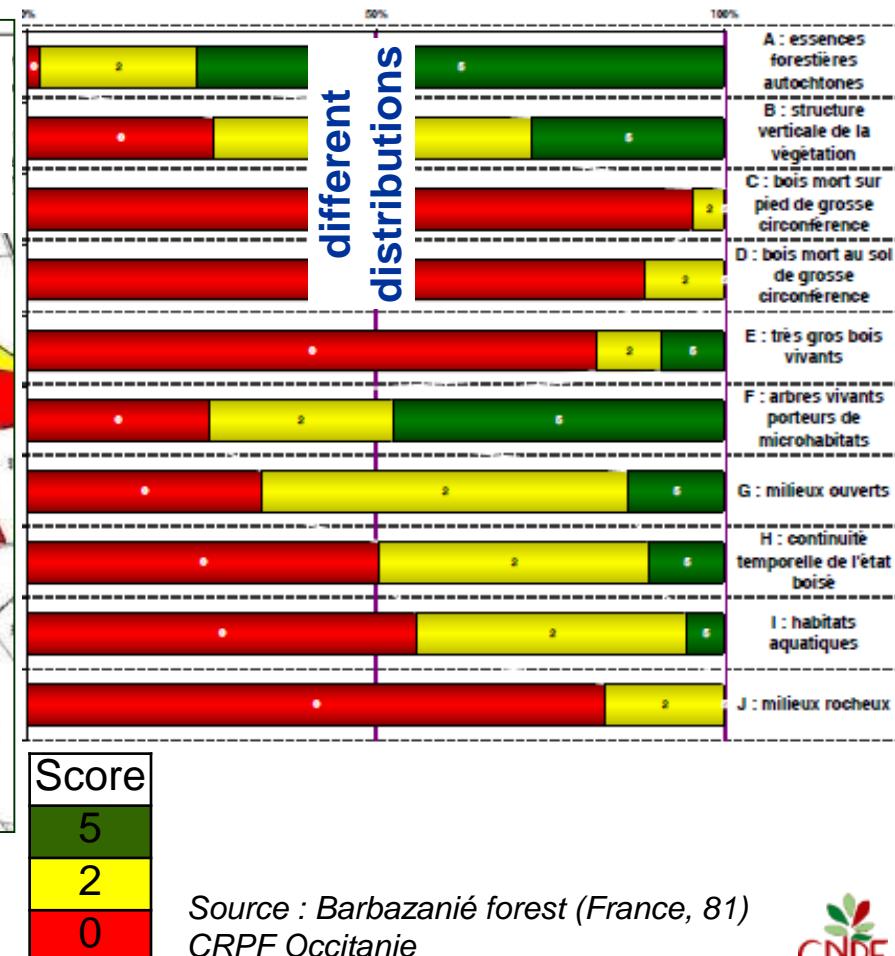
Scores per stand

Scores per factor



Stand with a high biodiversity potential

Stand with a low potential biodiversity



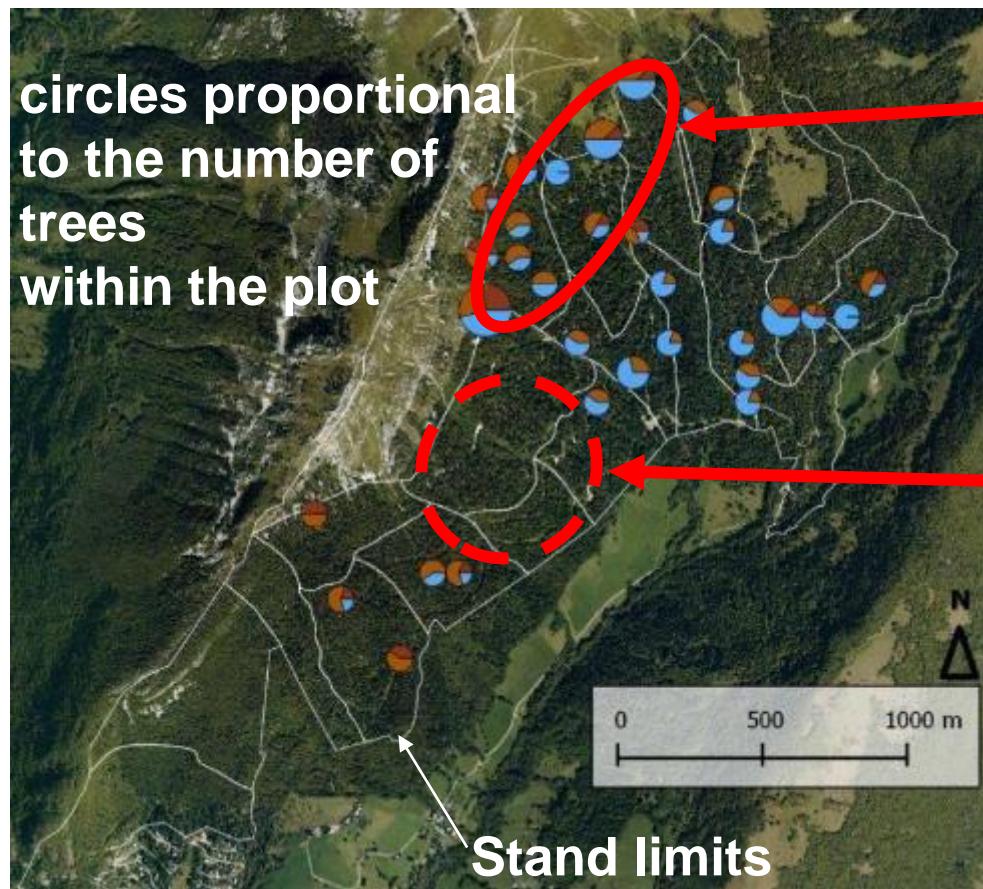
Do not calculate the IBP average!

Source : Barbazanié forest (France, 81)
CRPF Occitanie

In a larger forest (313 ha)

Systematic sampling, 1 plot / ha

Factors : Large deadwood, standing
Very large living trees



Source : Forêt de la Combe d'Aillon, Parc naturel régional du massif des Bauges (France, 74)

IBP: an educational tool

Biodiversity training & technical meetings

Training support

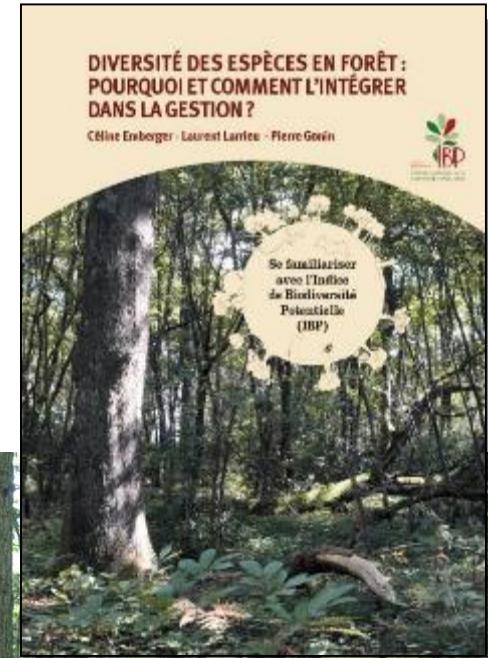


Training program

This is a screenshot of a presentation slide. The title bar reads 'Formation sur la biodiversité et le diagnostic IBP pour les professionnels forestiers'. The slide contains several sections of text and bullet points, likely detailing the objectives, public, content, and program of the training course. At the bottom, there is a table with two rows of information, possibly related to dates or locations.

Pré-requis :	Prévoir les deux dernières années d'expérience sur l'exploitation de l'outil de diagnostic IBP (cf. site : www.cnpf.fr) - qui a pu être réalisée dans un diagnostic IBP, - ou de manière plus générale dans des formations de grande durées sur les sujets de la formation proposée.
Public :	Principalement destiné aux professionnels forestiers qui ont déjà une certaine expérience dans le processus de diagnostic IBP (cf. site : www.cnpf.fr) - gestionnaires, responsables, experts, techniciens forestiers, techniciens agroforets, agents de l'administration forestière, agents de l'agence régionale de l'environnement et du développement durable (ARD), DREAL, DDT, DIREN, conseil régional et général, INRA, etc. Accès à une formation CNPF IBP nécessaire.

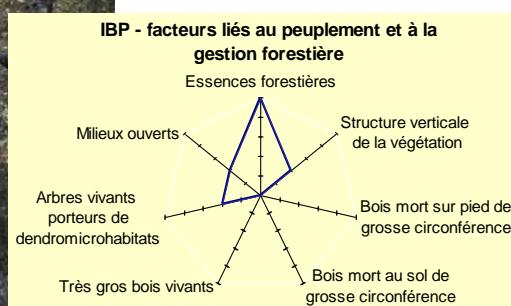
Documentation



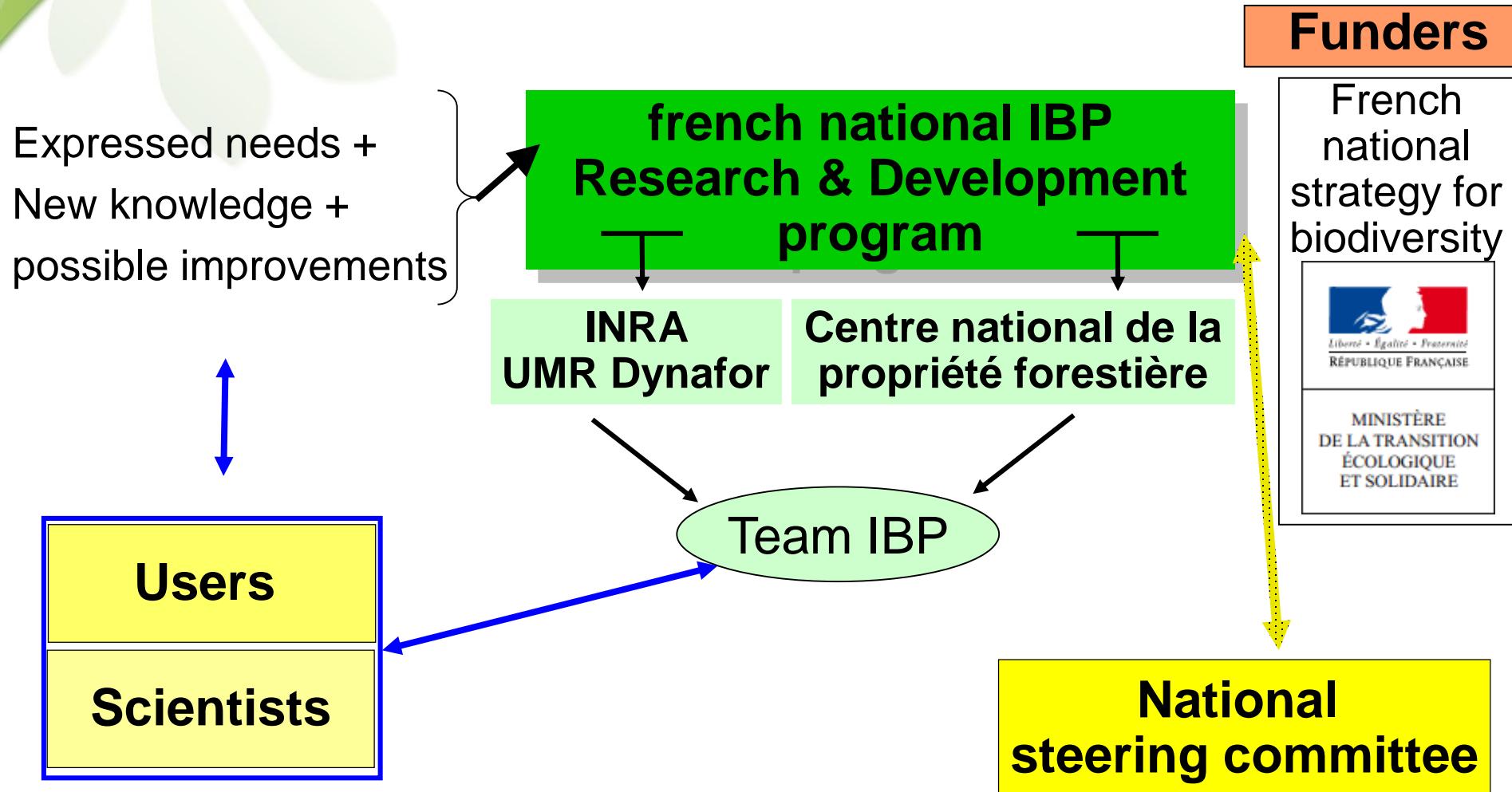
Demonstration network



Plot in a *Quercus pubescens* stand



A co-built & evolving tool thanks to the R&D program



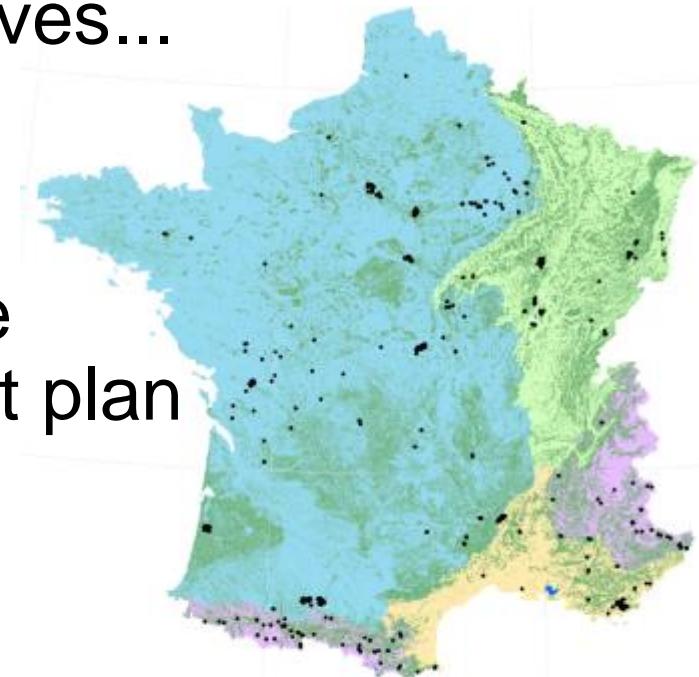
Current situation

❖ A recognized tool

- In France : inscribed in the french national strategy for biodiversity
- In other countries:
 - Spain: project Life BIORGEST (Catalonia)...
 - locally used in Switzerland, Belgium, Germany
 - contacts with other countries: Morocco, Algeria, Lebanon...
 - Relation with AIFM (International Association for Mediterranean Forests)

❖ Diverse and numerous users

- **production forests:** managers, forestry consultants, logging company, owners
- **areas dedicated to conservation:** national parks, regional parks, reserves...



❖ Many ways to use it

- biodiversity overview before intervention or management plan
- identification of common biodiversity issues
- territorial analysis
- educational tool

More than 2 thousand IBP

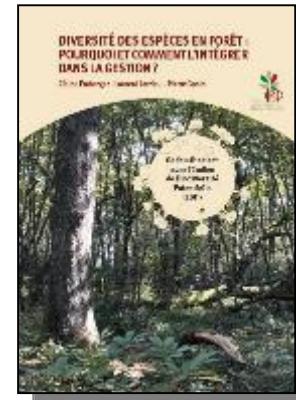
IBP in Italy?

❖ Features of the extension

- Stand, bioclimatic & site conditions similar to France: minor adaptations
- very different context: the Mediterranean version to be completed or new version
- Methodology of extension (see paper IBP 5th Med. Forest Week: Gonin, Larrieu Deconchat 2017)

❖ Goprofor project

- Translation of documents with adaptation
- Development of a training module



Thank you for your attention