

## Conclusion

The analysis of the 54 indicators proposed in this new version of Indicators for the sustainable management of French metropolitan forests reviews the current sustainable forest management situation in France. The broad range of topics covered under the six criteria set down in the Helsinki Conference clearly highlights the complexity of situations encountered and the need for a global approach to sustainable forest management. This regularly improved and updated set of indicators should provide an effective French forest landscape monitoring tool.

This study was also an opportunity to use the new inventory method to update indicators based on French National Forest Inventory (NFI) data, with the exception of Indicator 3.1 which is focused on increment and fellings (no available data when the present document was drawn up). Data was available for all of the other indicators, but the low level of accuracy of the data for some of them reflects the fact that too much detail is required for the indicator. This observation will provide an opportunity to improve the concerned indicators through the collection of more relevant data by adopting new methodological approaches or by reorienting the indicators so that they will be more in line with current issues—the need to conduct studies in this direction before the next edition in 2015 is one of the priorities put forward by the project steering committee. However, as substantial and broad ranging data are available in France, most of the indicators proposed at the Vienna Conference could be addressed, and these were supplemented with around 20 other new indicators.

The data presented here—in addition to those from NFI—were supplied by over 30 different organisations, administrations and associations. The main problems concerned methodological issues, the absence of certain data and information recovery.

As a follow up to the assessment carried out in 2006 on biodiversity indicators, a conference on forest indicators will be jointly organised by CEMAGREF, NFI and GIP-ECOFOR and held in late 2011. The aim will be to review the current situation, while providing an opportunity to continue the sustainable forest management debate with all concerned stakeholders.



## Appendices



## List of acronyms, symbols and abbreviations

ACCA	Association Communale de Chasse Agréée
ADEME	Agence de l'Environnement et de la Maîtrise de l'Énergie
AFOCEL	Association Forêt-Cellulose (now FCBA)
Agreste	Agreste: la statistique, l'évaluation et la prospective agricole
AICA	Association Intercommunale de Chasse Agréée
ASA	Association Syndicale Autorisée
ASL	Association Syndicale Libre
ASLGF	Association Syndicale Libre de Gestion Forestière
ASP	Agence de Services et de Paiement
BIC	Bénéfices Industriels et Commerciaux
CAAA	Caisse d'Assurance-Accident Agricole
CATAENAT	Charge Acide Totale d'origine Atmosphérique dans les Écosystèmes Naturels Terrestres
CBPS	Code des Bonnes Pratiques Sylvicoles
CCMSA	Caisse Centrale de la Mutualité Sociale Agricole
CCR	Centre Commun de Recherche
CEMAGREF	Institut de Recherche pour l'Ingénierie de l'Agriculture et de l'Environnement (ex Centre National du Machinisme Agricole, du Génie Rural, des Eaux et des Forêts)
CEPI	Confederation of European Paper Industries
CEREN	Centre d'Étude et de Recherche Économique sur l'Énergie
CFT	Charte Forestière de Territoire
CGAF	Conservatoire Génétique des Arbres Forestiers
CI	confidence interval
CIF	cost, insurance and freight
CITEPA	Centre Interprofessionnel Technique d'Études de la Pollution Atmosphérique
CMPFE	Conférence Ministérielle pour la Protection des Forêts en Europe
CNPF	Centre National de la Propriété Forestière
CNPMIAI	Conservatoire National des Plantes à parfum, Médicinales, Aromatiques et Industrielles
COPACEL	Confédération française de l'industrie des Papiers, Cartons et Celluloses
CPPARM	Comité des Plantes à Parfum Aromatiques et Médicinales
CRÉDOC	Centre de Recherche pour l'Étude et l'Observation des Conditions de vie
CRFPF	Commission Régionale de la Forêt et des Produits Forestiers
CRGF	Commission des Ressources Génétiques Forestières
CRPF	Centre Régional de la Propriété Forestière
CTBA	Centre Technique du Bois et de l'Ameublement (now FCBA)
DDAF	Direction Départementale de l'Agriculture et de la Forêt
DEFI	Dispositif d'Encouragement Fiscal à l'Investissement en forêt
DFCI	Défense de la Forêt Contre les Incendies
DGI	Direction Générale des Impôts
DGPAAT	Direction générale des Politiques Agricole, Agroalimentaire et des Territoires
DOM	Département d'Outre-Mer
DRA	Directive Régionale d'Aménagement
DRAAF	Direction Régionale de l'Agriculture, de l'Alimentation et de la Forêt
DSF	Département Santé des Forêts
EAB	Enquête Annuelle de Branche
EAE	Enquête Annuelle d'Entreprise
EFI	European Forest Institute
ENGREF	École Nationale du Génie Rural, des Eaux et des Forêts, intégrée à AgroParisTech
ENR	renewable energy
EPEI	Enquête sur les Petites Entreprises Industrielles
ERPA	European Recovered Paper Association
ESSES	Enquête Statistique sur les Structures Économiques de la Sylviculture
EUFGIS	European Information System on Forest Genetic Resources / Système européen d'information sur les ressources génétiques forestières
EUFORGEN	European Forest Genetic Resources Programme / Programme européen de ressources génétiques forestières
EUROSTAT	Statistical Office of the European Communities
FAO	Food and Agriculture Organization of the United Nations / Organisation des Nations Unies pour l'Alimentation et l'Agriculture

FCBA	Institut Technologique Forêt Cellulose Bois-construction Ameublement (ex AFOCEL et CTBA)
FDC	Fédération Départementale des Chasseurs
FEADER	European Agricultural Fund for Rural Development
FNB	Fédération Nationale du Bois
FNC	Fédération Nationale des Chasseurs
FNCoFor	Fédération Nationale des Communes Forestières
FNE	France Nature Environnement
FNPC	Fédération Nationale des Producteurs de Champignons
FNSPFS	Fédération Nationale des Syndicats de Propriétaires Forestiers Sylviculteurs
FOB	free on board
FOGEFOR	FOrmation à la GEstion FORestière
FranceAgriMer	Établissement national des produits de l'Agriculture et de la Mer
FSC	Forest Stewardship Council
GDP	gross domestic product
GFRA	Global Forest Resources Assessment
GIP	ECOFOR ÉCOsystèmes FORestiers public interest group
GIS SOL	Scientific interest group - Soil (INRA)
GRECO	large ecoregion
IDF	Institut pour le Développement Forestier
IFEN	Institut Français de l'Environnement (now SOeS)
IFFC	Institut de Formation Forestière Communale
IFN	Inventaire Forestier National
IGN	Institut Géographique National
IML	Institut Méditerranéen du Liège
INPN	Inventaire National du Patrimoine Naturel
INRA	Institut National de la Recherche Agronomique
INSEE	Institut National de la Statistique et des Études Économiques
ITSAP	Institut Technique et Scientifique de l'Apiculture et de la Pollinisation
IUCN	World Conservation Union
JFSQ	Joint Forest Sector Questionnaire
JWEE	Joint Wood Energy Enquiry
LAS	Laboratoire d'Analyse des Sols (INRA, Arras)
LASMAS	Laboratoire d'Analyse Secondaire et de Méthodes Appliquées à la Sociologie/Université de Caen
LEF	Laboratoire d'Économie Forestière (joint research unit with AgroParisTech-ENGREF and INRA)
LERFOB	Laboratoire d'Études des Ressources Forêt-Bois
LFS	Labour Force Survey /EUROSTAT
LPO	Ligue pour la Protection des Oiseaux
LUCAS	Land Use Cover Area frame statistical Survey / Enquête européenne sur l'utilisation des terres
MAAPRAT	Ministère de l'Agriculture, de l'Alimentation, de la Pêche, de la Ruralité et de l'Aménagement du Territoire
MAB	Man and Biosphere / L'homme et la biosphère
MEDDTL	Ministère de l'Écologie, du Développement Durable, des Transports et du Logement
MNHN	Muséum National d'Histoire Naturelle
MSA	Mutualité Sociale Agricole
NAF	Nomenclature d'Activités Française
NES	Nomenclature Économique de Synthèse
ODARC	Office de Développement Agricole et Rural de la Corse
ONCFS	Office National de la Chasse et de la Faune Sauvage
ONF	Office National des Forêts
ONIPPAM	Office National Interprofessionnel des Plantes à Parfum, Aromatiques et Médicinales
ORF	Orientations Régionales Forestières
PACA	Provence-Alpes-Côte d'Azur
PDM	Plan de Développement de Massif
PDRC	Plan de Développement Rural de Corse
PDRH	Plan de Développement Rural Hexagonal
PEFC	Programme for the Endorsement of Forest Certification schemes / Programme de reconnaissance des certifications forestières
PNR	Parc Naturel Régional
PPFCI	Plan de Protection des Forêts Contre l'Incendie
PPR	Plan de Prévention des Risques
PSG	Plan Simple de Gestion
RBD	Réserve Biologique Dirigée
RBI	Réserve Biologique Intégrale
RENECOFOR	Réseau National de suivi à long terme des Écosystèmes Forestiers
RF	forest region (IFN)

# Appendices

RMQS	Réseau de Mesure de la Qualité des Sols
RN	natural reserve
RP	region of origin
RTG	Règlement Type de Gestion
RTM	Restauration des Terrains en Montagne
SAC	Special area of conservation (Habitat directive)
SCEES	Service Central des Enquêtes et Études Statistiques (aujourd'hui SSP)
SDFB	Sous-Direction de la Forêt et du Bois
SDIS	Service Départemental d'Incendie et de Secours
SEF	Société d'Épargne Forestière
SEOF	Société d'Études Ornithologiques de France
SER	silvoecoregion
SESSI	Service des Études et des Statistiques Industrielles
SFEPM	Société Française pour l'Étude et la Protection des Mammifères
SHF	Société Herpétologique de France
SLDF	Stratégie Locale de Développement Forestier
SMI	sustainable management indicator
SNM	Service des Nouvelles du Marché
SoeS	Service de l'Observation et des Statistiques (ex IFEN)
SPA	special protection area (Bird directive)
SRA	Schéma Régional d'Aménagement
SRGS	Schéma Régional de Gestion Sylvicole
SSP	Service de la Statistique et de la Prospective (ex SCEES)
Teruti	Enquête annuelle sur l'Utilisation du Territoire (until 2004)
Teruti-Lucas	Enquête annuelle sur l'Utilisation du Territoire (georeferenced since 2005)
UCFF	Union de la Coopération Forestière Française
UNECE	United Nations Economic Commission for Europe / Commission Économique des Nations Unies pour l'Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization / Organisation des Nations Unies pour l'Éducation, la Science et la Culture
VA	added value
WRB	World Reference Base for Soil Ressources / Système international de classification des sols
WWF	World Wildlife Fund / Fonds mondial pour la nature

## Symbols and abbreviations

§	paragraph	m	meter
>	more than	m <sup>2</sup>	square meter
µg	microgramme	m <sup>3</sup>	cubic meter
Aeq	acid equivalent	mg	milligramme
CEC	cation exchange capacity	cm	centimeter
mm	millimeter	cm <sup>2</sup>	square centimeter
Mtoe	million tons oil equivalent	C/N	carbon/nitrogen ratio
CO <sub>2</sub>	carbon dioxide	NA	not available
NMVOG	non-methane volatile organic compound	NH <sub>3</sub>	ammoniac
€	euro	NH <sub>4</sub>	ammonium
EQ	roundwood equivalent	NO <sub>3</sub>	nitrate
FTE	full-time equivalent	F	franc
NO <sub>x</sub>	nitrogen oxide	g	gramme
p	part	ha	hectare
Mha	million hectares	Mm <sup>3</sup>	million cubic meters
p.	page	CI	confidence interval
FR	for the record	Keq	kg-equivalent
PVC	polyvinylchloride	kg	kilogramme
SO <sub>2</sub>	sulfur dioxide	SP	saturation percentage
km	kilometer	t	tonne
KTOE	kilotonne oil equivalents	T	cation exchange capacity (CEC)
l	liter	t C	tonnes of carbon
TJ	terajoul	n.s.	non-significant
tC/tDM matter	tonnes of carbon per tonne of dry matter	tMS/m <sup>3</sup>	fresh tonnes of dry matter per m <sup>3</sup> of fresh

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