



Références scientifiques sur la Conservation d'un réseau représentatif et fonctionnel de forêts naturelles

*Scientific references for a representative and functional
conservation network of old growth forests*



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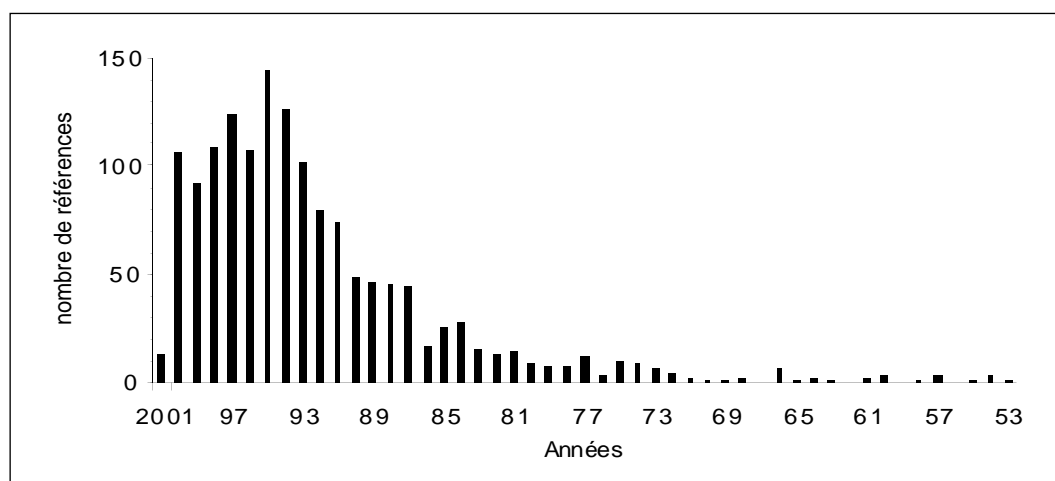


Figure 1

Répartition du nombre de références bibliographiques en fonction de l'année de publication. Dans ce document, 76.4 % des 1477 références sont postérieures à 1989.

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Généralités sur la protection des forêts naturelles

General references on the protection of old-growth forests

A. Définition

Definition



Hayward, G.D. 1991. Using population biology to define old-growth forests. *Wildl. Soc. Bull.*, 19(1) : 111-116.

Hunter, M. 1989. What constitutes an old-growth stand ? *Journal of Forestry*, 87(11) : 33-35.

Moir, W.H. 1992. Ecological concepts in old growth forest definition. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado: USDA Forest Service; 1992 : 18-23. General Technical Report RM-213.

USDA Forest service 1992. Interim old growth definition for Douglas fir, grand/white fir, interior Douglas fir, lodgepole pine, Pacific silver fir, ponderosa pine, Port-Orford cedar/tanoak (redwood), subalpine fir and western hemlock series. USDA forest service, Region 6, Portland, Or. *Journal of Forestry*, 92(1) : 22-25.

Wells, R.W., Lertzman, K.P., Saunders, S.C. 1998. Old-growth definitions for the forests of British Columbia, Canada. *Natural Areas Journal* 18 : 279-292.

B. Les questionnements de la forêt naturelle

The problem of old-growth forests

Albrecht, L. 1988. Ziele und methoden forstlicher forschung in naturwaldreservaten. *Schweiz Z.f. Forstwesen*, heft 5 : 373-387.

Bryant, D.A. 1997. Beyond the frontier: the last wild forests. Washington, D.C.: World Resource Institute, 25 pages.

Bryant, D., Nielsen, D., Tangle, L. 1997. The last frontier forests : ecosystems & economies on the edge. What is the status of the world's remaining large natural forest ecosystems ? World resources Institute, Forest frontier initiative, Washington, USA, 42 pages.

Bücking, W., Aldinger, E., Mühläuber, G. 1993. Neue konzeption für waldschutzgebiete in Baden-Württemberg. *AFZ*, 48 : 1356-1358.

Dayton, L. 1990. New life for old forest. *New Sci.*, 128(1738) : 25-29.

Durbin, K. 1998. Looking at old growth from new angles. *Natl. Wildl.*, 36(1) : 32-39.

Falinski, J.B. 1993. Aims of nature conservation and scientific functions of reserves. Broekmeyer, M.A.E., Vos, W., Koop, H. European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, The Netherlands : 49-53. Wageningen, Pudoc Scient. Publ.

- Feeney, A. 1989. The Pacific northwest's ancient forests : ecosystems under siege. Audubon Wildl. Rep. : 93-153.
- Meyer, P., Spellmann, H. 1997. Das prozebschutz-konzept aus sicht der naturwaldforschung, AFZ/Der Wald, 25 : 1344-1346.
- Mlinsek, D. 1993. Research in virgin forests - for forestry and society (history and future needs). Broekmeyer, M. A. E., Vos, W., and Koop, H. European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, The Netherlands. 29-33. 93. Wageningen, Pudoc Scient. Publ.
- Norse, E.A. 1990. Ancient forests of the Pacific Northwest. Corvela CA : Island Press.
- Peterken, G.F. 1981. Woodland conservation and management. Chapman and Hall, Londres. 328 pages.
- Peterken, G.F. 1992. Conservation of old-growth : a european perspective. Natural areas journal, 12(1) : 10-19.
- Schwoehrer, C. 1999. Les forêts à caractère naturel : une nouvelle responsabilité pour le réseau. La lettre des réserves naturelles 50 : 2-3.
- Schnitzler-Lenoble, A. 1996. En Europe, la forêt primaire. L'extension de vraies réserves forestières est une nécessité scientifique. La recherche, 290 : 68-72.
- Shuck, A., Parviainen, J., Bücking, W. 1994. A review of approaches to forestry research on structure, succession and biodiversity of undisturbed and semi-natural forests and woodlands in Europe. E.F.I., working paper 3, 62 pages.
- Stankey, G.H. 1993. Wilderness around the World. Journal of Forestry, 91(2) : 33-36.
- Walter, J.-M. 1987. Remarks on the dynamics of old growth forests as irreplaceable elements of the European natural heritage. In: Workshop Situation Prot. Ancient Natural Semi-Natural Woodlands in Europe, 22-24 Oct. 1986 Bayerischer Wald Germany, Council of Europe, Environ. Encount. Ser. N°3 : 17-25.
- Watkins, C. 1990. Britain's ancient woodland. Woodland management and conservation. London, David and Charles, 160 pages.
- Whitney, G.G. 1987. Some reflections on the value of old-growth, scientific and otherwise. Nat. Areas J., 7(3) : 92-99.
- Willis, K.J. 1993. How old is ancient woodland ? Trends in ecology and evolution, 8 : 427-428.
- Woodgate, P.W., Peel, B.D., Coram, J.E., Farrell, S.J., Ritman, K.T., Lewis, A. 1996. Old-growth forest studies in Victoria, Australia. Concepts and principles. Forest ecology and management, 85(1-3) :79-94.

Partie 1

Structure, dynamique et régénération des forêts naturelles

Old growth forests structure, dynamics and regeneration

A. Méso-échelle : structure, dynamique et régénération des écosystèmes forestiers

Meso-scale: ecosystem and forest stand structure, dynamics and regeneration

1. Les forêts naturelles nord américaines

OLD-GROWTH FORESTS OF NORTH AMERICA

Abrams, M.D., Downs, J.A. 1990. Successional replacement of old-growth white oak by mixed mesophytic hardwoods in southwestern Pennsylvania. *Canadian Journal of Forest Research* 20, : 1864-1870.

Abrams, M.D., Orwig, D.A., Demeo, T.E. 1995. Dendroecological analysis of successional dynamics for a presettlement-origin white-mixed-oak forest in the southern Appalachians, USA. *Journal of Ecology*, 83 : 133-143.

Abrams, M.D., Ruffner, C.M., Demeo, T.E. 1998. Dendroecology and species co-existence in an old-growth Quercus-Acer-Tilia talus slope forest in the central Appalachians, USA. *Forest ecology and management*, 106(1) : 9-18.

Abrams, M.D., van de Gevel, S., Dodson, R.C., Copenheaver, C.A. 2000. The dendroecology and climatic impacts for old-growth white pine and hemlock on the extreme slopes of the Berkshire Hills, Massachusetts, U.S.A. *Can. J. Bot.*, 78 : 851-861.

Abrell, D.B., Jackson, M.T. 1977. A decade of change in an old-growth beech-maple forest in Indiana. *The American Midland Naturalist*, 98(1) : 22-31.

Bailey, J.D., Marysohn, C., Doescher, P.S., St Pierre, E., Tappeiner, J.C. 1998. Understorey vegetation in old and young Douglas-fir forests of western Oregon. *Forest ecology and management*, 112(3) : 289-302.

Boerner, R.E.J., Kooser, J.G. 1991. Vegetation of Drew woods, an old-growth remnant in western Ohio, and the issue of preservation. *Nat. Areas J.*, 11(1) : 48-54.

Busing, R.T. 1998. Structure and dynamics of cove forests in the Great Smoky Mountains. *Castanea*, 63(3) : 361-371.

Cho, D.S., Boerner, R.E.J. 1991. Canopy disturbance patterns of Quercus species in two Ohio old-growth forests. *Vegetatio*, 93 : 9-18.

Cho, D.S., Boerner, R.E.J. 1991. Canopy disturbance patterns and regeneration of Quercus species in two Ohio old-growth forests. *Vegetatio*, 93(1) : 9-18.

Christensen, N.L. 1977. Changes in structure, pattern, and diversity associated with climax forest maturation in Piedmont, North Carolina. *American midland naturalist*, 97 : 176-188.

Collins, S.L. 1987. The seedling regeneration niche : habitat structure of tree seedlings in an oak-pine forest. *Oikos*, 1 : 89-98.

- Fastie, C.L. 1995. Causes and ecosystem consequences of multiple pathways of primary succession at Glacier Bay, Alaska. *Ecology*, 76(6) : 1899-1916.
- Foster, D.R. 1988. Disturbance history, community organization and vegetation dynamics of the old-growth Pisgah Forest, south-western New Hampshire, U.S.A. *Journal of Ecology*, 76 : 105-134.
- Franck, D.A., Mc Naughton, S.J. 1991. Stability increases with diversity in plant communities : empirical evidence from 1988 Yellowstone drought. *Oikos*, 62 : 360-362.
- Franklin, J.F., Cromack, J.R., Denison, W., Mc Kee, A., Maser, C., Sedell, J., Swanson, F., Juday, G. 1981. Ecological characteristics of old growth Douglas fir forests. Pacific northwest research station report PNW-118.
- Goodburn, J.M., Lorimer, C.G. 1999. Population structure in old-growth and managed northern hardwoods : examination of the balanced diameter distribution concept. *Forest ecology and management*, 118 : 11-19.
- Habeck, J.R. 1988. Old-growth forests in the northern Rocky mountains. *Nat. Areas J.*, 8(3) : 202-211.
- Harmon, M.E., Franklin, J.F. 1989. Tree seedlings on logs in *Picea-Tsuga* forests of Oregon and Washington. *Ecology*, 70(1) : 48-59.
- Heinselman, M.L. 1973. Fire in the virgin forests of the Boundary Waters Canoe Area, Minnesota. *Quaternary Research*, 3(3) : 329-382.
- Henry, J.D., Swan, J.M.A. 1974. Reconstructing forest history from live and dead plant material. An approach to the study of forest succession in Southwest New Hampshire. *Ecology*, 55 : 772-783.
- Kneeshaw, D.D.; Burton, P.J. 1997. Canopy and age structures of some old sub-boreal *Picea* stands in British Columbia. *Journal of Vegetation Science*, 8 : 615-626.
- Leak, W.B. 1975. Age distribution in virgin red spruce and northern hardwoods. *Ecology*, 56 : 1451-1454.
- Lorimer, C.G. 1980. Age structure and disturbance history of a southern Appalachian virgin forest. *Ecology* 61 : 1169-1184.
- Lutz, H.J. 1930. The vegetation of Heart's Content, a virgin forest in northwestern Pennsylvania. *Ecology*, 11 : 2-29.
- Mc Carthy, B.C., Bailey, D.R. 1996. Composition, structure and disturbance history of Crabtree Woods : an old-growth forest of western Maryland. *Bulletin of the Torrey botanical club*, 123 : 350-365.
- Mc Carthy, B.C., et al. 1987. Vegetation patterns and structure of an old-growth forest in southeastern Ohio. *Bulletin of Torrey Botanical Club.*, 114(1) : 33-45.
- Mc Carthy, B.C., Small, C.J., Rubino, D.L. 2001. Composition, structure and dynamics of Dysart Woods, an old-growth mixed mesophytic forest of southeastern Ohio. *Forest Ecol. Manage.* 140 : 193-213.
- Mikan, C.J., Orwig, D.A., Abrams, M.D. 1994. Age structure and successional dynamics of a presettlement-origin chestnut oak forest in the Pennsylvania Piedmont. *Bulletin of the Torrey botanical club.*, 121 : 13-23.
- Morey, H.F. 1936. A comparison of two virgin forests in north-western Pennsylvania. *Ecology*, 17 : 43-55.
- Mroz, G.D. et al. 1985. Composition, structure, and above-ground biomass of two old-growth northern hardwood stands in upper Michigan. *Canadian Journal of Forest Research*, 15 : 78-82.
- Parish, R., Antos, J.A., Fortin, M.J. 1999. Stand development in an old-growth subalpine forest in southern interior British Columbia. *Canadian journal of forest research*, 29(9) : 1347-1356.
- Parker, G.R., Leopold, D.J., Eichenberger, J.K. 1985. Tree dynamics in an old-growth deciduous forest. *Forest ecology and management*, 11 : 31-57.
- Peterson, C.J. 2000. Damage and recovery of forest tree species after two different tornadoes in the same old growth forest : a comparison of infrequent wind disturbances. *Forest ecology and management*, 135 : 237-252.
- Peterson, C.J., Campbell, J.E. 1993. Microsite differences and temporal change in plant communities of treefall pits and mounds in an old-growth forest. *Bull. Torrey Bot. Club.*, 120 : 451-460.

- Rebertus, A.J., Veblen, T.T., Roovers, L.M., Mast, J.N. 1992. Structure and dynamics of Old-growth Engelmann Spruce - Subalpine Fir in Colorado. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop, Portal, Arizona. Fort Collins, Colorado USDA Forest Service; General Technical Report RM-213 : 139-153.
- Robertson, P.A. 1992. Characteristics of Spruce-Fir and Lodgepole Pine Old-growth stands in the Arapaho-Roosevelt national forests, Colorado. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop, Portal, Arizona. Fort Collins, Colorado: USDA Forest Service, General Technical Report RM-213 : 128-134.
- Romme, W.H., Jameson, D.W., Redders, J.S., Bigsby, G., Page Lindsey, J., Kendall, D., Cowen, R., Kreykes, T., Spencer, A.W., Ortega, J.C. 1992. Old-growth Forests of the San Juan national forest in southwestern Colorado. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado: USDA Forest Service, General Technical Report RM-213 : 154-165.
- Runkle, J.R. 1981. Gap regeneration in some old-growth forests of eastern United States. *Ecology*, 62 : 1041-1051.
- Runkle, J.R. 1982. Patterns of disturbance in some old-growth mesic forests in eastern north America. *Ecology*, 63 : 1533-1546.
- Runkle, J.R. 2000. Canopy tree turnover in old-growth mesic forests of eastern North America. *Ecology* 81 : 554-567.
- Schoen, J.W., Kirchoff, M.D., Hughes, J.H. 1988. Wildlife and old-growth forests in southeastern Alaska. *Nat. Areas J.*, 8(3) : 138 -145.
- Spies, T.A., Franklin, J.F. 1988. Old growth and forest dynamics in the Douglas-fir region of western Oregon and Washington. *Nat. Areas J.*, 8(3) : 190-201.
- Stevens, M.T., Turner, M.G., Tuskan, G.A., Romme, W.H., Gunter, L.E., Waller, D.M. 1999. Genetic variation in postfire aspen seedlings in Yellowstone National Park. *Molecular ecology*, 8(11) : 1769-1780
- Stewart, G.H. 1989. The dynamics of old-growth *Pseudotsuga* forests in the western Cascade Range, Oregon, USA. *Vegetatio*, 82(1) : 79-94.
- Swetnam, T.W., Brown, P.M. 1992. Oldest known conifers in the southwestern United States : temporal and spatial patterns of maximum age. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado: USDA Forest Service; General Technical Report RM-213 : 24-38.
- Veblen, T. 1986. Treefalls and coexistence of conifers in subalpine forests of the central Rockies. *Ecology*, 67 : 644-649.
- Walsh, S.J., Parker, G.R. 1989. Spatial dispersion of woody regeneration in an old-growth forest. *Ecology* 70(5) : 1279-1285.
- Ward, J.S. 1989. Spatial dispersion of woody regeneration in an old-growth forest. *Ecology*, 70 : 1279-1285.
- Ward, J.S., Parker, G.R., Ferrandino, F.J. 1996. Long-term spatial dynamics in an old-growth deciduous forest. *Forest ecology and management*, 83 : 189-202.
- White, M.A., Mladenoff, D.J. 1994. Old-growth forest landscape transitions from pre-European settlement to present. *Landscape Ecology*, 9(3) : 191-205.
- Williamson, G.B. 1975. Pattern and seral composition in an old-growth beech-maple forest. *Ecology* 56 : 727-731.
- Ziegler, S.S. 2000. A comparison of structural characteristics between old-growth and postfire second-growth hemlock-hardwood forests in Adirondack Park, New York, U.S.A. *Global ecology and biogeography*, 9 : 373-389.

2. Les forêts naturelles d'Australasie

OLD-GROWTH FORESTS IN AUSTRALASIA

- Aiba, S.I., Hill, D.A., Agetsuma, N. 2001. Comparison between old-growth stands and secondary stands regenerating after clear-felling in warm-temperate forests of Yakushima, southern Japan. *Forest Ecol. Manage.* 140 : 163-175.
- Barnes, B.V., Zhenbang X., Shidong Zha, 1992. Forest ecosystems in an old-growth pine/mixed hardwood forest of the Changbai Shan Preserve in northeastern China. *Canadian journal of forest research*, 22(2) : 144-160.
- Burgman, M.A. 1996. Characterisation and delineation of the eucalypt old-growth forest estate in Australia : a review. *Forest ecology and management*, 74(1-3) : 23-26.
- Clément, J. 1993. Les parcs Nationaux (du Japon). *Rev. For. Fr.*, 45(n° sp.) : 65-80.
- Fukamachi, K., S. Iida, et al. 1996. Landscape patterns and plant species diversity of forest reserves in the Kanto region, Japan. *Vegetatio*, 124(1) : 107-114.
- Hara, T., Nishimura, N., Yamamoto, S. 1995. Tree competition and species coexistence in a cool-temperate old-growth forest in southwestern Japan. *Journal of vegetation science*, 6 : 565-574.
- Hara, T., Nishimura, N., Yamamoto, S. 1995. Tree competition and species coexistence in a cool-temperate old-growth forest in southwestern Japan. *J. Veg. Sci.*, 6 : 565-574.
- Ida, H. 2000. Treefall gap disturbance in an old-growth beech forest in southeastern Japan by a catastrophic typhoon. *Journal of vegetation science*, 11 : 825-832.
- Ishikawa, Y., Krestov, P., Namikawa, K. 1999. Disturbance history and tree establishment in old-growth *Pinus koraiensis*-hardwood forests in the Russian far east. *Journal of vegetation sciences*, 10 : 439-448.
- Jiquan Chen and Bradshaw, G.A. 1999. Forest structure in space - a case study of an old growth spruce-fir forest in Changbaishan Natural Reserve, PR China. *Forest ecology and management*, 120(1-3) : 219-233.
- Lindenmayer, D.B. 1995. Forest disturbance, forest wildlife conservation and the conservative basis for forest management in the mountain ash forests of Victoria – Comments. *Forest ecology and management*, 74 : 223-231.
- Lindenmayer, D.B., Cunningham, R.B., Donnelly, C.F., Franklin, J.F. 2000. Structural features of old-growth Australian montane ash forests. *Forest ecology and management*, 134(1-3) : 189-204.
- Sano, Junji 1997. Age and size distribution in long-term forest dynamics. *Forest ecology and management*, 92(1-3) : 39-44.
- Sueron, C. 1985. Régénération, structures et production d'une forêt "naturelle": la sapinière à *Abies spectabilis* du Népal central. Thèse Univ. Grenoble, 62 pages.
- Susumu, O., Koji, I., Chong-Hao, L. 1995. Establishment processes and regeneration patterns of montane virgin coniferous forest in northeastern China. *Journal of vegetation science*, 6 : 305-308.
- Tanouchi, H., Yamamoto, S. 1995. Structure and regeneration of canopy species in an old-growth evergreen broadleaved forest in Aya district, southwestern Japan. *Vegetation*, 117 : 51-60.
- Wu Hong, Q. 1990. A note on the dynamics of montane virgin *Picea yezoensis* forest in the Greater Khingan Mts, northeastern China. *Vegetatio*, 86(1) : 21-24.
- Young, S.S., Carpenter, C., Wang Zhi-Jun, 1992. A study of the structure and composition of an old growth and secondary broad-leaved forest in the Ailao mountains of Yunnan, China. *Mountain Research and Development*, 12(3) : 269-284.
- Young, S.S., Wang Zhi-Jun, 1989. Comparison of secondary and primary forests in the Ailao Shan region of Yunnan, China. *Forest ecology and management*, 28 : 281-300.

3. Les forêts naturelles européennes (hors France)

OLD-GROWTH FORESTS OF EUROPE (EXCEPT FRANCE)

> Revue et synthèse

Review and synthesis

Everett, R.L., Hesburg, P. F., Lemkuhl, J., Jensen, M., Bourgeron, P. 1994. Old forests in dynamic landscapes. *Journal of forestry*, 1 : 22-25.

Jones, E.W. 1945. The structure and reproduction of the virgin forest of the north temperate zone. *New Phytologist*, 44 : 130-148.

Koop, H. 1987. Vegetative reproduction of trees of some European natural forests. *Vegetatio*, 72 : 103-110.

Mortier, F. 1990. Sylvigénèse et structure spatiales en forêts tempérées : synthèse bibliographique et étude de cas, forêt primaire de plaine, forêt secondaire non exploitée de montagne. Mémoire de DEA, Engref, 190 pages.

Peterken, G.F. 1996. *Natural woodland : ecology and conservation in northern temperate regions*. Cambridge : Cambridge University Press, 522 pages.

Walter, J.M.N. 1991. Bref aperçu du statut et de la dynamique des forêts anciennes naturelles et semi-naturelles d'Europe. *Revue forestière française XLIII*, n° spécial : 173-184.

> Forêts naturelles de Pologne

Old-growth forests in Poland

Andrzejczyk, T. Brzeziecki, B. 1995. The structure and dynamics of old-growth *Pinus sylvestris* (L.) stands in the Wigry National Park, north-eastern Poland. *Vegetatio*, 117 : 81-94.

Bernadski, E., Bolibok, L., Brzeziecki, B., Zajackowski, J., Zybur, H. 1998. Compositional dynamics of natural forests in the Bialowieza National Park, northeastern Poland. *Journal of Vegetation Science*, 9 : 229-238.

Bobiec, A. 1998. The mosaic diversity of field layer vegetation in the natural and exploited forests of Bialowieza. *Plant ecology*, 136 : 175-187.

Bobiec, A., van der Burgt, H., Meijer, K., Zuyderduyn, C., Haga, J., Vlaanderen, B. 2000. Rich deciduous forests in Bialowieza as a dynamic mosaic of developmental phases : premises for nature conservation and restoration management. *Forest ecology and management*, 130 : 159-175.

Falinski, J.B. 1977. Bialowieza primeval forest. *Phytocoenosis*, 6 : 133-148.

Falinski, J.B. 1986. *Vegetation dynamics in temperate lowland primeval forests*. Dr. W. Junk Publishers, *GeoBotany*, 8 : 537 pages.

Falinski, J.B. 1988. Succession, regeneration and fluctuation in the Bialowieza forest (NE Poland). *Vegetatio* 77 : 115-128.

Mitchell, F.J.G., Cole, E. 1998. Reconstruction of long-term successional dynamics of temperate woodland in Bialowieza forest, Poland. *Journal of ecology*, 86 : 1042-1059.

Mortier, F. 1989. Forêts et réserves forestières en Pologne : l'exemple du Parc National de Bialowieza-Approche structurale de la sylvigénèse d'un peuplement primaire naturel: le Peucedano-Pinetum. *Rapport E.N.G.R.E.F.*, 137 pages.

Pillon, S. 1997. La sylvigénèse en forêts primaire naturelle. Cas de la forêt tempérée : le parc national de Bialowieza. Engref, pages non numérotées.

Tomialojc, L. 1991. Characteristics of old growth in the Bialowieza forest, Poland. *Nat. Areas J.*, 11(1) : 7-18.

> Forêts naturelles de Scandinavie

Old-growth forests in Scandinavia

Drobyshev, I.V. 1999. Regeneration of Norway spruce in canopy gaps in *Sphagnum-Myrtillus* old-growth forests. *Forest ecology and management*, 115(1) : 71-83.

Engelmark, O., Hofgaard, A., Arnborg, T. 1998. Successional trends 219 years after fire in an old *Pinus sylvestris* stand in northern Sweden. *Journal of vegetation science*, 9 : 583-592.

- Greger, H., Mikael, O., Olle, Z. 1995. Stand dynamics, regeneration patterns and long-term continuity in boreal old-growth *Picea abies* swamp-forests. *J. Veg. Sci.*, 6 : 291-298.
- Hofgaard, A. 1993. Structure and regeneration patterns in a virgin *Picea abies* forest in northern Sweden. *J. Veg. Sci.*, 4 : 601-608.
- Hornberg, G., Ohlson, M., Zackrisson, O. 1995. Stand dynamics, regeneration patterns and long-term continuity in boreal old-growth *Picea abies* swamp-forests. *Journal of vegetation science*, 6 : 291-298.
- Kuuluvainen, T. 1994. Gap disturbance, ground microtopography and the regeneration dynamics of boreal coniferous forests in Finland : a review. *Ann. Zoo. Fen.*, 31(1) : 35-51.
- Kuuluvainen, T., Syrjanen, K., Kalliola, R. 1998. Structure of a pristine *Picea abies* forest in northeastern Europe. *Journal of vegetation science*, 9 : 563-574.
- Leemans, R. 1991. Canopy gap and establishment patterns of spruce (*Picea abies* (L.) Karst) in two old-growth coniferous forests in central Sweden. *Vegetatio*, 93 : 157-165.
- Linder, P. 1997. Structural changes in two virgin boreal forest stands in central Sweden over 72 years. *Scand. J. For. Res.*, 13 : 451-461
- Linder, P., Elfving, B., Zackrisson, O. 1997. Stand structure and successional trends in virgin boreal forest reserves in Sweden. *Forest Ecol. Manage.*, 98 : 17-33.
- Linder, P., Östlund L. 1998. Structural changes in three mid-boreal Swedish forest landscapes, 1885-1996. *Biological Conservation*, 85 : 9-19.
- Qing Hong, L., Håkan, H. 1991. Gap structure, disturbance and regeneration in a primeval *Picea abies* forest. *J. Veg. Sci.*, 2 : 391-402.

> **Autres pays d'Europe**
Other countries of Europe

- Boncina, A. 2000. Comparison of structure and biodiversity in the Rajhenav virgin forest remnant and managed forest of the Dinaric region of Slovenia. *Global ecology & biogeography*, 9(3) : 201-?.
- Dumolin-Lapègue, S., Pemonge, M.-H., Gielly, L., Taberlet, P., Petit, R. J. 1999. Amplification of oak DNA from ancient and modern wood. *Molecular ecology*, 8(12) : 2137-2140.
- Ishikawa, Y., Krestov, P.V., Namikawa, K. 1999. Disturbance history and tree establishments in old-growth *Pinus koraiensis*-hardwood forest in the Russian Far East. *Journal of vegetation science*, 10 : 439-448.
- Korpel, S. 1995. *Die Urwälder der Westkarpaten*. Stuttgart. Gustav Fischer Verlag, 310 pages.
- Mountford, E.P., Peterken, G.F., Edwards, P.J., Manners, J.G. 1999. Long-term change in growth, mortality and regeneration of trees in Denny Wood, an old-growth wood-pasture in the New Forest (U.K.) *Perspectives in Plant Ecology and Systematics*, 2(2) : 223-272.
- Szwarzyk, J., Czerwczak, M. 1993. Spatial patterns of trees in natural forests of East-Central Europe. *J. Veg. Sci.*, 4 : 469-476.
- Zubrigl, K. 1991. Succession and regeneration in natural forests in Central Europe. *Geobios*, 18 : 202-208.

B. Macro-échelle spatiale :
les questions relatives à la fragmentation des paysages
Space macro-scale: implication of landscape fragmentation

1. Définitions, concepts, synthèses

DEFINITIONS, CONCEPTS, REVIEW

- Bierregaard, R.O. Jr, Lovejoy, T.E., Kapos, A.A. (Dos Santos), Hutchings, R.W. 1992. The biological dynamics of tropical rainforest fragments. *Bioscience*, 42 : 859-866.
- Hanski, I. 1989. Metapopulation dynamiques : does it help to have more of the same ? *TREE*, 4 : 113-114.
- Hanski, I. 1999. Habitat connectivity, habitat continuity and metapopulations in dynamic landscapes. *Oikos*, 87 : 209-219.
- Hanski, I. 1999. *Metapopulation ecology*. Oxford University Press, Oxford.

- Hanski, I., Ovaskainen, O. 2000. The metapopulation capacity of a fragmented landscape. *Nature*, 404 : 755-758.
- Hansson, L. 1991. Dispersal and connectivity in metapopulations. *Biological journal of the Linnean society*, 42 :89-103.
- Harris, L.D. 1984. *The Fragmented Forest. Island Biogeography Theory and the Preservation of Biotic Diversity*. Chicago: The University of Chicago Press, 211 pages.
- Hastings, A., Harrison, S. 1994. Metapopulation dynamics and genetics. *Annual review of ecology and systematics*, 25 : 167-188.
- Klomp, N.I., Green, D.G. 1996. Connectivity in landscapes and ecosystems. In Stocker, R., Jelinek, H., Bossomaier, T., Durnota, B. (eds) 1996. *Complex Systems - from Local Interactions to Global Behaviour*. IOS Press, Amsterdam : 46-56.
- Laurance, W.F. 1996. Tropical forest remnants: ecology, management and conservation of fragmented communities - a symposium, held as part of the annual meeting of the ecological society of america at snowbird, utah, USA, on 2 august 1995. *Environmental Conservation*, 23(1) : 90-91.
- Laurance, W.F. 1998. Forest fragmentation: another perspective. *Trends in Ecology & Evolution* 13(2) : 75.
- Loehle, C. 1999. Optimizing wildlife habitat mitigation with a habitat defragmentation algorithm. *Forest ecology and management*, 120(1-3) : 245-251.
- Pimm, S.L; 1998. The forest fragment classic. *Science*, 393 : 23-24.
- Robinson, G.R., Holt, R.D., Gaines, M.S., Hamburg, S.P., Johnson, M.L., Fitch, H.S., Martinko, E.A. 1992. Diverse and contrasting effects of habitat fragmentation. *Science*, 257 : 524-526.
- Thomassin, K. 1999. Analyse bibliographique de la littérature sur la fragmentation des forêts tempérées et tropicales. *Matrise BOP, Université P & M Curie*, 36 pages.
- Vogelmann, J.E. 1995. Assesment of forest fragmentation in southern New England using remote sensing and geographic information system technology. *Conservation biology*, 9 : 439-449.
- Wright, S.J. 1985. How isolation affects rates of turnover of species on islands. *Oikos*, 44 : 331-340.

2. Impacts de la fragmentation sur la biodiversité

IMPACT OF FRAGMENTATION ON BIODIVERSITY

> Biodiversité en général

Biodiversity globally

- Andren, H. 1994. Effects of habitat fragmentation on birds and mammals in landscapes with different proportions of suitable habitat: a review. *Oikos* 71(3) : 355-366.
- Estrada, A., Coates R., et al. 1993. Patterns of frugivore species richness and abundance in forest islands and in agricultural habitats at Los-tuxtla, Mexico. *Vegetatio*, 108 : 245-257.
- Fahrig, L. 1997. Relative effects of habitat loss and fragmentation on population extinction. *Journal of Wildlife Management*, 61(3) : 603-610.
- Kruess, A., Tscharntke, T. 1994. Habitat fragmentation, species loss and biological control. *Science*, 264 : 1581-1584.
- Mac Nally, R., Bennett, A.F., Horrocks, G. 2000. Forecasting the impacts of habitat fragmentation. Evaluation of species-specific predictions of the impact of habitat fragmentation on birds in the box-ironbark forests of central Victoria. *Biological conservation*, 95(1) : 7-30.
- Matthysen, E., Lens L., et al. 1995. Diverse effects of forest fragmentation on a number of animal species. *Belgian Journal of Zoology*, 125(1) : 175-183.
- Mc Closkey, M. 1993. Note sur la fragmentation of primary rainforest. *Ambio*, 22 : 250-251.
- Quinn, J.F., Hastings, A. 1987. Extinction in subdivided habitats. *Conservation Biology*, 1(3) : 198-208
- Saunders, D.A., Hobbs, R.J., Margules, C.R. 1991. Biological consequences of ecosystem fragmentation : a review. *Conservation biology*, 5 : 18-32.

Turner, I. M. 1996. Species loss in fragments of tropical rain forest: a review of the evidence. *Journal of Applied Ecology* 33(2) : 200-209.

Wahlberg, N., Moilanen, A., Hanski, I. 1996. Predicting the occurrence of endangered species in fragmented landscapes. *Science*, 273 : 1536-1538.

Wilcox, B.A., Murphy, D.D. 1985. Conservation strategy : the effects of fragmentation on extinction. *Am. Nat.*, 125 : 879-887.

> Arbres, plantes, lichens, mousses

Trees, plants, lichens and mosses

Cunningham, S.A. 2000. Effects of habitat fragmentation on the reproductive ecology of four plant species in Mallee woodland. *Conservation biology*, 14(3) : 758-768.

Dayanandan, S., Dole, J., Bawa, K., Kesseli, R. 1999. Population structure delineated with microsatellite markers in fragmented populations of a tropical tree, *Carapa guianensis* (Meliaceae). *Molecular ecology*, 8(10) : 1585-1592

Jules, E.S., Rathcke, B.J. 1999. Mechanisms of reduced *Trillium* recruitment along edges of old-growth forest fragments. *Conservation biology*, 13(4) : 784-793

Kantvilas, G., Jarman S.J. 1993. The cryptogamic flora of an isolated rainforest fragment in Tasmania. *Botanical Journal of the Linnean Society*, 111(2) : 211-228.

Kruys, N., Jonsson, B.G. 1997. Insular patterns of calicioid lichens in a boreal old-growth forest-wetland mosaic. *Ecography*, 20(6) :605-613.

Leigh, E.G. Jr, Wright, S.J., Herre, E.A., Putz, F. 1993. The decline of tree diversity on newly isolated tropical islands : a test of a null hypothesis and some implications. *Ecol. Evol.*, 7 : 76-102.

Norton, D.A., Hobbs, R.J., Atkins, L. 1995. Fragmentation, disturbance and plant distribution : mistletoes in woodland remnants in the western Australian wheatbelt. *Conservation biology*, 9(2) : 426-438.

Rajora, O.P., Rahman, M.H., Buchert, G.P., Dancik, B.P. 2000. Microsatellite DNA analysis of genetic effects of harvesting in old-growth eastern white pine (*Pinus strobus*) in Ontario, Canada. *Molecular ecology*, 9(3) : 339-348.

Turner, I.M., Chua, K.S. et al. 1996. A century of plant species loss from an isolated fragment of lowland tropical rain forest. *Conservation Biology*, 10(4) : 1229-1244.

> Oiseaux

Birds

Åberg, J., Swenson, J.E., Andrén, H. 2000. The dynamics of hazel grouse (*Bonasa bonasia* L.) occurrence in habitat fragments. *Can. J. Zool.* 78 : 352-358.

Anciaes, M., Marini, M.A. 2000. The effects of fragmentation on fluctuating asymmetry in passerine birds of Brazilian tropical forests. *Journal of animal ecology*, 37(6) : 1013-1029

Bancroft, G.T., Strong, A.M. et al. 1995. Deforestation and its effects on forest-nesting birds in the Florida keys. *Conservation Biology*, 9(4) : 835-844.

Bierregaard, R.O. Jr, Lovejoy, T.E. 1989. Effects of forest fragmentation on Amazonian understory bird communities. *Acta Amazônica*, 19 : 215-241.

Bonadie, W.A., Bacon, P.R. 2000. Year-round utilisation of fragmented palm swamp forest by red-bellied macaws (*Ara manila*) and orange-winged parrots (*Amazona amazonica*) in the Nariva swamp (Trinidad). *Biological conservation*, 95(1) : 1-6.

Brooks, T.M., Pimm, S.L., Oyugi, J.O. 1999. Time lag between deforestation and bird extinction in tropical forest fragments. *Conservation biology*, 13(5) : 1140-1150.

Claessens, O. 2000. Effet de la fragmentation de l'habitat sur les peuplements d'oiseaux forestiers tropicaux : le cas de la mise en eau du barrage du Petit Saut (Guyane française) Thèse du Muséum National d'Histoire Naturelle, Paris, 348 pages.

Conner, R.N., Dickson, J.G. 1997. Relationships between bird communities and forest age, structure, species composition and fragmentation in the West Gulf Coastal Plain. *Texas J. Sci.*, 49(3) : supplement 123-138.

- Conner, R.N., Rudolph, G. 1991. Forest habitat loss, fragmentation, and red-cockaded woodpecker populations. *Wilson Bull.*, 103(3) : 446-457.
- Craig, R.D., Conner, R.N. 1994. Fragmentation, and red-cockaded woodpecker population : an analysis at intermediate scale. *Journal of Field Ornithology*, 65(3) : 365-375.
- Diamond, J.M., Bishop, K.D., Van Balen, S. 1987. Bird survival in an isolated Javan woodland : island or mirror ? *Conservation biology*, 1 : 132-142.
- Donovan, T.M., Lamberson, R.H., Kimber, A., Thompson, F.R. III, Faaborg, J. 1995. Modeling the effects of habitat fragmentation on source and sink demography of neotropical migrant birds. *Conservation biology*, 9(6) : 1396-1407.
- Freemark, K.E., Merriam, H.G. 1986. Importance of area and habitat heterogeneity to birds assemblages in temperate forests fragments. *Biological conservation*, 36(2) : 115-141.
- Hagan, J.M., Vanderhaegen, W.M., et al. 1996. The early development of forest fragmentation effects on birds. *Conservation Biology*, 10(1) : 188-202.
- Haila, Y., Hanski, I.K., Raivo, S. 1993. Turnover of breeding birds in small forest fragments : the 'sampling' colonization hypothesis corroborated. *Ecology*, 74 : 714-725.
- Jullien, M., Thiollay, J.M. 1996. Effects of rain forest disturbance and fragmentation: comparative changes of the raptor community along natural and human-made gradients in french guiana. *Journal of Biogeography* 23(1) : 7-25.
- Karr, J.R. 1982. Avian extinction on Barro Colorado island, Panama : a reassessment. *The American naturalist*, 119(2) : 221-239.
- Kattan, G.H., Alvarez-Lopez, H., Giraldo, M. 1994. Forest fragmentation and bird extinctions : San Antonio eighty years later. *Conservation biology*, 8(1) : 138-146.
- Kilgo, J.C., Sargent, R.A. et al. 1997. Landscape influences on breeding bird communities in hardwood fragments in south carolina. *Wildlife Society Bulletin*, 25(4) : 878-885.
- Kruger, S.C., Lawes, M.J. 1997. Edge effects at an induced forest-grassland boundary: forest birds in the Ongoye forest reserve, Kwazulu-natal. *South African Journal of Zoology*, 32(3) : 82-91.
- Lamberson, R.H., McKelvey, R., Noon, B.R., Voss, C. 1992. A dynamic analysis of Northern spotted owl viability in a fragmented forests landscape. *Conservation Biology*, 6(4) : 505-512.
- Larue, M. 1999. Effets de la fragmentation du milieu sur les populations d'oiseaux forestiers frugivores de Guyane française. *Alauda*, 67(4) : 297-306.
- Laurance, W.F., Garesche, J. et al. 1993. Avian nest predation in modified and natural habitats in tropical Queensland - an experimental study. *Wildlife Research*, 20(6) : 711-723.
- Leck, C.F. 1979. Avian extinctions in an isolated tropical wet-forest reserve, Ecuador. *Auk*, 96 : 343-352.
- Martinez, D.R., Jaksic, F.M. 1996. Habitat, relative abundance, and diet of rufous-legged owls (*Strix rufipes* King) in temperate forest remnants of southern Chile. *Ecoscience*, 3(3) : 259-263.
- Newmark, W.F. 1991. Tropical forest fragmentation and the local extinction of understory birds in the eastern Usambara mountains, Tanzania. *Conservation biology*, 5 : 67-78.
- Potter, M.A. 1990. Movement of north island brown kiwi between forest fragments. *New Zealand journal of ecology*, 14 : 14-17.
- Price, G.F., Woinarski, J.C.Z., Robinson, D. 1999. Very large requirements for frugivorous birds in monsoon rainforest of the northern territory, Australia. *Biological conservation*, 91(2-3) : 169-180.
- Redpath, S.M. 1995. Habitat fragmentation and the individual : tawny owls *Strix aluco* in woodland patches. *Journal of animal ecology*, 64 : 652-661.
- Robinson, W.D., Robinson, S.K. 1999. Effect of selective logging on forest bird populations in a fragmented landscape. *Conservation biology*, 13(1) : 58-66.
- Rolstad, J. 1991. Consequences of forest fragmentation for the dynamics of bird population : conceptual issues and evidence. *J. Biol. Lin. Soc. London*, 42 : 149-163.

- Rolstad, J., Wegge, P. 1989. Effects of logging on capercaillie (*Tetrao urogallus*) leks. III. Extinction and recolonization of lek populations in relations to clearfelling and fragmentation of old forest. *Scand. J. For. Res.*, 4(1) : 129-135.
- Rudnicki, T.C., Hunter, M.L. Jr 1993. Reversing the fragmentation perspective : effects of clearcut size on bird species richness in Maine. *Ecological applications*, 3(2) : 357-366.
- Rudolph, G., Conner, R.N. 1994. Forest fragmentation and red-cockaded woodpecker population : an analysis at intermediate scale. *J. Field Ornithol.*, 65(3) : 365-375
- Schieck, J., Lertzman, K., et al. 1995. Effects of patch size on birds in old-growth montane forests. *Conservation Biology*, 9(5) : 1072-1084.
- Sieving, K.E., Willson, M.F., De Santo, T.L. 1996. Habitat barriers to movement of understory birds in fragmented south-temperate rainforest. *The Auk*, 113(4) : 944-949.
- Sieving, K.E., Willson, M.F., De Santo, T.L. 2000. Defining corridor functions for endemic birds in fragmented south-temperate rainforest. *Conservation biology*, 14(4) : 1120-1132.
- Simberloff, D. 1994. Habitat fragmentation and population extinction of birds. *Ibis*, 137 : s105-s111.
- Sodhi, N.S., Paszkowski, C.A. 1997. The pairing success of male black-and-white warblers, *Mniotilta varia*, in forest fragments and a continuous forest. *Canadian Field Naturalist*, 111(3) : 457-458.
- Stouffer, P.C., Bierregaard, R.O. 1995. Effect of forest fragmentation on understory hummingbirds in Amazonian Brazil. *Conservation biology*, 1085-1094.
- Stouffer, P.C., Bierregaard, R.O. 1995. Use of Amazonian forest fragments by understory insectivorous birds : effects of fragment size, surrounding secondary vegetation and time since isolation. *Ecology*, 76 : 2429-2445.
- Telleria, J.L., Santos, T. 1995. Effects of forest fragmentation on a guild of wintering passerines : the role of habitat selection. *Biological conservation*, 71 : 61-67.
- Thiollay, J.M. 1989. Area requirements for the conservation of rain forests raptors and game birds in French Guiana. *Conservation biology*, 3 : 128-137.
- Thiollay, J.M. 1993. Response of a raptor community to shrinking area and degradation of tropical rain forest in the south western Ghats (India). *Ecography* 16(2) : 97-110.
- Thiollay, J.M. 1996. Distributional patterns of raptors along altitudinal gradients in Northern Andes and the effects of forest fragmentation. *Journal of tropical ecology*, 12 : 535-560.
- Thiollay, J.M. 1997. Disturbance, selective logging and bird diversity : a neotropical forest study. *Biodiversity and conservation*, 6 : 1155-1173.
- Thiollay, J.M., Meyburg, B.U. 1988. Forest fragmentation and the conservation of raptors : a survey on the island of Java. *Biological conservation*, 44 : 229-250.
- Tjernberg, M., Johnsson, K., et al. 1993. Density variation and breeding success of the black woodpecker *Dryocopus martius* in relation to forest fragmentation. *Ornis Fennica*, 70(3) : 155-162.
- Villard, M.A., Merriam, G., Maurer, B.A. 1995. Dynamics in subdivided populations of Neotropical migratory birds in a fragmented temperate forest. *Ecology*, 76 : 27-40.
- Villard, M.A., Trzcinski, M.K., Merriam, G. 1999. Fragmentation effects on forest birds : relative influence of woodland cover and configuration on landscape occupancy. *Conservation biology*, 13(4) : 774-783
- Wiens, J.A. 1994. Habitat fragmentation : island vs. landscape perspectives on bird conservation. *Ibis*, 137 : s97-s104.
- Willson, M.F., de Santo, T.L., Sabag, C., Armesto, J.J. 1994. Avian communities of fragmented south-temperate rainforests in Chile. *Conservation biology*, 8 : 508-520.

> **Mammifères (hors chauve-souris)**

Mammals (except bats)

- Adler, G.H., Wilson, M.L., Derosa, M.J. 1986. Influence of island area and isolation on population characteristics of *Peromyscus leucopus*. J. Mammal., 67 : 406-409.
- Andren, H., Delin, A. 1994. Habitat selection in the eurasian red squirrel, *Sciurus vulgaris*, in relation to forest fragmentation. Oikos, 70(1) : 43-48.
- Bayne, E.M., Hobson, K.A. 1998. The effects of habitat fragmentation by forestry and agriculture on the abundance of small mammals in the southern boreal mixedwood forest. Canadian Journal of Zoology - Revue Canadienne de Zoologie 76(1) : 62-69.
- Bowers, M.A., Matter, S.F. 1997. Landscape ecology of mammals: relationships between density and patch size. Journal of Mammalogy, 78(4) : 999-1013.
- Bowers, M.A., Matter, S.F., et al. 1996. Controlled experiments of habitat fragmentation: a simple computer simulation and a test using small mammals. Oecologia, 108(1) : 182-191.
- Bright, P.W. 1993. Habitat fragmentation - problems and predictions for british mammals. Mammal Review 23(3-4) : 101-111.
- Chiarello, A.G. 1993. Activity pattern of the brown howler monkey *Alouatta fusca*, Geoffroy 1812, in a forest fragment of southeastern Brazil. Primates, 34(3) : 289-293.
- Chiarello, A.G. 1993. Home range of the brown howler monkey, *Alouatta fusca*, in a forest fragment of southeastern Brazil. Folia Primatologica, 60(3) : 173-175.
- Chiarello, A.G. 1994. Diet of the brown howler monkey *Alouatta fusca* in a semi-deciduous forest fragment of southeastern brazil. Primates, 35(1) : 25-34.
- Cosson, J.F., Ringuet, S., Claessens O., De Massary, J.C., Dalecky, A., Villiers, J.F., Granjon, L., Pons, J.M. 1999. Ecological changes in recent land-bridge islands in French Guiana, with emphasis on vertebrate communities. Ecology and management of fragmented tropical landscapes. Biological conservation, 91(2-3) : 213-222.
- Diffendorfer, J.E., Gaines, M.S., Holt, R.D. 1995. Habitat fragmentation and movements of three mammals (*Simodon*, *Microtus*, *Peromyscus*). Ecology, 76 : 827-839.
- Estrada, A., Coates, R. 1996. Tropical rain forest fragmentation and wild populations of primates at Los Tuxtlas, Mexico. International Journal of Primatology, 17(5) : 759-783.
- Estrada, A., Coates, R. et al. 1994. Non flying mammals and landscape changes in the tropical rain forest region of Los Tuxtlas, Mexico. Ecography, 17(3) : 229-241.
- Galetti, M., Pedroni, F. et al. 1994. Diet of the brown howler monkey *Alouatta fusca* in a forest fragment in southeastern Brazil. Mammalia, 58(1) : 111-118.
- Granjon, L., Cosson, J.F., Judas, J., Ringuet, S. 1996. Influence of tropical rainforest fragmentation on mammal communities in French guiana: short-term effects. Acta Oecologica - International Journal of Ecology, 17(6) : 673-684.
- Hargis, C.D., Bissonette, J.A., Turner, D.L. 1999. The influence of forest fragmentation and landscape pattern on American martens. Journal of animal ecology, 36(1) : 157-172
- Kelt, D.A. 2000. Small mammals communities in rainforest fragments in central southern Chile. Biological conservation, 92(3) : 345-458.
- Laurance, W.F. 1990. Comparative responses of fives arboreal marsupials to tropical forest fragmentation. Journal of mammalogy, 71 : 641-653.
- Laurance, W.F. 1994. Rainforest fragmentation and the structure of small mammal communities in tropical Queensland. Biological Conservation 69(1) : 23-32.
- Laurance, W.F. 1997. Responses of mammals to rainforest fragmentation in tropical Queensland: a review and synthesis. Wildlife Research, 24(5) : 603-612.
- Lindenmayer, D.B., Cunningham, R.B. et al. 1993. The conservation of arboreal marsupials in the montane ash forests of the central highlands of victoria, south-east australia. IV. The presence and abundance of arboreal marsupials in retained linear habitats (wildlife corridors) within logged forest. Biological Conservation 66(3) : 207-221.

- Lindenmayer, D.B., Lacy, R.C. 1995. A simulation study of the impacts of population subdivision on the mountain brushtail possum *Trichosurus caninus* Ogilby (Phalangeridae : Marsupialia) in south-eastern Australia.1. demographic stability and population persistence. *Biological Conservation*, 73(2) : 119-129.
- Lindenmayer, D.B., Lacy, R.C. 1995. Metapopulation viability of arboreal marsupials in fragmented old-growth forests: comparison among species. *Ecological Applications*, 5(1) : 183-199.
- Lindenmayer, D.B., Lacy, R.C. 1995. Metapopulation viability of leadbeater's possum, *Gymnobelideus leadbeateri*, in fragmented old-growth forests. *Ecological Applications*, 5(1) : 164-182.
- Lindenmayer, D.B., Mc Carthy, M.A., Parris, K.M., Pope, M.L. 2000. Habitat fragmentation, landscape context and mammalian assemblages in southeastern Australia. *Journal of mammalogy*, 81(3) : 787-797.
- Lindenmayer, D.B., Possingham H.P. 1996. Modelling the inter-relationships between habitat patchiness, dispersal capability and metapopulation persistence of the endangered species, Leadbeater's possum, in south-eastern Australia. *Landscape Ecology*, 11(2) : 79-105.
- Mc Carthy, M.A. 2001. Assessing spatial PVA models of arboreal marsupials using significance test and Bayesian statistics. *Biological conservation*, 98(2) : 191-200.
- Mills, L.S. 1995. Edge effects and isolation : red-backed voles on forest remnants. *Conservation biology*, 9 : 395-403.
- Pahl, L.I., Winter, J.W., Heinsohn, G. 1988. Variation in responses of arboreal marsupials to fragmentation of tropical rainforest eastern Australia. *Biological conservation*, 46 : 71-82.
- Ringuet, S. 2000. An assesment of the potential influence of rainforest fragmentation on small terrestrial mammal predation in French Guyana. *Revue d'écologie (Terre Vie)*, 55 : 101-116.
- Ringuet, S., Claessens, O., Cosson, J.F., Massary, J.C. (de), Granjon, L., Pons, J.M. 1998. Fragmentation de l'habitat et diversité des petits vertébrés en forêt tropicale humide : l'exemple de Petit Saut (Guyane française). *JATBA*, 40(2) : 11-30.
- Songer, M.A., Lomolino, M.V., Perault, D.R. 1997. Niche dynamics of deer mice in a fragmented old-growth forest landscape. *J. Mammal.*, 78(4) : 1027-1039.
- Thurber, J.M., Peterson, R.O., Drummer, T.D., Thomas, S.A. 1994. Gray wolf response to refuge boundaries and roads in Alaska. *Wildlife society bulletin*, 22 : 61-68.
- Tutin, C.E.G., White, L.J.T. et al. 1997. The use by rain forest mammals of natural forest fragments in an equatorial african savanna. *Conservation Biology*, 11(5) : 1190-1203.
- Verboom, B., van Apeldoorn, R. 1990. Effects of habitat fragmentation on the red squirrel, *Sciurus vulgaris* L. *Landscape ecology*, 4 : 171-176.
- Wauters, L., Casale, P., Dhondt, A. 1994. Space use and dispersal of red squirrels in fragmented habitats. *Oikos*, 69 : 140-146.
- Yahner, R.H. 1991. Dynamics of a small mammal community in a fragmented forest. *American midland naturalist*, 127 : 381-391.

> **Chauve-souris**

Bats

- Brosset, A., Charles-Dominique, P. Cosson, J.F., Masson, D., Cockle, A. 1996. Bat communities and deforestation in French Guiana. *Can. J. Zool.*, 74 : 1974-1982.
- Cosson, J.F., Pons, J.M., Masson, D. 1999. Effects of forest fragmentation on frugivorous and nectarivorous bats in French Guiana. *Journal of tropical ecology*, 15(4) : 515-534.
- Estrada, A., Coates, R. et al. 1993. Bat species richness and abundance in tropical rain forest fragments and in agricultural habitats at Los-Tuxtlas, Mexico. *Ecography*, 16(4) : 309-318.
- Galetti, M., Morellato, L.P.C. 1994. Diet of the large fruit-eating bat *Artibeus lituratus* in a forest fragment in Brasil. *Mammalia*, 58(4) : 661-665.
- Law, B.S., Anderson, J., Chidel, M. 1999. Bat communities in a fragmented forest landscape on the south-west slopes of New South Wales, Australia. *Biol. Cons.*, 88 (3) : 333-345.

Verboom, B., Huitema, H. 1997. The importance of linear landscape elements for the Pipistrelle *Pipistrallus pipistrellus* and the serotien bat *Eptesicus serotinus*. *Landscape ecology*, 12 : 117-125.

Zielinski, W.J., Gellman, Steven T. 1999. Bat use of remnant old-growth redwood stands. *Conserv. Biol.*, 13(1) : 160-167.

> Insectes

Insects

Daily, G.C., Ehrlich, P. R. 1995. Preservation of biodiversity in small rainforest patches: rapid evaluations using butterfly trapping. *Biodiversity and Conservation*, 4(1) : 35-55.

De Vries, H.H., Den Boer, P.J. 1990. Survival of populations of *Agonum ericeti* Panz. (Col., Carabidae) in relation to fragmentation of habitats. *Neth. Journal of Zoology*, 40 : 484-498.

Didham, R.K., Ghazoul, J., Stork, N.E., Davis, A.J. 1996. Insects in fragmented forests : a functional approach. *TREE*, 11(6) : 255-260.

Frund, H.C., Balkenhol, B. et al. 1997. Chilopoda in forest habitat-islands in north-west Westphalia, Germany. *Entomologica Scandinavica, Suppl.* 51 : 107-114.

Halme, E., Niemela J. 1993. Carabid beetles in fragments of coniferous forest. *Annales Zoologici Fennici* 30(1) : 17-30.

Kholin, S.K. 1995. The number of species and species structure of the ground beetle communities in fragmentary forest areas of the Primore agrolandscape. *Russian Journal of Ecology*, 26(3) : 183-187.

Kinnunen, H., Jarvelainen, K. et al. 1996. The effect of isolation on the occurrence of farmland carabids in a fragmented landscape. *Annales Zoologici Fennici*, 33(1) : 165-171.

Klein, B.C. 1989. Effects of forest fragmentation on dung and carion beetle communities in Central Amazonia. *Ecology*, 70 : 1715-1725.

Pajunen, T., Haila, Y., Halme, E., Niemela, J., Puntilla, P. 1995. Ground-dwelling spiders (Arachnida, Araneae) in fragmented old forests and surrounding managed forests in southern Finland. *Ecography*, 18 : 62-72.

Powell, A.H., Powell, G.V.N. 1987. Population dynamics of male euglossine bees in Amazonian forest fragments. *Biotropica*, 19 : 176-179.

Puntilla, P. 1996. Succession, forest fragmentation and the distribution of wood ants. *Oikos*, 75(2) : 291-298.

Puntilla, P., Haila, Y., Niemälä, J., Pajunen, T. 1994. Ant communities in fragments of old-growth taiga and managed surroundings. *Ann. Zool. Fennici*, 31 : 131-144.

Shure, D.J., Phillips, D.L. 1991. Patch size of forest openings and arthropod populations. *Oecologia*, 86 : 325-334.

Souza, O.F.F. (de), Brown, V.K. 1994. Effect of habitat fragmentation on Amazonian termite communities. *Journal of tropical ecology*, 10 : 197-206.

Torossian, C., Roques, L. 1984. Les réponses de *Formica lugubris* Zett. à la dégradation anthropique des forêts de l'étage subalpin français. *Bulletin d'écologie*, 15 : 77-90.

Vasconcelos, H.L., Vilhena, J.M.S., Caliri, G.J.A. 2000. Responses of ants to selective logging of a central Amazonian forest. *Journal of animal ecology*, 37(3) : 508-514.

> Amphibiens

Amphibians

Hager, H.A. 1998. Area-sensitivity of reptiles and amphibians : are there indicator species for habitat fragmentation ? *Ecoscience*, 5(2) : 139-147.

Mann, W., Dorn, P., Brandl, R. 1991. Local distribution of amphibians : the importance of habitat fragmentation. *Global ecology and biogeography letters*, 1 : 36-41.

Marsh, D.M., Pearman, P.B. 1997. Effects of habitat fragmentation on the abundance of two species of Leptodactylid frogs in an andean montane forest. *Conservation Biology*, 11(6) : 1323-1328.

Schlaepfer, M.A., Gavin, T.A. (sous presse). Edge effects on lizards and frogs in tropical forests fragments. Conservation biology.

Summer, J. 1997. The effect of rainforest fragmentation on reptiles and microhylid frogs on the Atherton Tablelands in the wet tropics. New. Aust. Soc. Herp. Incorpor., 38 : 110.

Vos, C.C., Stumpel, A.H.P. 1996. Comparison of habitat-isolation parameters in relation to fragmented distribution patterns in the tree frog (*Hyla arborea*). Landscape Ecology, 11(4) : 203-214.

3. Impact de la fragmentation sur la structure

IMPACT OF FRAGMENTATION ON THE STRUCTURE

Chen, J., Franklin, J.F., Spies, T.A. 1990. Microclimatic pattern and basis biological responses at clear-cut edges of old-growth Douglas-fir stands. North. Environ. J., 6 : 424-425.

Chen, J., Franklin, J.F., Spies, T.A. 1992. Vegetation responses to edge environments in old-growth Douglas-fir forests. Ecological applications, 2 : 387-396.

Chen, J. 1993. Contrasting microclimates among clearcut edge and interior of old-growth Douglas-fir forests. Ecological applications, 2 : 387-396.

Chen, J. 1993. An empirical model for predicting diurnal air-temperature gradients from edge into old-growth Douglas-fir forest. Ecological modelling, 67 : 179-198.

Gascon, C., Lovejoy, T.E., Bierregaard, R.O.J., Malcom, J.R., Stouffer, P.C., Vasconcelos, H.L., Laurence, W.F., Zimmerman, B., Tocher, M., Borges, S., Laurence, W.F. (eds) 1999. Matrix habitat and species richness in tropical forest remnants. Biological conservation, 91(2-3) : 223-229.

Hansson, L. 2000. Edge structures and edge effects on plants and birds in ancient oak-hazel woodlands. Landscape urban and planning, 46(4) : 203-207.

Holt, R.D., Robinson, R., Gaines, M.S. 1995. Vegetation dynamics in an experimentally fragmented landscape. Ecology, 76(5) : 1610-1624.

Jorge, L.A.B., Garcia, G.J. 1997. A study of habitat fragmentation in Southeastern Brazil using remote sensing and geographic information systems (GIS). Forest Ecology and Management, 98(1) : 35-47.

Laurence, W.F. 1991. Predicting the impacts of edge effects in fragmented habitats. Biological conservation, 55 : 77-92.

Malcolm, J. R. 1994. Edge effects in central amazonian forest fragments. Ecology, 75(8) : 2438-2445.

Matlack, G.R. 1994. Vegetation dynamics of the forest edge – trends in space and successional time. Journal of ecology, 82 : 113-123.

Noss, R.F. 1991. Effects of edge and internal patchiness on avian habitat use in an old-growth Florida hammock. Nat. Areas J., 11(1) : 34-47.

Strong, A.M. Bancroft, G.T. 1994. Patterns of deforestation and fragmentation of mangrove and deciduous seasonal forests in the upper Florida keys. Bulletin of Marine Science, 54(3) : 795-804.

Young, A., Mitchell, N. 1994. Microclimate and vegetation edge effects in a fragmented podocarp broadleaf forest in New Zealand. Biological conservation, 67 : 63-72.

4. Impact de la fragmentation sur les processus fonctionnels

IMPACT OF FRAGMENTATION ON FUNCTIONAL PROCESSES

> Impact sur les flux génétiques

Impact on genes flux

Ballal, S.R., Fore S.A., et al. 1994. Apparent gene flow and genetic structure of *Acer saccharum* subpopulations in forest fragments. Canadian Journal of Botany - Revue Canadienne de Botanique, 72(9) : 1311-1315.

Barratt, E.M., Gurnell, J., Malarky, G., Deaville, R., Bruford, M.W. 1999. Genetic structure of fragmented populations of red squirrel (*Sciurus vulgaris*) in the UK. Molecular ecology, 8(s12) : s55-s64.

- Buchert, G.P., Rajora, O.P., Hood, J.V. 1997. Effects of harvesting on genetic diversity in old-growth eastern white pine in Ontario, Canada. *Conservation biology*, 11(3) : 747-758.
- Cobb, M., Huet, M., Lachaise, D., Veuille, M. 2000. Fragmented forests, evolving flies: molecular variation in East and West African populations of *Drosophila teissieri*. *Molecular Ecology*, 9 : 1591-1597.
- Cunningham, M., Mortiz, C. 1998. Genetic effects of forest fragmentation on a rainforest restricted lizard (Scincidae : *Gnytoscinsus queenslandiae*). *Biological conservation*, 83 : 19-30.
- Fore, S.A., Hickey, R.J., Vankat, J.L., Guttman, S.I., Schaeffer, R.L. 1992. Genetic structure after forest fragmentation: a landscape ecology perspective on *Acer saccharum*. *Canadian Journal of Botany* 70 : 1659-1668.
- Gaines, M.S., Diffendorfer, R.H., Tamarin, Whittam, T.S. 1997. The effects of habitat fragmentation on the genetic structure of small mammal populations. *J. Heredity*, 88 : 294-304.
- Gerlach, G., Musolf, K. 2000. Fragmentation of landscape as a cause for genetic subdivision in bank voles. 14(4) : 1066-1074.
- Joseph, L., Moritz, C., Hugall, A. 1994. Mitochondrial DNA phylogeography of birds in eastern Australian rainforests : first fragments. *Australian journal of zoology*, 42 : 385-403.
- Moritz, C., Joseph, L., Cunningham, M., Schneider, C. 1997. Molecular perspective on historical fragmentation of Australian tropical and subtropical rainforests : implications for conservation. In Laurance, W.F., Bierregaard, R.O. Jr. (eds) *Tropical forest remnants : ecology, management and conservation of fragmented communities*. The University of Chicago Press, Chicago & London, 442-454.
- Nason, J.D., Hamrick, J.L. 1997. Reproductive and genetic consequences of forest fragmentation: two case studies of neotropical canopy trees. *Journal of Heredity*, 88(4) : 264-276.
- Templeton, A.R., Shaw, K., Routman, E., Davis, S.K. 1990. The genetic consequences of habitat fragmentation. *Ann. Missouri Bot. Gard.*, 77(1) : 13-27.
- Wayne, R.K., Lehman, N., Allard, M.W., Honeycutt, R.L. 1992. Mitochondrial DNA variability of grey wolf : genetic consequences of population decline and habitat fragmentation. *Conservation biology*, 6 : 559-569.
- Young, A., Boyle, T., Brown, T. 1996. The population genetic consequences of habitat fragmentation for plants. *TREE*, 11 : 413-418.
- Young, A.G., Merriam, H.G., Warwick, S.I. 1993. The effects of forest fragmentation on genetic variation in *Acer saccharum* Marsh. (sugar maple) populations. *Heredity* 71 : 277-289.
- Zoller, S., Lutzoni, F., Scheidegger, C. 1999. Genetic variation within and among populations of the threatened lichen *Lobaria pulmonaria* in Switzerland and implications for its conservation. *Molecular ecology*, 8(12) : 2049-2060.

> Impact sur la pollinisation

Impact on pollination

- Aizen, M.A., Feinsinger, P. 1994. Forest fragmentation, pollination, and plant reproduction in a chaco dry forest, Argentina. *Ecology*, 75 : 330-351.
- Aizen, M.A., Feinsinger, P. 1994. Habitat fragmentation, native insect pollinators, and feral honey bees in Argentine Chaco Serrano. *Ecological Applications*, 4 : 378-392.
- Jennersten, O. 1988. Pollination of *Dianthus deltoides* (Caryophyllaceae) : effects of habitat fragmentation on visitation and seed set. *Conservation biology*, 2 : 359-366.
- Murcia, C. 1996. Forest fragmentation and the pollination of neotropical plants. In J. Schelhas and Russel Greenberg (Eds.). *Forest patches in tropical landscapes*, 19-36. Island Press, Washington, D.C.
- Nason, J., Allen Herre, E., Hamrick, J.L. 1998. The breeding structure of a tropical keystone plant resource. *Nature*, 391 : 685-687.
- Renner, S.S. 1998. Effects of habitat fragmentation on plant pollinator interactions in the tropics. In: Newbery, D.M., Prins, H.H.T. & Brown, N.D. Eds. *Dynamics of tropical communities*. The 37th Symposium of the British Ecological Society, Cambridge University, 1996. Blackwell Science, Oxford, London, p. 339-360.

> **Impact sur la dissémination des graines**

Impact on seed dissemination

Jules, E. S. 1998. Habitat fragmentation and demographic change for a common plant : *Trillium* in old-growth forest. *Ecology*, 79 :1645-1656.

Malanson, G.P., Armstrong, M.P. 1996. Dispersal probability and forest diversity in a fragmented landscape. *Ecological modelling*, volume 87, n°1-3 : 91-102.

Malanson, G.P., Cairns, D.M. 1997. Effects of dispersal, population delays, and forest fragmentation on tree migration rates. *Plant Ecology*, 131(1) : 67-79.

Matthysen, E., Adriaensen, F. et al. 1995. Dispersal distances of nuthatches, *Sitta europaea*, in a highly fragmented forest habitat. *Oikos* 72(3) : 375-381.

Mc Clanathan, T.R. 1986. Seed dispersal from vegetation islands. *Ecological modelling*, 32(4) : 301-309.

Santos, T.Q., Telleria, J.L. 1994. Influence of forest fragmentation on seed consumption and dispersal of spanish juniper *Juniperus thurifera*. *Biological conservation*, 70 : 129-134.

Telleria, J.L., Santos, T.Q., Alcantara, M. 1991. Abundance and food searching intensity of wood mice *Apodemus sylvaticus* in fragmented forests. *J. Mammal.*, 72 : 183-187.

> **Impact sur la régénération naturelle**

Impact on natural regeneration

Benitez-Malvido, J. 1998. Impact of forest fragmentation on seedling abundance in a tropical rain forest. *Conservation biology*, 12(2) : 380-389.

Laurance, W.F., Ferreira, L.V., Rankin-De Merona, J.M., Laurance, S.G. 1998. Effects of forest fragmentation on recruitment patterns in amazonian tree communities. *Conservation Biology*, 12(2) : 460-464.

Laurence, W.F., Feirreira, L.V., Rankin-De Merona, J.M., Laurance, S.G. 1998. Rain forest fragmentation and the dynamics of Amazonian tree communities. *Ecology*, 79(6) : 2032-2040.

Luken, J.O. Goessling, N. 1995. Seedling distribution and potential persistence of the exotic shrub *Lonicera maackii* in fragmented forests. *American Midland Naturalist*, 133(1) : 124-130.

> **Impact sur la prédation**

Impact on predation

Adler, G.H. 1994. Tropical forest fragmentation and isolation promote asynchrony among population of frugivorous rodent. *J. Anim. Ecol.*, 63 : 903-911.

Andrén, H. 1992. Corvid density and nest predation in relation to forest fragmentation : a landscape perspective. *Ecology*, 73 : 794-804.

Andrén, H., Angelstam, P. 1988. Elevated predation rates as an edge effect in habitat islands : experimental evidence. *Ecology*, 69 : 544-547.

Arango-Vélez, N., Kattan, G.H. 1997. Effects of forest fragmentation on experimental nest predation in Andean cloud forest. *Biological conservation*, 81 : 137-143.

Bayne, E. M., Hobson, K.A. 1997. Comparing the effects of landscape fragmentation by forestry and agriculture on predation of artificial nests. *Conservation Biology*, 11(6) : 1418-1429.

Cullen, L. Jr, Bodmer, R.E., Bodmer, Valladares Padua, C. 2000. Effects of hunting in habitat fragments of the Atlantic forests, Brazil. *Biological conservation*, 95(1) : 49-56.

Da Fonseca, G.A.B., Robinson, J.G. 1990. Forest size and structure : competitive and predatory effects on small mammal communities. *Biological conservation*, 53 : 265-294.

Diaz, I., Papic, C., Armesto, J.J. 1999. An assessment of post-dispersal seed predation in temperate rainforest fragments in Chiloé Island, Chile. *Oikos*, 87(2) : 228-238.

Robinson, S.K., Thompson, F.R. III, Donavan, T.M., Whitehead, D.R., Faaborg, J. 1995. Regional forest fragmentation and the nesting success of migratory birds. *Science*, 267 : 1987-90.

Small, M.F., Hunter, M.L. 1988. Forest fragmentation and avian nest predation in forested landscapes. *Oecologia*, 76 : 62-64.

Taylor, P.D., Merriam, G. 1996. Habitat fragmentation and parasitism of a forest damselfly. *Landscape ecology*, 11 : 181-189.

Vanderhaegen, W.M., Degraaf, R.M. 1996. Predation on artificial nests in forested riparian buffer strips. *Journal of Wildlife Management*, 60(3) : 542-550.

Vanderhaegen, W.M., Degraaf, R.M. 1996. Predation rates on artificial nests in an industrial forest landscape. *Forest Ecology and Management*, 86(1-3) : 171-179.

Yahner, R.H., Scott, P.P. 1988. Effects of forest fragmentation on depredation of artificial nests. *Journal of wildlife management*, 52 : 158-161.

> Impact sur la mortalité des arbres

Impact on tree mortality

Esseen, P.A. 1994. Tree mortality patterns after experimental fragmentations of an old-growth conifer forest. *Biological conservation*, 68(1) : 19-28.

Ferreira, L.V., Laurence, W.F. 1997. Effects of forest fragmentation on mortality and damage of selected trees in central Amazonia. *Conservation biology*, 11(3) : 797-801.

Laurance, W.F., Laurance, S.G. et al. 1997. Biomass collapse in Amazonian forest fragments. *Science* 278(5340) : 1117-1118.

> Autres impacts

Other impacts

Kapos, V. 1995. Effect of isolation on the water status of forest patches in the Brazilian Amazon. *Journal of tropical ecology*, 5 : 173-185.

Komonen, A., Penttilä, R., Lindgren, M., Hanski, I. 2000. Forest fragmentation truncates a food chain based on an old-growth forest bracket fungus. *Oikos*, 90 : 119-126.

C. Macro-échelle temporelle : les questions relatives à la paléoécologie

Time macro-scale: implication of paleoecology

Avvertissement : cette partie rassemble quelques références générales et incomplètes, mais dans lesquelles l'on trouvera des éléments permettant de recadrer le thème "forêt naturelle" dans le contexte français.

1. Contexte européen

EUROPE BACK-GROUND

Cordy, J.M. 1982. Biozonation du Quaternaire postvillafranchien continental d'Europe occidentale à partir des grands mammifères. *Ann. Soc. Géol. Belgique*, 105 : 303-314.

Elenga, H., Peyron, O., Bonnefille, R., Jolly, D., Cheddadi, R., Guiot, J., Andrieu, V., Bottema, S., Buchet, G., De Beaulieu, J.L., Hamilton, A.C., Maley, J., Marchant, R., Perez-Obiol, R., Reille, M., Riollet, Scott, L., Straka, H., Taylor, D., Van Campo, E., Vi, A. 2000. Pollen-based biome reconstruction for Europe and Africa. *Journal of biogeography*, 27(3) : 621-634.

Ferris C., Oliver R.P., Davy, A.J., Hewitt, G.M., 1993. Native oak chloroplasts reveal an ancient divide across Europe. *Molecular Biology*, 2 : 337-344.

Guérin, C. 1984. Grands mammifères marqueurs de l'environnement et des climats du Villafranchien d'Europe occidentale. *Méthodologie et résultats. Paléobiol. continent.*, 14(2) : 287-299

Guiot J., Pons, A., de Beaulieu, J.L., Reille, M. 1989. A 140,000-year continental climate reconstruction from two European pollen records. *Nature*, 338 : 309-313.

Harrison, S.P., Prentice, I.C., Guiot, J. 1993. Climatic controls on Holocene lake-level changes in Europe. *Climate Dynamics*, 8 : 189-200.

Huntley, B. 1990. European post-glacial forests: compositional changes in response to climatic change. *Journal of Vegetation Science*, 1 : 507-518.

2. Plaines

LOWLANDS

Auguste P. 1995. Cadres biostratigraphiques et paléocologiques du peuplement humain dans la France septentrionale durant le Pléistocène. Apports de l'étude paléontologique des grands mammifères du gisement du Biache-Saint-Vaast (Pas-de-Calais). Thèse, Museum d'Histoire Naturelle, Institut de Paléontologie Humaine, Paris, 709 pages.

Lemée, G. 1990. Evolution du paysage dans la forêt de Fontainebleau au cours des cinq derniers millénaires. *Bull. Ecol.* 21(4) : 119-127.

Munaut, A.V. 1974. Les analyses palynologiques de la très haute nappe alluviale de Grâce (Somme). *Bull. Ass. fr. Et. Quat.*, 11 : 144-147.

Munaut, A.V. 1988. L'environnement végétal de quelques dépôts quaternaires du bassin de la Somme. Dans: Actes Coll. "Culture et industries paléolithiques en milieu loessique", 1986, Rev. Archéol. Picardie, 1-2 : 45-56.

Pernaud, J.-M. 1997. Paléoenvironnements végétaux et sociétés à l'Holocène dans le nord du bassin parisien. Université Paris I Panthéon-Sorbonne.

Ruffaldi, P. 1999. Premières traces polliniques de néolithisation des zones de basse altitude de Lorraine. *Quaternaire*, 10(4) : 263-270.

Visset L. 1979. Recherches palynologiques sur la végétation pléistocène et holocène de quelques sites du district phytogéographique de Basse-Loire. Thèse Université de Nantes, 234 pages.

Wernert P. 1957. Stratigraphie paléontologique et préhistorique des sédiments quaternaires d'Alsace-Achenheim. *Mém. Serv. Carte géol. Alsace-Lorraine, Strasbourg*, 14, 262 pages.

3. Massif vosgien et jurassien

MOUNTAINS OF VOSGES AND JURA

Carteron, R., Trivaudey, M.J. 1991. Profil historique des formations végétales de trois réserves naturelles, Remoray, Valbois, Frotey. Etude réalisée en 1987. 116 pages.

De Valk, E.J. 1979. Pollenanalytical contributions toward Late-Holocene history of the subalpine plant communities of the Kastelberg (Vosges, France). In Wilmanns O., Tüxen, R. "Werden und Vergehen von Pflanzengesellschaften", Berichte INT. Symp. Verinig. Vegetationskunde, Vaduz, Cramer : pp. 269-281.

De Valk, E.J. 1981. Late Holocene and present Vegetation of the Kastelberg (Vosges, France). Thesis, Utrecht, 294 pages.

Dresh, J., Elhai, M., Deneffe-Labiolle, M. 1966. Analyse pollinique de quatre tourbières du Ballon d'Alsace (Vosges, France). *Compte rendu de la Société de Biogéographie*, 376 : 78-83.

Dubois, C., Lanly, R., 1960. Examen palynologique d'un sédiment tourbeux de Pouxoux. *Bulletin du Service de la Carte Géologique d'Alsace et de Lorraine*, n°13 : 310 pages.

Edelman H.J. 1985. Late Glacial and holocene vegetation development of la Goutte Loiselot (Vosges, France). Thèse Université d'Utrecht, 197 pages.

Guillet, B. 1968. Essai de détermination de deux podzols vosgiens par la palynologie. *Acta Œcol., Œcol. Planta.*, 3 : 101-119.

Guillet, B. 1971. Étude palynologique des podzols, II, La podzolisation sur les versants secs gréseux des Basses-Vosges. *Pollen & spores*, volume 13(2) : 233-254.

Guillet, B. 1971. Étude palynologique des podzols, III, La podzolisation sur granite dans les Vosges hercynienne de l'étage montagnard. Comparaison avec la podzolisation dans les Basses-Vosges gréseuses et sur le Plateau lorrain. *Pollen & Spores*, 13 : 421-446.

Guillet, B. 1972. Relation entre l'histoire de la végétation et la podzolisation dans les Vosges. Thèse doctorat d'État. Univ. Nancy, 112 pages, 39 pl. h. t.

- Guillet, B. 1974. Les problèmes de l'évolution des podzols vosgiens et ses relations avec l'histoire de la végétation. *Revue Forestière Française*, 26(1) : 31-44.
- Guillet, B., Hasko, B., Jaegy, R. 1972. Approche palynologique de la limite spontanée du sapin sur la bordure orientale du Plateau lorrain. *Compte-rendu de l'Académie des Sciences, Paris*, tome 274 : 2966-2968.
- Janssen, C. R., Cup-Uiterwijk, M.J.J., Edelman, H.J., Mekelterie, J., Pal, J.P. 1975. Paleocologic and ecologic studies in the Feigne d'Artimont (Vosges, France). *Vegetatio*, 30 (3) : 165-178.
- Janssen, C.R. 1981. Contemporary pollen assemblages from the Vosges (France). *Rev. Paleobot. Palynol.* 33 : 183-313.
- Janssen, C.R. 1984. Quelques aspects concernant les assemblages polliniques régionaux et locaux dans les Vosges, *Revue de paléobiologie*, volume spécial, ISSN 0253-6730, pp 97-102.
- Janssen, C.R., Braber, F.I., Bunnick, F.P.M., Delibrias, G., Kalis, A.J., Mook, W.G. 1985. The significance of chronology in the interpretation of pollen assemblages of contrasting sites in the Vosges, *Ecologia Mediterranea*, 11(1) : 39-43.
- Janssen, C.R., Janssen-Kettlitz, E.I., 1972. A post-atlantic sequence from the tourbière du Tanet (Vosges, France). *Pollen et Spores*, 14(1).
- Kalis, A.J. 1984. Forêt de la Bresse (Vosges). Phytosociological and palynological investigations on the forest-history of a central-european mountain range. Thèse d'État, Utrecht, 350 pages.
- Kalis, A.J. 1984. L'indigénat de l'épicéa dans les Hautes-Vosges. *Revue de Paléobiologie*, volume spécial, pp. 103-115.
- Kalis, A.J. 1985. La répartition des groupements forestiers sur une montagne à partir d'un exemple dans les Hautes-Vosges, XIII^{ème} Colloque phytosociologique : Végétation et Géomorphologie, Bailleul, pp. 279-291.
- Lacroix, F. 1994. Méthode pour une reconstitution paysagère holocène : la commune de La Bresse (Vosges méridionales), mémoire pour l'obtention d'une Maîtrise de Géographie Physique, 99 pages.
- Reille, M. 1991. L'origine de station de pin à crochets de la tourbière de Pinet (Aude) et de quelques stations isolées de cet arbre dans les Vosges et le Jura, *Bull. Soc. bota. Fr.*, 138 : 123-147.
- Richard, H. 1997. Indices polliniques de néolithisation du massif jurassien aux VI^{ème} et V^{ème} millénaires. *Quaternaire*, 8(1) : 55-62.
- Schnitzler, A., Mercier, J.L. (sous presse). Le sapin dans les Vosges au cours des derniers interglaciaires. Actes Colloque "Le sapin : du mythe de la ligne bleue aux enjeux actuels, des enjeux contradictoires mais complémentaires, La Bresse (Vosges, France), 28-30/9 1999.
- Séret, G., 1992. Log pollen sequences and the last glaciations from the Southern Alps to the Vosges mountains. *Cahiers de Micropaléontologie*, n. s. n° 7 : 215-257.
- Séret, G., 1992. Tentative paleoclimatic reconstruction linking pollen and sedimentology in La Grande Pile (Vosges, France). *Quaternary Science Review*, n° 11 : 425-430.
- Séret, G., Dricot, E., Wansard, G. 1990. Evidence for an early glacial maximum in the French Vosges during the last glacial cycle. *Nature*, 346 : 453.
- Woillard G. 1973. Abrupt end of the last interglacial in north-east France. *Nature*, 281 : 558-562.
- Woillard G. 1978. Grande Pile Peat Bog. A continuous pollen record for the last 140,000 years. *Quaternary Research*, 1978, 9 : 1-21.

4. Alpes - Pyrénées - Massif central

MOUNTAINS OF THE ALPES / PYRENEES / MASSIF CENTRAL

- Brugiapaglia E. & M. Barbéro. 1994. Variation de la limite subalpin/alpin depuis la période atlantique sur le plateau du Taillefer (Isère, France). 25(3) : 157-172
- Brugiapaglia, E., Beaulieu, J.-L. de, Guiot, J., Reille, M. 1998. Transect de pluie pollinique et étagement de la végétation dans le massif du Taillefer (Isère, France). *Géographie physique et Quaternaire*, 52(2) : 209-218.

- Carcaillet, C. 1998. A spatially precise study of Holocene fire history, climate and human impact within the Maurienne valley, North French Alps. *Journal of Ecology*, 86 : 384-396.
- Carcaillet, C., Brun, J.J. 2000. Changes in landscape structure in the northwestern Alps over the last 7000 years : lessons from soil charcoal. *J. Veg. Sci.*, 11 : 705-714.
- Carcaillet, C., Talon, B., 1996. Stratigraphie et datations de charbons de bois dans les sols des Alpes : quelques aspects taphonomiques. *Géogr. Phys. et Quater.*, 50(2) : 223-244.
- Carcaillet, C., Talon, B., Barbero, M. 1998. *Pinus cembra* et incendies pendant l'holocène, 300m au-dessus de la limite actuelle des arbres dans le massif de la Vanoise (Alpes du Nord-Ouest). *Ecologie*, 29 : 277-282.
- Carcaillet, C., Thion, M., 1996. Pedoanthracological contribution to the study of the evolution of the upper treeline in the Maurienne Valley (North French Alps): methodology and preliminary data. *Rev. Palaeobot. Palynol.*, 91 : 399-416.
- David, F. 1995. Mise en place des forêts d'altitude en Vanoise et périphérie. *Travaux scientifiques du Parc national de la Vanoise*, 19 : 91-106.
- David, F., 1995. Vegetation dynamics in the northern French Alps. *Historical Biology*, 9 : 269-295
- David, F., 1997. Holocene tree limit history in the northern French Alps: stomata and pollen evidence. *Rev. Palaeobot. Palynol.* 97 : 227-237.
- David, F., Barbéro M., 1995. De l'histoire du genre *Betula* dans les Alpes françaises du nord. *Rev. Palaeobot. Palynol.*, 89 : 455-467.
- Digerfeld, G., Beaulieu, J.L. de, Guiot, J., Mouthon, J. 1997. A study of the Holocene development of lac de Saint-Léger, Haute-Provence, SE France. Holocene vegetation history, Lake development and Paleohydrology. *Palaeogeogr. Palaeoclimat, Palaeoecol.*, (136) : 231-258.
- Fauquette, S., Clauzon, G., Suc, J.P., Zheng, Z., 1999. A new approach for paleoaltitude estimates based on pollen record: example of the Southern alpine arc (Mercantour massif, Southeastern France) at the Earliest Pliocene. *Earth and Planetary Science Letters*.
- Fauquette, S., Guiot, J., Menut, M., Beaulieu, J.-L. de, Reille, M., Guenet, P., 1999. Vegetation and climate since the last interglacial in the Vienne area (France). *Global and Planetary Change*, 20(1) : 1-17.
- Jalut, G. 1974. Evolution de la végétation et variation climatique durant les 15 derniers millénaires, dans l'extrémité orientales des Pyrénées. Thèse Universitaire Toulouse n°623 : 176 pages.
- Nakagawa, T., Edouard, J-L., Beaulieu, J-L. 2000. A scanning microscopy (SEM) study of sediments from Lake Cristol, southern French Alps, with special reference to the identification of *Pinus cembra* and other alpine *Pinus* species based on SEM pollen morphology. *Review of paleobotany and palynology*, 108 : 1-15.
- Reille, M., Andrieu, V., 1995. Late-Pleistocene and Holocene in the Lourdes Basin (western Pyrenees, France): new pollenanalytical and chronological data. *Vegetation History and Archaeobotany*, 4 : 1-21.
- Reille, M., Andrieu, V., Beaulieu, J.-L. de, Guenet, P., Goeury, C. 1998. A long pollen record from lac du Bouchet, Massif central, France : for the period ca. 325 to 100 ka B.P. (OIS 9c to OIS 5e). *Quaternary Science Reviews*, 17 : 1107-1123.
- Reille, M., Beaulieu, J.L. (de) 1995. Long Pleistocene pollen record from the Praclaux crater, south-central France. *Quaternary Research*, 44 : 205-215.
- Rioual, P., Cazaubon, A., Beaulieu, J.L. de, Reille, M. 1997. Paleocological study of the lacustrine sediment of Ribains crater (Haute-Loire, Massif Central, France) during the transition between the last interglacial and the last glacial periods. *Arch. Hydrobiol.* 142(3) : 317-341.
- Talon, B., Carcaillet, C., Thion, M. 1998. Etudes pédoanthracologiques des variations de la limite supérieure des arbres au cours de l'Holocène dans les Alpes françaises. *Géographie physique et Quaternaire*, 52(2) : 195-208.
- Thiebault, S. 1994. Evolution de la végétation holocène à la Balme de Thuy (Haute-Savoie, France), l'apport de l'anthracologie. *Revue de Paléobiologie*, 13 : 341-350.

Thinon, M., Talon, B. 1998. Ampleur de l'anthropisation des étages supérieurs dans les Alpes du Sud : données pédoanthracologiques. *Ecologie*, 29(1) : 323-328.

5. Méditerranée

MEDITERRANEAN REGION

Andrieu-Ponel, V., Ponel, P., Jull, A.J.T., Beaulieu, J.L. de, Bruneton, H., Leveau, P. 1999. 10000 years of vegetation history in lower Provence revealed by the pollen analysis of two sediment profiles from Marais des Baux. *Veget. Hist. and Archaeobot.*, 8 : 391-407.

Beaulieu, J. L. (de) 1977. Contribution pollen analytique à l'histoire tardiglaciaire et holocène de la végétation des Alpes méridionales françaises. Thèse es Sciences présentée à l'Université Aix-MarseilleIII., 358 pages.

Bessedik, M. 1985. Reconstitution des environnements miocènes des régions nord-ouest méditerranéennes à partir de la palynologie. Thèse Université des Sciences et Techniques du Languedoc, 52 pages

Carcaillet, C., Barakat, H., Panaiotis, C., Loisel, R., 1997. Fires and late Holocene expansion of *Quercus ilex* and *Pinus pinaster* in Fango Valley (MAB Reserve, Corsica). *J. Veg. Sci.* 8 : 85-94.

Dubar, M., Ivaldi, J.P., Thinon, M. 1995. Feux de forêt méditerranéens : une histoire de pins. *La Recherche*, 26(273) : 188-189.

Fauquette, S., Suc J.-P., Guiot, J., Diniz, F., Feddi, N., Zheng, Z., Bessais, E. et Drivaliari, A., in presse. Climate and biomes in the West Mediterranean area during the Pliocene. *Palaeogeography, Palaeoclimatology, Palaeoecology*.

Jalut, G., Amat, A.E., Bonnet, L., Gauquelin, T., Fontugne, M. 2000. Holocene climatic changes in Western Mediterranean, from south-east France to south-east Spain. *Palaeogeography, palaeoclimatology, palaeoecology*, 160 : 255-290.

Laval, H., Medus, L. 1989. Analyse pollinique de sédiments du Quaternaire récent de l'Etang de Berre (Bouches-du-Rhône, France). *C.R. Acad. Sci. Paris*, 309(II) : 2135-2141.

Laval, H., Medus, J., Roux, M. 1991. Palynological and sedimentological records of Holocene human impact from the Etang de Berre, southeastern France. *The Holocene*, 1 : 269-272.

Laval, H., Parron, C., Médus, J. 1992. Lateglacial and Holocene climate and soil erosion in southeastern France : a case study from Etang de la Pourra, Provence. *Journal of Quaternary Science*, 7 : 235-245.

Nicol-Pichard, S., Dubar, M. 1998. Reconstruction of Late-glacial and Holocene environments in the south-east France based on the study of a 66-m long core from Biot, Alpes Maritimes. *Vegetation History and Archeobotany*, 7 : 11-15.

Pons, A., Suc, J.P., Reille M., Combourieu-Nebout, N. 1995. The history of dryness in regions with a Mediterranean climate. *In* J. Roy et F. di Castri Time scales of Biological responses to water constrains SPB Academic Publishing bv, The Netherlands, pp 169-188.

Pons, A., Thinon, M. 1987. The role of fire from paleoecological data. *Ecologia mediterranea*, XIII (4) : 3-11.

Puertas, O. 1998. Evolution holocène de la végétation en bordure de l'étang de Méjean : analyse pollinique du sondage d'Embouchac (Lattès, Hérault, France). *Quaternaire*, 9(2) :79-89.

Puertas, O. 1998. Perception pollinique de l'influence des conditions écologiques locales sur les implantations humaines depuis le Néolithique dans le secteur de Lattes (Hérault). *Archéologie et paléopaysages. Méditerranée*, 90(4) : 11-16.

Reille, M. 1988. Recherches polleanalytiques sur le littoral occidental de la Corse, région de Galéria : la place naturelle d'*Erica arborea* et de *Quercus ilex*. *Travaux Scientifiques du Parc Naturel Régional de Corse*, 18 : 53-75.

Reille, M. 1992. New pollen-analytical researches in Corsica : the problem of *Quercus ilex* L. and *Erica arborea* L., the origin of *Pinus halepensis* Miller forests. *New Phytol.*, 122 : 359-378.

Reille, M., Andrieu, V., Beaulieu (de), J.L. 1996. Les grands traits de l'histoire de la végétation des montagnes méditerranéennes occidentales. *Ecologie*, tome 27 (3) : 153-169.

- Reille, M., Gamisans, J., Andrieu-Ponel, V., Beaulieu, J.L. de 1999. The Holocene at Lac Creno, Corsica, France: a key-site for the whole island. *New Phytologist*, 141, 291-307.
- Reille, M., Gamisans, J., Beaulieu, J.L. de, Andrieu, V. 1997. The late-glacial at Lac de Creno (Corsica, France): a key-site in the western mediterranean basin. *New Phytol.*, 135 : 547-559.
- Thinon, M. 1992. L'analyse pédoanthracologique. Aspects méthodologiques et applications. Thèse d'état présentée à l'Université de Marseille St Jérôme, 317 pages.
- Thinon, M., Talon, B. 1998. Ampleur de l'anthropisation des étages supérieurs dans les Alpes du sud : données pédoanthracologiques. *Ecologie*, 1-2 : 323-328.
- Triat-Laval, H. 1979. Histoire de la forêt provençale depuis 15000 ans d'après l'analyse pollinique. *Forêt méditerranéenne*, 1(1) : 19-24.
- Vernet, J.L. 1957. Premiers résultats de l'étude anatomique de charbons de bois préhistoriques de la région méditerranéenne. *Bulletin de l'Association Française pour l'Etude du Quaternaire*, tome 12 : 211-222.
- Vernet, J.L. 1972. Contribution à l'histoire de la végétation du sud-est de la France au quaternaire. Etude de macroflores, de charbon de bois principalement. Thèse présentée à l'Université des Sciences et Techniques de Montpellier, 170 pages.
- Vernet, J.L. 1973. Etude sur l'histoire de la végétation du sud-est de la France au Quaternaire, d'après les charbons de bois principalement. *Paléobiologie continentale*, IV : 1-90.
- Vernet, J.L. 1990. Man and vegetation in the mediterranean area during the last 20000 years. In Di Castri, F., Hansen, A.J., Debussche, M. (eds), *Biological invasion in Europe and the mediterranean basin*. Kluwer Academic Publication, pp. 161-168.
- Vernet, J.-L., Pachiardi, C., Bazile, F., Durand, A., Fabre, L., Heinz, C., Solari, M.-E., Thiebault, S. 1996. Le C13 de charbons de bois préhistoriques et historiques méditerranéens, de 35000 BP à l'actuel. Premiers résultats, *C.R. Acad. Sci. Paris*, 323, IIa : 319-324.
- Vernet, J.L. 1997. L'homme et la forêt méditerranéenne de la préhistoire à nos jours. Editions Errance, 248 pages.

6. Plateau des Guyanes

GUYANA SHIELD

- Absy, M.L., Cleef, A.M., Fournier, M., Martin, L., Servant, M., Sifeddine, A., Ferriera, M.F., Soubies, F., Suguio, K., Turcq, B., Van der Hammen, T. 1991. Mise en évidence de quatre phases d'ouverture de la forêt dense dans le sud-est de l'Amazonie au cours des 60,000 dernières années. Première comparaison d'autres régions tropicales. *C.R. Acad. Sci. Paris*, 312 : 673-678.
- Campbell, K.E. 1989. Amazon Flooding. *Nature* 342 : 350.
- Ledru M.P., Blanc P., Charles-Dominique P., Fournier M., Martin L., Riéra B., Tardy, C. 1997. Reconstitution palynologique de la forêt guyanaise au cours des 3000 dernières années. *Comptes-Rendus Acad Sci. Paris, serie II.a* : 469-476.
- Valeix, J., Mauperin, M. 1990. Cinq siècles de l'histoire d'une parcelle de forêt domaniale de la terre ferme d'Amérique du sud. *Bois et forêts des tropiques*, 219 : 13-29.
- Vernet J.-L., Wengler L., Solari M.-E., Ceccantini G., Fournier M., Ledru M.-P., Soubiès F. 1994. Feux, climats et végétations au Brésil central durant l'Holocène : les données d'un profil de sol à charbons de bois (Salitre, Minas Gerias). *C.R. Acad. Sci. Paris*, 319, série II : 1391-1397.

Partie 2

La biodiversité animale et végétale associée aux forêts naturelles



Animal and plant biodiversity associated to old-growth forests

A. Biodiversité des stades matures

Biodiversity of mature forest stands

1. Plantes à fleurs

FLOWERING PLANTS

Arnold C. 1999. Ecologie de la vigne sauvage *Vitis vinifera* subsp. *sylvestris* dans les forêts alluviales et colluviales d'Europe. Thèse, Université de Neuchâtel (Suisse), 200 pages + annexes.

Honnay, D. et al; 1998. Ancient forest plant species in western Belgium, a species list and possible mechanism. *Journal of Botany*, 130 : 139-154.

Leckie, S., Vellend, M., Bell, G., Waterway, M.J., Lechowicz, M.J. 2000. The seed bank in an old-growth, temperate deciduous forest. *Can. J. Bot.*, 78 : 181-192.

Whitney, G.G. 1984. Fifty years of change in the arboreal vegetation of Hearts Content, an old-growth hemlock-white pine-northern hardwood stand. *Ecology*, 65 : 403-408.

2. Lichens et mousses

LICHENS AND MOSSES

Frisvoll, A.A., Presto, T. 1997. Spruce forest bryophytes in central Norway and their relationship to environmental factors including modern forestry. *Ecography*, 20 : 3-18.

Goward, T. 1994. Notes on old growth-dependent epiphytic macro-lichens in inland British Columbia, Canada. *Acta Botanica Fennica* 150 : 31-38.

Gustafsson, L., Hallingbäck, T. 1988. Bryophyte flora and vegetation of managed and virgin forests in south-western Sweden. *Biological conservation*, 44 : 283-300.

Heikkilä, R. 2000. Biodiversity of vascular plant, lichen and hepatic flora of the old growth forest in the Green belt of Russian Karelia. In Heikkilä, R., Heikkilä, H., Polevoi, A., Yakovlev, E. (eds). *Biodiversity of old-growth forests and its conservation in northwestern Russia*. North ostrobothnia regional environment centre, Regional environmental publications, Oulo, 158 : 7-64.

Kuusinen, M. 1996. Epiphytic lichen flora and diversity in an old growth boreal forests of Finland. *Publications in Botany from the university of Helsinki*, 23 :1-29.

Pike, L.H. et al. 1975. Floristic survey of epiphytic lichen and bryophytes growing on living, old-growth conifers in western Oregon. *Bryologist*, 78 : 391-404.

3. Autres

OTHERS

- Bournier, J.P. 1997. Thysanoptères des forêts primaires de Nouvelle-Calédonie. Annales de la société entomologique de France, 33(2) : 139-153.
- Dahlberg, A., Jonsson, L., Nylund, J.E. 1997. Species diversity and distribution of biomass above and below ground among ectomycorrhizal fungi in an old-growth Norway spruce forest in south Sweden. Can. J. Bot. 75 : 1323-1335.
- Durrieu G. 1993. Ecologie des champignons. Coll. d'Ecologie, Masson, 207 pages.
- Punttila, P., Haila, Y., Niemälä, J., Pajunen, T. 1994. Ant communities in fragments of old-growth taiga and managed surroundings. Ann. Zool. Fenn., 31 : 131-144.
- Vasconcelos, H.L. (de), Cherrett, J.M. 1995. Colonization changes in leaf-cutting ant populations after the clearing of mature forest in Amazonia. Studies on neotropical fauna and environment, 30 : 107-113.
- Walls, S.C., Blaustein, A.R., Beatty, J.J. 1992. Amphibian biodiversity of the Pacific Northwest with special reference to old-growth stands. Northwest Environ. J., 8(1) : 53-69.
- Welsh, Hartwell H., Jr., Amy, J.L. 1988. Old growth forests and the distribution of the terrestrial herpetofauna. U.S. For. Serv. Gen. Tech. Rep., RM-166 : 439-458.
- Winchester, N.N. 1999. The arboreal superhighway : arthropods and landscape dynamics. Canadian entomologist, 129(4) : 595-599.

B. Biodiversité associée aux branches mortes et cavités d'arbre

Biodiversity associated to dead branches and tree cavities

- Catena, G., Palla, L., Catalano, M. 1990. Thermal infrared detection of cavities in trees. European journal of forest pathology, 4 : 201-210.
- Martin, K., Eadie, J.M. 1999. Nests webs : a community-wide approach to the management and conservation of cavity-nesting forest birds. Forest ecology and management, 115 : 243-257.

1. Oiseaux et cavités en Europe

CAVITY NESTING BIRDS IN EUROPE

- Angelstam, P., Mikusinski, G. 1994. Woodpecker assemblages in natural and managed boreal and semiboreal forests. A review. Ann. Zoo. Fenn., 31 : 157-172.
- Carlson, A. 2000. The effect of habitat loss on a deciduous forest specialist species : the White-backed woodpecker (*Dendrocopos leucotos*). Forest ecology and management, 131(1-3) : 215-221.
- Cuisin, M. 1997. L'évolution des nids de Pic noir *Dryocopus martius* (L.). Alauda, 65(2) : 198-199.
- Dejaifve, P.A. 1992. L'avifaune nicheuse de la réserve de la Massane. Association des Amis de la Massane, Banyuls sur mer, rapport scientifique, n°33.
- Dubreuil, B. 1997. La cavité nidifiable en forêt domaniale de Hémilly. Compte Rendu ONF, 22 pages + annexes.
- Mikusinski, G., Angelstam, P. 1997. European woodpeckers and anthropogenic habitat change : a review. Vogelwelt, 118 : 227-283.
- Pasinelli, G. 2000. Oaks (*Quercus* sp.) and only oaks ? Relations between structure and home range size of the middle spotted woodpecker (*Dendrocopos medius*). Biological conservation, 93 : 227-235.
- Pautz, F. 1998. Origine et importance de la cavité arboricole pour les oiseaux. Le courrier de la Nature, 170 : 27-31.
- Wesolowski, T. 1995. The loss of avian cavities by injury compartmentalization in a primeval European forest. The condor, 97(1) : 256-257.

2. Insectes et cavités en Europe

CAVITY INSECTS IN EUROPE

Garrigue, J., Magdalou, J.A. 2000. Réserve naturelle de la Massane : suivi forestier et cartographie assistée par système d'information géographique. Travaux 55, 44 pages.

Ranius, T. 2001. Constancy and asynchrony of *Osmoderma eremita* populations in tree hollows. *Oecologia*, 126(2) : 208-215.

Ranius, T. 2000. Minimum viable metapopulation size of a beetle, *Osmoderma eremita*, living in tree hollows. *Animal Conservation*, 3(1) : 37-43.

Ranius, T., Hedin, J. 2001. The dispersal rate of a beetle, *Osmoderma eremita*, living in tree hollows. *Oecologia*, 126(3) : 363-370.

Ranius, T., Jansson, N. 2000. The influence of forest regrowth, original canopy cover and tree size on saproxylic beetles associated with old oaks. *Biol. Cons.* 95(1) : 85-94.

Ranius, T., Nilsson, S.G. 2000. Habitat of *Osmoderma eremita* Scop. (Coleoptera: Scarabaeidae), a beetle living in hollow trees. *Journal of Insect Conservation*, 1 : 193-204.

Ranius, T., Wilander, P. 2000. Occurrence of *Larca lata* H.J. Hansen (Pseudoscorpionida: Garypidae) and *Allochernes wideri* C.L. Koch (Pseudoscorpionida: Chernetidae) in tree hollows in relation to habitat quality and density. *Journal of Insect Conservation*, 4 : 23-31.

3. Mammifères arboricoles en Europe (dont chauve-souris)

CAVITY NESTING MAMMALS IN EUROPE (INCLUDING BATS)

Cotton, L., Parker, K.L. 2000. Winter habitat and nest trees used by northern flying squirrels in subboreal forests. *Journal of mammalogy*, 81(4) : 1071-1086.

Labocha, M. 1999. Differences between natural and cultivated forests used by bats in the Bialowieza forest. In: Cruz, M. & Kozakiewicz (Ed.). *Bats & Man. Million Years of Coexistence. Abstracts VIIIth European Bat Research Symposium, 23-27 August 1999, Poland* : 37.

Monkkonen, M., Reunanen, P., Nikula, A., Inkeroinen, J., Forsman, J. 1997. Landscape characteristics associated with the occurrence of the flying squirrel *Pteromys volans* in old-growth forests of northern Finland. *Ecography*, 20(6) : 634-642.

Van der Wijden, B., Verkem, S., Lust, N., Verhagen, R. 1999. The importance of cavity-type and forest structure for the roost-site selection of forest dwelling bats. In Cruz, M. & Kozakiewicz (Ed.). *Bats & Man. Million Years of Coexistence. Abstracts VIIIth European Bat Research Symposium, 23-27 August 1999, Poland* : 67-68.

4. Mammifères et cavités en Australie

CAVITY NESTING MAMMALS IN AUSTRALIA

Attiwill, P.M. 1995. Managing Leadbeater's possum in the mountain ash forests of Victoria, Australia – Reply. *Forest ecology and management*, 74 : 233-237.

Ball, I.R., Lindenmayer, D.B., Possingham, H.P. 1999. A tree hollow dynamics simulation model. *Forest ecology and management*, 123 : 179-194.

Gibbons, P., Lindenmayer, D.B. 1996. Issues associated with the retention of hollow-bearing trees within eucalypt forests managed for wood production. *Forest ecology and management*, 83 : 245-279.

Incoll, R.D., Loyn, R.H., Ward, S.J., Cunningham, R.B., Donnelly, C. F. 2001. The occurrence of gliding possums in old-growth forest patches of mountain ash (*Eucalyptus regnans*) in the Central Highlands of Victoria. *Biol. Cons.*, 98 : 77-88.

Lindenmayer, D.B., Cunningham, R.B., Donnelly, C.F. 1997. Decay and collapse of trees with hollows in eastern Australia forests : impacts on arboreal marsupials. *Ecological applications*, 7 : 625-641.

Lindenmayer, D.B., Cunningham, R.B., Nix, H.A., Tanton, M.T., Smith, A.P. 1991. Predicting the abundance of hollow-bearing trees in montane forests of southeastern Australia. *Australian journal of Ecology*, 16 : 91-98.

Loyn, R.H., Mc Nabb, E.G., Volodina, L., Willig, R. 2001. Modelling landscape distributions of large forest owls as applied to managing forests in north-east Victoria, Australia. *Biol. Cons.*, 97 : 361-376.

5. Pics et cavités en Amérique du nord

WOODPECKER AND CAVITIES IN NORTH AMERICA

Bonar, R.L. 2000. Availability of pileated woodpecker cavities and use by other species. *The journal of wildlife management*, 64(1) : 52-59.

Bull, E.L. 1991. Summer roost and roosting behavior of Vaux's swifts in old-growth forests. *Northwest. Nat.*, 72(2) : 78-82.

Bull, E.L., Cooper, H.D. 1991. Vaux's swift nests in hollow trees. *West. Birds*, 22(2) : 85-91.

Bull, E.L., Hohmann, J.E. 1993. The association between Vaux's swift and old growth forests in northeastern Oregon. *West. Birds*, 24(1) : 38-42.

Carey, A.B., Peeler, K.C. 1995. Spotted owls : resource and space use in mosaic landscapes. *J. Raptor Res.*, 29(4) : 223-239.

Conner, R.N., Craig R.D. 1991. Forest habitat loss, fragmentation and red-cockaded woodpecker populations. *Wilson Bulletin*, 103(3) : 446-457.

Conner, R.N., Locke, A. 1982. Fungi and red-cockaded woodpecker cavity trees. *Wilson Bull.*, 94(1) : 64-70

Carrie, N.R., Moore, K.R., Stephens, S.A., Keith, E.L. 1998. Influence of cavity availability on red-cockaded woodpecker group size. *The Wilson bulletin*, 110(1) : 93.

Conner, R.N., Miller, O.K., Adkrisson, C.S. 1976. Woodpecker dependence on trees infected by fungal heart rots. *The Wilson Bull.*, 88(4) : 575-581.

Conner, R.N., O'Halloran, K.A. 1987. Cavity-tree selection by red-cockaded woodpeckers as related to growth dynamics of Southern pines. *Wilson Bull.*, 99(3) : 398-412

Conner, R.N., Rudolph, D.C. 1995. Losses of red-cockaded woodpecker cavity trees to southern pine beetles. *The Wilson bulletin*, 107(1) : 81-92.

Conner, R.N., Rudolph, G. 1991. Effects of midstory reduction and thinning in red-cockaded woodpecker cavity tree clusters. *Wildl. Soc. Bull.*, 19 : 63-66

Conner, R.N., Rudolph, G., Bonner, L.H. 1995. Red-cockaded woodpecker population trends and management on Texas national forests. *J. Field Ornithol.*, 66(1) : 140-151

Conner, R.N., Rudolph, G., Kulhavy, D.L., Snow, A.E. 1991. Causes of mortality of red-cockaded woodpecker cavity trees. *J. Wildl. Manage.*, 55(3) : 531-537.

Conner, R.N., Rudolph, G., Saenz, D., Coulson, R. 1997. The red-cockaded woodpecker's role in the Southern pine ecosystem, population trends and relationships with Southern pine beetles. *Texas J. Sci.*, 49(3), supplement : 139-154.

Conner, R.N., Rudolph, G., Schaefer, R.R., Saenz, D. 1998. Long distance dispersal of red-cockaded woodpeckers in Texas. *Wilson Bull.*, 109(1) : 157-160

Conner, R.N., Saenz, D., Rudolph, D.C., Coulson, R.N. 1998. Southern pine beetle-induced mortality of pines with natural and artificial Red-cockaded woodpecker cavities in Texas. *The Wilson bulletin*, 110(1) : 100-109.

Conner, R.N., Saenz, D., Rudolph, G., Ross, W.G., Coulson, R.N. 1998. Southern pine beetle-induced mortality of pines with natural and artificial red-cockaded woodpecker cavities in Texas. *Wilson Bull.*, 110(1) : 100-109

Conner, R.N., Saenz, D., Rudolph, G., Ross, W.G., Kulhavy, D.L. 1998. Red-cockaded woodpecker nest-cavity selection : relationships with cavity age and resin production. *The Auk*, 115(2) : 447-454

Conner, R.N., Snow, A.E., O'Halloran, K.A. 1991. Red-cockaded woodpecker use of seed-tree/shelterwood cuts in Eastern Texas. *Wildl. Soc. Bull.*, 19 : 67-73

- De Lotelle, R.S., Epting, R.J. 1988. Selection of old trees for cavity excavation by red-cockaded woodpeckers. *Wildl. Soc. Bull.*, 16(1) : 48-52
- Engstrom, R.T., Sanders, F.J. 1997. Red-cockaded woodpecker foraging ecology in an old-growth longleaf pine forest. *The Wilson bulletin*, 109(2) : 203-217.
- Gunn, J.S., Hagan III, J.M. 2000. Woodpecker abundance and tree use in uneven-aged managed, and unmanaged, forest in the northern Maine. *Forest ecology and management*, 126(1) :1-12.
- Hacker, W.D., Ross, W.G., Kulhavy, D.L. 1994. Growth models of loblolly and shortleaf pine red-cockaded woodpecker nesting trees. *The Texas J. of Science*, 46(2) : 187-189
- Hooper, R.G., Lennartz, M.R., Muse, H.D. 1991. Heart rot and cavity tree selection by red-cockaded woodpeckers. *J. Wildl. Manage.*, 55(2) : 323-327.
- Hooper, R.G. 1988. Longleaf pines used for cavities by red-cockaded woodpeckers. *J. Wildl. Manage.*, 52(3) : 392-398
- Jackson, J.A., Schardien Jackson, B.J. 1986. Why do red-cockaded woodpeckers need old trees ? *Wildl. Soc. Bull.*, 14 : 318-322
- Kelly, J.F., Pletschet, S.M., Leslie, D.M. 1993. Habitat associations of red-cockaded woodpecker cavity trees in an old-growth forest of Oklahoma. *J. Wildl. Manage.*, 57(1) : 122-128
- Loeb, S.C., Hooper, R.G. 1997. An experimental test of interspecific competition for red-cockaded woodpecker cavities. *The journal of wildlife management*, 61(4) : 1268-1280.
- Ross, W.G., Kulhavy, D.L., Conner, R.N. 1997. Stand conditions and tree characteristic affect quality of longleaf pine for red-cockaded woodpecker cavity trees. *Forest Ecology and Manag.*, 91 : 145-154
- Rudolph, G., Conner, R.N. 1991. Cavity-tree selection by red-cockaded woodpeckers as related tree age. *Wilson Bull.*, 103(3) : 458-467
- Rudolph, G., Conner, R.N., Carrie, D.K., Scharffer, R.R. 1992. Experimental reintroduction of red-cockaded woodpeckers. *The Auk*, 109(4) : 914-916
- Saenz, D., Conner, R.N., Schakelford, C.E., Rudolph, D.C. 1998. Pileated woodpecker damage to red-cockaded woodpecker cavity trees in eastern Texas. *Wilson Bulletin*, 110(3) : 632-637
- Saenz, D., Conner, R.N., Shackelford, C.E., Rudolph, D.C. 1998. Pileated woodpecker damage to red-cockaded woodpecker cavity trees in eastern Texas. *The Wilson bulletin*, 110(3) : 362-367.
- Settingington, M.A., Thompson, I.D., Montevecchi, W.A. 2000. Woodpecker abundance and habitat use in mature Balsam fir forests in Newfoundland. *J. Wildl. Manage.* 64 : 335-345.
- Shackelford, C.E., Conner, R.N. 1997. Woodpecker abundance and habitat use in three forest types in Eastern Texas. *Wilson Bull.*, 109(4) : 614-629.
- Shapiro, A.E. 1983. Characteristics of red-cockaded woodpecker cavity trees and colony areas in Southern Florida. *Florida scientist*, 46(2) : 89-95.

6. Chouettes et cavités en Amérique du nord

OWLS AND CAVITIES IN NORTH AMERICA

- Bart, J., Forsman, E.D. 1992. Dependence of northern spotted owls *Strix occidentalis* Caurina on old-growth forests in the western USA. *Biol. Conserv.*, 62(2) : 95-100.
- Doak, D. 1989. Spotted owls and old growth logging in the Pacific northwest. *Conservation biology*, 4 : 389-396.
- Forsman, E.D., Meslow, E.C. 1985. Old-growth forest retention for spotted owls. How much do they need ? *U.S. For. Serv. Gen. Tech. Rep.*, PNW-185 : 58-59.
- Forsman, E.D., Meslow, E.C., Strub, M.J. 1977. Spotted owl abundance in young versus old-growth forests, Oregon. *Wildl. Soc. Bull.*, 5(2) : 43-47.
- Haney J.C. 1997. Spatial incidence of Barred owl (*Strix varia*) reproduction in old-growth forest of the Appalachian plateau. *The Journal of Raptor Research*, 31(3) : 241-252.
- La Haye, William S., Gutierrez, R.J. 1999. Nest sites and nesting habitat of the northern spotted owl in northwestern California. *Condor*, 101(2) : 324 -330.

- Levy, S. 1999. Owl vs. owl. *Nat. Hist.*, 108(2) : 29-32.
- Miller, G.S., Small, R.J., Meslow, E.C. 1997. Habitat selection by spotted owls during natal dispersal in Western Oregon. *The journal of wildlife management*, 61(1) : 140-150.
- Mills, L.S., Fredrickson, R.J., Moorhead, B.B. 1993. Characteristics of old-growth forests associated with northern spotted owls in Olympic national park. *J. Wildl. Manage.*, 57(2) : 315-321.
- Mossop, D.H. 1997. The importance of old-growth refugia in the Yukon boreal forest to cavity-nesting owls. USDA Forest Service General Technical Report NC 190 : 584-586.
- North, M.P., Franklin, J.F. 1999. Forest stand structure of the northern spotted owl's foraging habitat. *Forest science* 45(4) : 520-527.
- Reynolds, R.T., Linkhart, B.D. 1992. Flammulated Owls in Ponderosa Pine : evidence of preference for Old-growth . In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service; General Technical Report RM-213 : 166-169..
- Ripple, W.J., Johnson, D.H., Hershey, K.T., Meslow, E.C. 1991. Old-growth and mature forests near spotted owl nests in western Oregon. *J. Wildl. Manage.*, 55(2) : 316-318.

7. Mammifères et cavités d'Amérique du nord (dont chauve-souris)

CAVITY NESTING MAMMALS OF NORTH AMERICA (INCLUDING BATS)

- Burford, L.S., Lacki, M.J., Covell, C.V.Jr. 1999. Occurrence of moths among habitats in a mixed mesophytic forest: implications for management of forest bats. *Forest Science*, 45(3) : 323-332.
- Carey, A.B. 1995. Sciurids in Pacific northwest managed and old-growth forests. *Ecol. Appl.*, 5(3) : 648-661.
- Conner, R.N., Rudolph, D.C., Saenz, D., Schaefer, R.R. 1996. Red-cockaded woodpecker nesting success, forest structure and southern flying squirrels in Texas. *The Wilson bulletin*, 108(4) : 697-711.
- Edwards, J.W., Guynn, D.C.Jr. 1995. Nest characteristics of sympatric populations of fox and gray squirrels. *The journal of wildlife management*, 59(1) : 103-110.
- Gellman, Steven T., Zielinski, William J. 1996. Use by bats of old-growth redwood hollows on the north coast of California. *J. Mammal.*, 77(1) : 255 -265.
- Humes, M.L., Hayes, J.P., Collopy, M.W. 1999. Bat activity in thinned, unthinned, and old-growth forests in western Oregon. *The Journal of Wildlife Management*, 63(2) : 553-561.
- Kalcounis, M.C., Brigham, R.M. 1998. Secondary use of aspen cavities by tree-roosting big brown bats. *The journal of wildlife management*, 62(2) : 603-611.
- Martin, K. J., Anthony, R.G. 1999. Movements of northern flying squirrels in different-aged forest stands of western Oregon. *J. Wildl. Manage.*, 63(1) : 291-297.
- Rosenberg, D.K., Anthony, R.G. 1992. Characteristics of northern flying squirrel populations in young second- and old-growth forests in western Oregon. *Can. J. Zool.*, 70(1) : 161-166.
- Rosenberg, D.K., Anthony, R.G. 1993. Differences in Townsend's chipmunk populations between second and old-growth forest in western Oregon. *J. Wildl. Manage.*, 57(2) : 365-373.
- Rosenberg, D.K., Swindle, K.A., Anthony, R.G. 1994. Habitat associations of California red-backed voles in young and old-growth forest in western Oregon. *Northwest Sci.*, 68(4) : 266-272.
- Schaefer, R.R., Saenz, D. 1998. Red-cockaded woodpecker cavity tree resin avoidance by southern flying squirrels. *The Wilson bulletin*, 110(2) : 291-.
- Walters, B.B. 1991. Small mammals in a subalpine old-growth forests and clearcuts. *Northwest Sci.*, 65(1) : 27-31.
- Zielinski, William, J., Steven, T. Gellman 1993. Bat use of old-growth redwood hollows : effects of season, tree characteristics and stand location. *Bat Res. News*, 34(4) : 136.

8. Autres espèces en relation avec les cavités en Amérique du nord

OTHER SPECIES DEPENDING ON CAVITIES IN NORTH AMERICA

Conner, R.N., Rudolph, G., Saenz, D., Schaefer, R.R. 1994. Heartwood, sapwood, and fungal decay associated with red-cockaded woodpecker cavity trees. *J. Wildl. Manage.*, 58(4) : 728-734

Conner, R.N., Rudolph, G., Saenz, D., Schaefer, R.R. 1996. Species using red-cockaded woodpecker cavities in Eastern Texas. *Bull. Texas Ornith. Soc.*, 30(1) : 11-16

Dobkin, D.S., Rich, A.C., Pretare, J.A., Pyle, W.H. 1995. Nest-site relationships among cavity-nesting birds of riparian and snowpocket aspen woodlands in the northwestern Great Basin. *The condor*, 97(3) : 694-707.

Goodburn, J.M., Lorimer, C.G. 1998. Cavity trees and coarse woody debris in old-growth and managed northern hardwood forests in Wisconsin and Michigan. *Canadian Journal of Forest Research*, 3 : 427-438.

Holt, R.F., Martin, K. 1997. Landscape modification and patch selection : the demography of two secondary cavity nesters colonizing clearcuts. *The Auk*, 114(3) : 443-455.

Moorman, C.E., Russell, K.R., Sabin, G.R., Guynn, D.C. Jr 1999. Snags dynamics and cavity occurrence in the South Carolina Piedmont. *Forest ecology and management*, 118(1-3) : 37-48.

Paradise, C.J., Dunson, W.A. 1997. Effects of pH and sulfate on insects and protozoans inhabiting treeholes. *Archives of environmental contamination and toxicology*, 33(2) :182-187.

Purcell, K.L., Verner, J., Oring, L.W. 1997. A comparison of the breeding ecology of birds nesting in boxes and tree cavities. *The Auk*, 114(4) :646-656.

Ryan, D.C., Kawula, R.J., Gates, R.J. 1998. Breeding biology of wood ducks using natural cavities in southern Illinois. *The journal of wildlife management*, 62(1) : 112-123.

Torres, A.R., Leberg, P.L. 1996. Initial changes in habitat and abundance of cavity-nesting birds and the northern Parula following hurricane Andrew. *The Condor*, 98(3) : 483-490.

9. Autres pays

OTHER COUNTRIES

Mudappa, D.C., Kannan, R. 1997. Nest-site characteristics and nesting success of the Malabar gray hornbill in the southern western Ghats, India. *The Wilson bulletin*, 109(1) : 102-111.

Pattanavibool, A., Edge, W.D. 1996. Single-tree selection silviculture affects cavity resources in mixed deciduous forests in Thailand. *The journal of wildlife management*, 60(1) : 67-73.

Poonswad, P. 1995. Nest site characteristics of four sympatric species of hornbills in Khao Yai National Park, Thailand. *Ibis*, 137(2) : 183-191.

C. Biodiversité associée à l'écorce et au bois mort

Biodiversity associated to bark and dead wood

1. Généralités

GENERAL ASPECTS

Albrecht, L., Rauh, J., Schmitt, M. 1993. Research on dead wood in Bavarian nature forest reserves. Broekmeyer, M. A. E., Vos, W., and Koop, H. *European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, Wageningen, Pudoc Scient. Publ. The Netherlands*, pp.167-171.

Heatwole, H. 1961. Analysis of the forest floor habitat with a structural classification of the litter or L layer. *Ecological Monographs*. 31 : 267-283.

Paviour-Smith, K., Elbourn, C.A. 1993. A quantitative study of the fauna of small dead and dying wood in living trees in Wytham Woods, near Oxford. *English Nature Science*, 7 : 33-57.

2. Plantes, mousses, champignons et lichens

PLANTS, MOSSES, FUNGI AND LICHENS

- Aho, P.E., Seidler, R.J., Evans, H.J., Raju, P.N. 1974. Distribution, enumeration, and identification of nitrogen-fixing bacteria associated with decay in living white fir. *Phytopathology*, 64 : 1413-1420.
- Andersson, L.I., Hyttborn, H. 1991. Bryophytes and decaying wood - a comparison between managed and natural forests. *Holarctic ecology*, 14 : 121-130.
- Crites, S., Dale, M.R.T. 1998. Diversity and abundance of bryophytes, lichens, and fungi in relation to woody substrate and successional stage in aspen mixedwood boreal forests. *Can. J. Bot.*, 76 : 641-651.
- Edmonds, R.L., Lebo, D.S. 1998. Diversity, production and nutrient dynamics of fungal sporocarps on logs in an old-growth temperate rain forest, Olympic National Park, Washington. *Canadian Journal of Forest Research*, 5 : 665-673.
- Froidevaux, L., Amiet, R., Jacquenoud-Steinlin, M. 1978. Les Hyménomycètes résupinés mycorrhiziques du bois pourri. *Bull. Suisse de Mycol.*, 56(106) : 9-14.
- Froidevaux, L. 1975. Dans la réserve de Derborence, un rescapé de l'exploitation des forêts : *Poria terrestris* (DC ex Fr.) Sacc., mycorrhizique sur *A. alba*, *L. decidua* et *P. abies*. *Schweizerischen Zeitschrift für Forstwesen*, 126(1) : 65-66.
- Germano, S.R., Porto, K.C. 1997. Ecological analysis of epixylic bryophytes in the relation to the decomposition of the substrate (municipality of Timbauba-Pernambuco, Brazil). *Cryptogamie. Bryologie, lichénologie*, 18(2) : 143-150.
- Holmer, L., Stenlid, J. 1997. Competitive hierarchies of wood decomposing basidiomycetes in artificial systems based on variable inoculum sizes. *Oikos*, 79 : 77-84.
- Jonsson, B.G., Esseen, P.A. 1990. Treefall disturbance maintains high bryophyte diversity in a boreal spruce forest. *Journal of ecology*, 78(4) : 924-936.
- Ojala, E., Mönkkönen, M., Inkeröinen, J. 2000. Epiphytic bryophytes on European aspen *Populus tremula* in old-growth forests in northeastern Finland and in adjacent sites in Russia. *Can. J. Bot.*, 78 : 529-536.
- Qian, H., Klinka, K., Song, Xianghou 1999. Cryptogams on decaying wood in old-growth forest of southern coastal British Columbia. *Journal of Vegetation Science*, 10 : 883-894.
- Schwarze, F. 1994. Wood rotting fungi: *Fomes formentarius* (L. Fr.) Fr. *Mycologist* 8 : 32-34.
- Söderström, L. 1988. The occurrence of epixylic bryophyte and lichen species in old natural and in managed forest stands in northern Sweden. *Biological conservation*, 45 : 169-178.

3. Invertébrés saproxylophages

SAPROXYLIC INVERTEBRATES

- Harding, P.T., Alexander, K.N.A. 1993. The saproxylic invertebrates of historic parklands : progress and problems. *English Nature Science* 7 : 58-73.
- Kaila, L. 1993. A new method for collecting quantitative samples of insects associated with decaying wood or wood fungi. *Entomol. Fenn.*, 4 : 21-23.
- Kaila, L., Martikainen, P., Puntilla, P., Yakovlev, E. 1994. Saproxylic beetles (Coleoptera) on dead birch trunks decayed by different polypore species. *Ann. Zoo. Fenn.*, 31 : 97-108.
- Kirby, K.J., Drake, C.M. 1993. Dead wood matters: the ecology and conservation of saproxylic invertebrates in Britain. *English Nature Science* 7 : 1-105.
- Komonen, A. 2001. Structure of insect communities inhabiting old-growth forest specialist bracket fungi. *Ecological entomology*, 26(1) : 63-75.
- Martikainen, P., J. Siitonen, L. Kaila, P. Punttila, Rauh, J. 1999. Bark beetles (Coleoptera, Scolytidae) and associated beetle species in mature managed and old-growth boreal forests in southern Finland. *Forest Ecol. Manage.* 116 : 233-245.
- Martikainen, P., Siitonen, J., Kaila, L., Nikula, A., Punttila, P. 1996. Intensity of forest management and bark beetles in non-epidemic conditions : a comparison between Finnish and

- Russian Karelia. Journal of applied entomology, 120 : 257-264.
- Martikainen, P., Siitonen, P., Punttila, L., Kaila, Rauh, J. 2000. Species richness of Coleoptera in mature managed and old-growth boreal forests in southern Finland. Biol. Cons. 94 : 199-209.
- McLean, I.F.G., Speight, M.C.D. 1993. Saproxylic invertebrates - the European context. English Nature Science 7 : 21-32.
- Niemälä, J., Tukia, H., Halme, E. 1994. Patterns of carabid diversity in Finnish mature taiga. Ann. Zool. Fennici 31 :123-129.
- Niemelä, J., Haila, Y., Halme, E., Lahti, T., Pajunen, T., Puntilla, P. 1988. The distribution of carabid beetles in the fragments of old coniferous taiga and adjacent monitoring forests. Ann. Zoo. Fen., 25 : 107-119.
- Nilsson, S.G., Baranowski, R. 1997. Habitat predictability and the occurrence of wood beetles in old-growth beech forests. Ecography, 20(5) : 491-498.
- Okland, B. 1996. Unlogged forests : important sites for preserving the diversity of mycetophilids (Diptera : Sclaroides). Biological conservation, 3 : 297-310.
- Reid, M.L., Robb, T. 1999. Death of vigorous tree benefits bark beetles. Oecologia, 120(4) : 55-562.
- Schiegg, K. 2000. Are the saproxylic beetle species characteristic of high dead wood connectivity ? Ecography 23 : 579-587.
- Schiegg, K. 2000. Effects of dead wood volume and connectivity on saproxylic insect species diversity. Ecoscience 7 : 290-298.
- Schiegg, K., M. Obrist, P. Duelli, B. Merz, Ewald, K.C. 1999. Diptera and Coleoptera collected in the forest reserve Sihlwald ZH. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 72 : 289-302.
- Siitonen, J. 1994. Decaying wood and saproxylic Coleoptera in two spruce forests : comparison based on two sampling methods. Ann. Zoo. Fenn., 31 : 89-95.
- Siitonen, J., Saaristo, L.. 2000. Habitat requirements and conservation of *Pytho kolwensis*, a beetle species of old-growth boreal forest. Biol. Cons., 94 : 211-220.
- Speight, M.C.D. 1989. Saproxylic invertebrates and their conservation. Strasbourg, Council of Europe, 82 pages.
- Speight, M.C.D. 1989. Les invertébrés saproxyliques et leur protection. Collection sauvegarde de la Nature 42 : 1-76.
- Thunes, K.H. 1994. The coleopteran fauna of *Piptoporus betulinus* and *Fomes formentarius* (Aphyllphorales: Polyporaceae) in western Norway. Entomologica Fennica 5 : 157-168.
- Väisänen, Biström, O., Heliövaara, K. 1993. Sub-cortical Coleoptera in dead pines and spruces : is primeval species composition maintained in managed forests ? Biodiversity and conservation, 2 : 95-113.
- Yakovlev, E., Scherbakov, A., Polevoi, A., Humula, A. 2000. Insect fauna of the Paanajärvi NP and proposed Kalevala NP with particular emphasis on saproxylic Coleoptera, Diptera and Hymenoptera. In Heikkilä, R., Heikkilä, H., Polevoi, A., Yakovlev, E. (eds). Biodiversity of old-growth forests and its conservation in northwestern Russia. North ostrobothnia regional environment centre, Regional environmental publications, Oulo, 158 : 65-103.

4. Vertébrés

VERTEBRATES

- Aubry, K.B., Jones, L.L.C., Hall, P.A. 1988. Use of woody debris by Plethodontid salamanders in Douglas-fir forests in Washington. U.S. For. Serv. Gen. Tech. Rep., RM-166 : 32-37.
- Butts, S.R., Mc Comb, W.C. 2000. Associations of forest-floor vertebrates with coarse woody debris in managed forests of Western Oregon. The journal of wildlife management, 64(1) : 95-104.
- Mc Cay, T. 2000. Use of woody debris by cotton mice (*Peromyscus gossypinus*) in southeastern pine forest. Journal of mammalogy, 81(2) : 527-535.

D. Autres éléments de biodiversité généralement associée aux forêts naturelles

Other biodiversity elements generally associated to old-growth forests

1. Généralités

GENERAL ASPECTS

- Carey, A.B. 1989. Wildlife associated with old-growth forests in the pacific northwest. *Nat. Areas J.*, 9(3) : 151-162.
- Carey, A.B., Johnson, M.L. 1995. Small mammals in managed, naturally young, and old-growth forests. *Ecol. Appl.*, 5(2) : 336-352.
- Carey, A.B., Kershner, J., Biswell, B., Domingez de Toledo, L. 1999 Ecological scale and forest development: squirrels, dietary fungi, and vascular plants in managed and unmanaged forests. *Wildlife Monographs* 142 : 1-71.
- Dickson, J.G. 1991. Birds and mammals of pre-colonial southern old-growth forests. *Nat. Areas J.*, 11(1) : 26-33.
- Meehan, W.R., Merrell, T.R., Hanley, T.A. 1984. Fish and wildlife relationships in old-growth forests. 425 pages.
- Nordyke, K.A., Buskirk, S.W. 1991. Southern red-backed vole, *Clethrionomys gapperi*, populations in relation to stand succession and old-growth character in the central Rocky mountains. *Can. Field. Nat.*, 105(3) : 330-334.
- Ruggiero, L.F., Carey, A.B. 1984. A programmatic approach to the study of old-growth forest-wildlife relationships. *Proc. Soc. Am. For.*, 1983 : 340-345.
- Wigley, T.B., Roberts, T.H. 1994. A review of wildlife changes in southern bottomland hardwoods due to forest management practices. *Wetlands*, 14(1) : 41-48.
- Wood, A.K. 1993. Parallels between old-growth forest and wildlife population management. *Wildl. Soc. Bull.*, 21(1) : 91-95.

2. Amphibiens

AMPHIBIANS

- Burton, T. M., Likens, G. E. 1975. Energy flow and nutrient cycling in salamander populations in the Hubbard Brook experimental forest, New Hampshire. *Ecology*. 56 : 1068-1080.
- Burton, T. M., Likens, G. E. 1975. Salamander populations and biomass in the Hubbard Brook experimental forest, New Hampshire. *Copeia*. 3 : 541-546.
- Bury, R., Bruce. 1983. Differences in amphibian populations in logged and old growth redwood forest. *Northwest Science*. 57(3) : 167-178.
- Gascon, C. 1993. Breeding-habitat use by amazonian primary-forest frogs species at forest edge. *Biodiversity and conservation*, 2 : 438-444.
- Inger, R.F. 1969. Organisation of communities of frogs along small rainforest streams in Sarawak. *Animal Ecology*. 38 : 123-148.
- Mc Guigan, K., McDonald, K., Parris, K., Moritz, C. 1998. Mitochondrial DNA diversity and historical biogeography of a wet forest-restricted frog (*Litoria pearsoniana*) from mid-east Australia. *Molecular Ecology*. 7 : 175-186.
- Minnich, R.A., Barbour, M.G, Burk, J.H., Fernau, R.F. 1995. Sixty years of change in california conifer forests of San Bernardino Mountains. *Conservation Biology*, 9(4) : 902-914.
- Mitchell, J.C., Reinhart, S.C., Pagles, J.F., Buhlmann, K.A., Pague, C.A. 1997. Factors influencing amphibian and small population mammal assemblages in central Appalachian forests. *Forest Ecology and Management*. 96 : 65-76.
- Pasanen, S., Olkinuora, P., Sorjonen, J. 1993. Summertime population density of *Rana temporaria* in a Finnish coniferous forest. *Alytes*. 11 (4) : 155-163.

Pough, F. H., Smith, E.M., Rhodes, D.H., Collazo, A. 1987. The abundance of salamanders in forest stands with different histories of disturbances. *Forest Ecology and Management*, 20 : 1-9.

Raymond, L.R., Hardy L.M.. 1991. Effects of a clearcut on a population of the mole salamander, *Ambystoma talpoideum*, in an adjacent unaltered forest. *Journal of Herpetology*, 25(4) : 509-512.

Scott, N.J., Ramotnik, C.A. 1992. Does the Sacramento mountain Salamander require Old-growth forests ? In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service; General Technical Report RM-213 : 170-178..

Stumpel, Anton H. P. and Hilko van der Voet. 1998. Characterizing the suitability of new ponds for amphibians. *Amphibia-Reptilia*, 19(2) : 125-142.

Szaro, R.C., Severson, K.E. Patton D.R.. 1988. Management of Amphibians, Reptile, and Small Mammals in North America. Proceedings of the Symposium, July 19-21, 1988, Flagstaff, Arizona. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO, 458 pages.

3. Reptiles

REPTILES

Brown, G.W., Nelson, J.L. 1993. Influence of successional stage of *Eucalyptus Regnans* (Mountain Ash) on habitat use by reptiles in the Central Highlands, Victoria. *Australian Journal of Ecology*. 18(4) : 405-417.

Heang, Kiew Bong, Lim Boo Liat, Michael Lambert R.K.. 1996. To determine the effects of logging and timber extraction, and conversion of primary forest to tree crop plantations, on herpetofaunal diversity in Peninsular Malaysia. *British Herpetological Society Bulletin*, (57) : 2-20.

Heinen, J.T. 1992. Comparisons of the leaf litter herpetofauna in abandoned cacao plantations and primary rain forest in Costa Rico: some implication for faunal restoration. *Biotropica*. 24 (3) : 431-439.

Vyas, Raju. 2000. A review of threats and conservation of the reptiles of Gir Forest, Gujarat, India. *Cobra*. 39 : 16-20.

4. Oiseaux (en général)

BIRDS (GLOBAL APPROACH)

Breese, D. 1989. Old-growth mixed-coniferous red fir forest transition. *J. Field Ornithol.*, 60(Suppl.) : 42.

Bryant, A.A., Savard, J.P.L., McLaughlin, R.T. 1993. Avian communities in old-growth and managed forests of western Vancouver Island, British Columbia. Foreign-Micromedia Canada, ISBN 0 -662-20398-4, 128 pages.

Davis, J., MacDonald, R.H., Sherman, M.W. 1991. Old-growth mixed coniferous-red fir forest transition. *J. Field Ornithol.*, 62(Suppl.) : 49-50.

Edenius L., Sjoeborg, K. 1997. Distribution of birds in natural landscape mosaics of old-growth forests in northern Sweden : relations to habitat area and landscape context. *Ecography*, 20(5) : 425-431.

Hallock, D. 1989. Old-growth subalpine spruce-fir forest. *J. Field Ornithol.*, 60(Suppl.) : 43.

Hallock, D. 1993. Old-growth subalpine spruce-fir forest. *J. Field Ornithol.*, 64(Suppl.) : 61.

Hamel, P.B. 1992. Old-growth mixed mesophytic forest. *J. Field Ornithol.*, 63(Suppl.) : 19.

Haney, J.C. 1994. Old-growth white pine-hemlock forest. *J. Field Ornithol.*, 65(Suppl.) : 17-18.

Haney, J.C. 1994. Old-growth hemlock-mixed hardwood forest - I. *J. Field Ornithol.*, 65(Suppl.) : 21.

Haney, J.C. 1994. Old-growth hemlock-mixed hardwood forest - II. *J. Field Ornithol.*, 65(Suppl.) : 22.

Haney, J.C. 1994. Remnant old-growth hemlock-mixed hardwood forest. *J. Field Ornithol.*, 65(Suppl.) : 22-23.

- Haney, J.C. 1995 . Old-growth beech-hemlock forest I. J. Field Ornithol., 66(Suppl.) : 82.
- Haney, J.C. 1995. Old-growth hemlock-mixed hardwood forest I. J. Field Ornithol., 66(Suppl.) : 87-88.
- Haney, J.C. 1995. Old-growth white pine-hemlock forest. J. Field Ornithol., 66(Suppl.) : 71.
- Haney, J.C. 1999. Hierarchical comparisons of breeding birds in old-growth conifer-hardwood forest on the Appalachian Plateau. Wilson Bull., 111(1) : 89-99.
- Haney, J.C., Lydic, J. 1995. Deciduous old-growth woods. J. Field Ornithol., 66(Suppl.) : 53-54.
- Haney, J.C., Lydic, J. 1995. Old-growth beech-maple woodlot. J. Field Ornithol., 66(Suppl.) : 56-57.
- Haney, J.C., Lydic, J. 1995. Old-growth maple-oak-hickory woodlot. J. Field Ornithol., 66(Suppl.) : 57-58.
- Haney, J.C., Lydic, J., Schaadt, C.P. 1995. Old-growth hemlock-white pine forest. J. Field Ornithol., 66(Suppl.) : 18.
- Haney, J.C., Schaadt, C.P. 1994. Old-growth beech-hemlock forest - I. J. Field Ornithol., 65(Suppl.) : 88-89.
- Haney, J.C., Schaadt, C.P. 1994. Old-growth beech-hemlock forest - II. J. Field Ornithol., 65(Suppl.) : 89-90.
- Haney, J.C., Schaadt, C.P. 1994. Old-growth hemlock-mixed hardwood forest I. J. Field Ornithol., 65(Suppl.) : 90-91.
- Haney, J.C., Schaadt, C.P. 1994. Old-growth white pine-hemlock forest. J. Field Ornithol., 65(Suppl.) : 73-74.
- Haney, J.C., Schaadt, C.P. 1995. Old-growth hemlock-white pine forest. J. Field Ornithol., 66(Suppl.) : 70-71.
- Haney, J.C., Schaadt, C.P. 1995. Old-growth white pine - hemlock forest. J. Field Ornithol., 66(Suppl.) : 18.
- Haney, J.C., Schaadt, C.P. 1995. Old-growth hemlock-mixed hardwood forest I. J. Field Ornithol., 66(Suppl.) : 23-24.
- Haney, J.C., Williams, R.R. 1995. Old-growth beech-hemlock forest II. J. Field Ornithol., 66(Suppl.) : 82-83.
- Haney, J.C., Williams, R.R. 1995. Old-growth beech-hemlock forest III. J. Field Ornithol., 66(Suppl.) : 83-84.
- Haney, J.C., Williams, R.R. 1995. Old-growth beech-hemlock forest IV. J. Field Ornithol., 66(Suppl.) : 84-85.
- Haney, J.C., Williams, R.R. 1995. Old-growth beech-hemlock forest V. J. Field Ornithol., 66(Suppl.) : 85-86.
- Haney, J.C., Williams, R.R. 1995. Old-growth hemlock-beech-white pine forest. J. Field Ornithol., 66(Suppl.) : 86-87.
- Haney, J.C., Williams, R.R., Schaadt, C.P. 1995. Old-growth beech-hemlock forest I. J. Field Ornithol., 66(Suppl.) : 22-23.
- Haney, J.C., Williams, R.R., Schaadt, C.P. 1995. Old-growth beech-hemlock forest II. J. Field Ornithol., 66(Suppl.) : 23.
- Jacobson, S., Weller, S. 1993. Old-growth forest. J. Field Ornithol., 64(Suppl.) : 62-63.
- Knapp, L.R. 1990. Old-growth woods and swamp forest. J. Field Ornithol., 61(Suppl.) : 36-37.
- Knapp, L.R. 1991. Old-growth woods and swamp forest. J. Field Ornithol., 62(Suppl.) : 39.
- Knapp, L.R. 1992. Old-growth woods and swamp forest. J. Field Ornithol., 63(Suppl.) : 45.
- Knapp, L.R. 1993. Old-growth woods and swamp forest. J. Field Ornithol., 64(Suppl.) : 43.
- Knapp, L.R. 1994. Old-growth woods and swamp forest. J. Field Ornithol., 65(Suppl.) : 53-54.
- Knapp, L.R. 1995. Old-growth woods and swamp forest. J. Field Ornithol., 66(Suppl.) : 45.

- Knapp, L.R. 1996. Old-growth woods and swamp forest. *J. Field Ornithol.*, 67(Suppl.) : 36-37.
- Lederer, N. 1989. Old-growth mixed forest. *J. Field Ornithol.*, 60(Suppl.) : 36-37.
- Mannan, R.W. 1984. Habitat use by Hammond's flycatchers in old-growth forests, northeastern Oregon. *Murrelet*, 65 : 84-86.
- Mannan, R.W., Meslow, E.C. 1984. Bird populations and vegetation characteristics in managed and old-growth forests, northeastern Oregon. *J. Wildl. Manage.*, 48(4) : 1219-1238.
- Marks, D.K., Naslund, N.L. 1994. Sharp-shinned hawk preys on a marbled murrelet nesting in old-growth. *Wilson Bull.*, 106(3) : 565-567.
- Marshall, D.B. 1988. The marbled murrelet joins the old-growth forest conflict. *Am. Birds*, 42(2) : 202-212.
- Naslund, N.L. 1993. Why do marbled murrelets attend old-growth forest nesting areas year-round ? *Auk*, 110(3) : 594-602.
- Niederleitner, J.F. 1987. Use of early successional, midsuccessional and old-growth forests by breeding blue grouse (*Dendragapus obscurus fuliginosus*) on Hardwicke island, British Columbia. *Canadian journal of zoology*, 1 : 151-155.
- Peterson, R. 1986. Birds of Black Hills old growth forest. *S.D. Bird Notes*, 38(2) : 35-37.
- Purcell, K.L., Turner, J.G., Drynan, D.A. 1992. Old-growth mixed coniferous-red fir forest transition. *J. Field Ornithol.*, 63(Suppl.) : 65.
- Robinson, S. 1995. Old-growth forest. *J. Field Ornithol.*, 66(Suppl.) : 66.
- Robinson, S. 1996. Old-growth forest. *J. Field Ornithol.*, 67(Suppl.) : 54.
- Rodway, M.S., Regehr, H.M., Savard, J.-P.L. 1993. Activity patterns of marbled murrelets in old-growth forest in the Queen Charlotte Islands, British Columbia. *Condor*, 95(4) : 831-848. 1993.
- Schaadt, C.P. 1995. Old-growth hemlock-mixed hardwood forest II. *J. Field Ornithol.*, 66(Suppl.) : 88.
- Schaadt, C.P. 1995. Remnant old-growth hemlock-mixed hardwood forest. *J. Field Ornithol.*, 66(Suppl.) : 88-89.
- Schaadt, C.P., Haney, J.C. 1994. Old-growth hemlock-mixed hardwood forest - II. *J. Field Ornithol.*, 65(Suppl.) : 91-92.
- Schaadt, C.P., Haney, J.C. 1994. Remnant old-growth hemlock-mixed hardwood forest. *J. Field Ornithol.*, 65(Suppl.) : 92-93. 1994.
- Schaadt, C.P., Haney, J.C. 1995. Old-growth hemlock-mixed hardwood forest II. *J. Field Ornithol.*, 66(Suppl.) : 24.
- Schaadt, C.P., Haney, J.C. 1995. Remnant old-growth hemlock-mixed hardwood forest. *J. Field Ornithol.*, 66(Suppl.) : 24-25.
- Schieck, J., Lertzman, K., Nyberg, B., Page, R. 1995. Effects of patch size on birds in old-growth montane forests. *Conserv. Biol.*, 9(5) : 1072-1084.
- Tomialocf, L., Wesolowski, T. 1994. Die Stabilität der Vogelgemeinschaft in einem Urwald der gemässigten Zone: Ergebnisse einer 15 jährigen Studie aus dem Nationalpark von Bialowieza (Polen). *Der Ornithologische Beobachter*, 91 : 73-110.
- Turner, J.G., Drynan, D.A., Heckscher, C.M. 1993. Old-growth mixed coniferous-red fir forest transition. *J. Field Ornithol.*, 64(Suppl.) : 60.
- Wesolowski, T. 1998. Timing and synchronisation of breeding in a marsh tit *Parus palustris* population from a primaeval forest. *Ardea*, 86(1) : 89-100.

Partie 3



Aperçu sur quelques fonctionnements des forêts naturelles

Insight into some old-growth forests functional processes

A. La fonction "perturbations naturelles" *"Natural disturbances" as a functional process*

Bengtsson, J., Nilsson, S.G., Franc, A., Menozzi, P. 2000. Biodiversity, disturbances, ecosystem function and management of European forests. *Forest ecology and management*, 132(1) : 39-50.

Johnson, E.A., Miyanishi, K., J.M., Weir, H. 1995. Old-growth, disturbance, and ecosystem management. *Can. J. Bot.*, 73 : 918-926.

Johnson, E.A., Miyanishi, K., J.M., Weir, H. 1996. Old-growth, disturbance, and ecosystem management : reply. *Can. J. Bot.*, 74 : 511.

Martell, D.L. 1996. Old-growth, disturbance, and ecosystem management : commentary. *Can. J. Bot.* 74 : 509-510.

1. Les tempêtes et ouragans

CATASTROPHIC WINDTHROWS

Boucher, D.H., Vandermeer, J.H., Mallona, M.A., Zamora, N., Perfecto, I. 1994. Resistance and resilience in a directly regenerating rainforest : Nicaraguan trees of the Vochysiaceae after hurricane Joan. *Forest Ecology and Management*, 68(2-3) : 127-136.

Brewer, R. 1978. Windthrow and tree replacement in a climax beech-maple forest. *Oikos*, 30 : 149-152.

Bush, M.B., Colinvaux, P.A. 1994. Tropical forest disturbance : paleoecological records from Darien, Panama. *Ecology*, 75(6) : 1761-1768.

Camaret, S. 1997. Rôle des perturbations dans la dynamique des pessières d'altitude. Impact d'ouvertures artificielles et naturelles sur la régénération et le développement d'un peuplement forestier. Thèse de doctorat, Université de Savoie, Chambéry, 365 pages.

Canham, C.D., Loucks, O.L. 1984. Catastrophic windthrow in the presettlement forests of Wisconsin. *Ecology* 65 : 803-809.

Charles-Dominique, P., Blanc, P., Larpin, D., Ledru, M.P., Riera, B., Sarthou, C., Servant, M., Tardy, C. 1998. Forest perturbations and biodiversity during the last ten thousand years in French Guiana. *Linking biodiversity and ecosystem function. Acta oecologia*, 19(3) : 295-302.

Feener, D.H.J., Schupp, E.W. 1998. Effect of treefall gaps on the patchiness and species richness of neotropical ant assemblages. *Oecologia*, 116(1-2) : 191-201.

Imbert, D., Rousteau, A., Labbé, P. 1998. Ouragans et diversité biologique dans les forêts tropicales. L'exemple de la Guadeloupe. *Acta Oecologica*, 19(3) : 251-262.

- Kimmins, J.P. 1996. Importance of soil and role of ecosystem disturbance for sustained productivity of cool temperate and boreal forests. *Soil Science Society of America journal*, 60(6) : 1643-1654.
- Labbe, P., Meloni, S. 1993. Impact du cyclone Hugo sur les peuplements de forêt dense humide à la Guadeloupe. *Revue Forestière Française*, 45(1) : 27-36.
- Lässig, R., Mocalov, S.A. 2000. Frequency and characteristics of severe storms in the Urals and their influence on the development, structure and management of boreal forests. *Forest ecology and management*, 135 : 179-194.
- Peterson, C.J., Carson, W.P., McCarthy, B.C., Pickett, S.T.A. 1990. Microsite variation and soil dynamics within newly created treefall pits and mounds. *Oikos*, 58 : 39-46.
- Peterson, C.J., Pickett, S.T.A. 1990. Microsite and elevational influences on forest regeneration three years after catastrophic windthrow. *J. Veg. Sci.*, 1 : 657-662.
- Peterson, C.J., Pickett, S.T.A. 1991. Treefall and resprouting following catastrophic windthrow in an old-growth hemlock-hardwoods forest. *Forest ecology and management*, 42(3-4) : 205-217.
- Peterson, C.J., Pickett, S.T.A. 1995. Forest reorganization: a case study in an old-growth forest catastrophic blowdown. *Ecology*, 76 : 763-774.
- Putz, F.E., Sharitz, R.R. 1991. Hurricane damage to old growth forest in Congarre Swamp National Monument, S., Carolina, USA. *Can. Jour. For. Res.*, 21 : 1765-1770.
- Rice, M.D., Lockaby, B.G., Stanturf, J.A., Keeland, B.D. 1997. Woody debris decomposition in the Atchafalaya river basin of Louisiana following hurricane disturbance. *Soil Science Society of America Journal*, 61(4) : 1264-1274.
- Riera, B. 1995. Rôle des perturbations actuelles et passées dans la dynamique et la mosaïque forestière. Modélisation des systèmes forestiers. *Revue d'écologie*, 50(3) : 209-222.
- Schaetzl, R.J., Johnson, D.L., Burns, S.F., Small, T.W. 1989. Tree uprooting : review of impacts on forest ecology. *Vegetatio*, 79 : 165-176.
- Shinneman, D.J., Baker, W.L. 1997. Nonequilibrium dynamics between catastrophic disturbances and old-growth forests in ponderosa pine landscapes of the Black Hills. *Conservation biology*, 11(6) : 1276-1288.
- Ulanova, N.G. 2000. The effect of windthrow on forests at different spatial scales : review. *Forest ecology and management*, 135 : 155-167.
- Vallauri, D. 2000. Références scientifiques sur une perturbation écologique des forêts : les tempêtes. WWF-France, Paris, 32 pages.
- Vallauri, D. 2000. Si la forêt s'écroule... Quels fondements pour la gestion forestière française après les tempêtes ? WWF-France, Paris, 26 pages.

2. Les incendies naturels

NATURAL FIRES

- Angelstam, P.K. 1998. Maintaining and restoring biodiversity in European boreal forests by developing natural disturbance regimes. *Journal of vegetation science*, 9 : 593-602.
- Arno, S.F., Harrington, M.G., Fiedler, C. E., Carlson, C.E. 1995. Restoring fire-dependant Ponderosa pine forests in western Montana. *Restoration and mangement notes*, 13(1) : 32-36.
- Bergeron, Y., Richard, P.J.H., Carcaillet, C., Gauthier, S., Flannigan, M., Prairie, Y.T. 1998. Variability in fire frequency and forest composition in Canada's southeastern boreal forest : a challenge for sustainable forest management. *Conservation Ecology*, 2 : 1-10.
- Carcaillet, C., Richard, P.J.H. 2000. Holocene changes in seasonal precipitation highlighted by fire incidence in eastern Canada. *Climate Dynamiques*, 16 : 549-559.
- Clark, J.S. 1989. Ecological disturbance as a renewal process : theory and application to fire history. *Oikos*, 56(1) : 17-30.
- Clark, J.S., Merkt, J., Müller, H. 1989. Post-glacial fire, vegetation, and human history on the northern alpine forelands, south-western Germany. *J. Ecology*, 77 : 897-925.

- implications for restoration of old-growth Ponderosa pine forests. *In* Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service, General Technical Report RM-213 : 81-99.
- Delarze, R., Caldelari, D., Hainard, P. 1992. Effects of fires on forest dynamics in Southern Switzerland. *Vegetation Science*, 3 : 55-60.
- DeLong, S.C., Kessler, W.B. 2000. Ecological characteristics of mature forest remnants left by wildfire. *Forest ecology and management*, 131 : 93-106.
- Flannigan, M.D., Bergeron, Y. 1998. Possible role of disturbance in shaping the northern distribution of *Pinus resinosa*. *Journal of vegetation science*, 9 : 477-482.
- Gauthier, S., Leduc, A., Bergeron, Y., 1996. Forest dynamics modelling under natural fire cycles : a tool to define natural mosaic diversity for forest management. *Environmental Monitoring and Assessment* 39 : 417-434.
- Gutsell, S.L., Johnson, E.A. 1996. How fire scars are formed : coupling a disturbance process to its ecological effect. *Canadian journal of forest research*, 26(2) : 166-174.
- Harrington, M.G., Sackett, S.S. 1992. Past and present fire influences on southwestern Ponderosa Pine old growth. *In* Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service, General Technical Report RM-213 : 44-50.
- Johnson, E.A. 1992. Fire and vegetation dynamics : studies from the North American boreal forest. Cambridge University press, Cambridge, ISBN 0-521-34943-5 : 129 pages.
- Kellman, M., Meave, J. 1997. Fire in the tropical gallery forests of Belize. *Journal of Biogeography* 24(1) : 23-34.
- Kitzberger, T., Veblen, T.T. 1999. Fire-induced changes in northern Patagonian landscapes. *Landscape ecology*, 14(1) : 1-15.
- Knight, D.H., Wallace, L.L. 1989. The Yellowstone fires : issues in landscape ecology. *Bioscience*, 39 : 700-706.
- Larsen, C.P.S., McDonald, G.M. 1998. An 840 - year record of fire and vegetation in a boreal white spruce forest. *Ecology*, 79(1) : 106-118.
- McCarthy, M.A., Gill, A.M., Lindenmayer, D.B. 1999. Fire regimes in mountain ash forest : evidence from forest age structure, extinction models and wildlife habitat. *Forest ecology and management*, 124(2-3) : 193-203.
- Parviainen, J. 2000. The impact of fire on the boreal landscapes of Europe : from settlement history to forest management tools. International congress on fire, October 26-29, Bonn, Germany, 10 pages.
- Pemoulie, J.M. 1995. Le Parc national de Yellowstone après les incendies de l'été 1988. *Rev. For. Fr.*, 47(2) : 190-196.
- Possingham, H.P., Commins, H.N., Noble, I.R. 1996. The fire and flammability niches in plant communities, *J. Theoretical Biology*, 174: 97-108.
- Romme, W.H., Despain, D.G. 1989. Historical perspective on the Yellowstone fires of 1988. *Bioscience*, 39 : 695-699.
- Schimmel, J. Granstrom, A. 1996. Fire severity and vegetation response in boreal Swedish forest. *Ecology*, 77(5) : 1436-1450.
- Stuart, J.D. 1987. Fire history of an old-growth forest of *Sequoia sempervirens* (Taxodiaceae) forest in Humboldt redwoods state park, California. *Madrone*, 34(2) : 128-141.
- Turner, M.G., Romme, W.H., Gardner, R.H., Hargrove, W.W. 1997. Effect of fire size and pattern on early succession in Yellowstone national Park. *Ecological monographs*, 67(4) : 411-433.
- Williams, J.E., Whelan, R.J. Gill, A.M. 1994. Fire and heterogeneity in southern temperate forest ecosystems: Implications for management. *Australian Journal of Botany* 42 : 125-137.
- Zackrisson, O. 1977. Influence of forest fires on the North Swedish boreal forest. *Oikos*, 29 : 22-32.

3. Les parasites, hémiparasites et ravageurs

PARASITES, HEMIPARASITES AND PESTS

Filip G.M., Colbert J.J., Shaw III C.G., Hessburg P.F., Hosman K.P. 1993. Influence of dwarf mistletoe and western spruce budworm on growth and mortality of Douglas-fir in unmanaged stands. *Forest Sci*, 39(3) : 465-477.

Hawksworth, F.G., Moir, W.H., Jansen, J.E. 1992. Effects of dwarf mistletoe in Old-growth Lodgepole Pine stands at Frasel experimental forest, Colorado. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service; General Technical Report RM-213 : 60-65.

Lynch, A.M., Swetnam, T.W. 1992. Old-growth mixed-conifer and western spruce budworm in the southern Rocky mountains. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service; General Technical Report RM-213 : 66-80.

Schmid, J.M., Amman, G.D. 1992. Dendroctonous Beetles and Old-growth forests in the Rockies. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado: USDA Forest Service, General Technical Report RM-213 : 51-59.

Trummer, L.M., Hennon, P.E., Hansen, E.M., Muir, P.S. 1998. Modeling the incidence and severity of hemlock dwarf mistletoe in 110-year-old wind disturbed forests in southeast Alaska. *Canadian Journal of Forest Research*, 28(10) : 1501-1508.

B. La fonction "mortalité naturelle des arbres"

"Natural tree mortality" as a functional process

1. Dynamique globale de la mortalité des arbres

GLOBAL DYNAMICS OF TREE MORTALITY

Abbott, A. 1996. Researchers contest reports of tree death. *Nature* 383 : 205.

Alfaro, R.I., Taylor, S., Brown, G., Wegwitz, E. 1999. Tree mortality caused by western hemlock looper in landscapes of central British Columbia. *Forest ecology and management*, 124(2-3) : 285-291.

Busing, R.T., Pauley, E.F. 1994. Mortality trends in a southern Appalachian red spruce population. *Forest Ecol Manage*, 1 : 41-45.

Cao, Q.V. 1997. A method to distribute mortality in diameter distribution models. *Forest science*, 3 : 435-442.

Daniels, L.D., Dobry, J., Klinka, K., Feller, M.C. 1997. Determining year of death of logs and snags of *Thuja plicata* in southwestern coastal British Columbia. *Canadian Journal of Forest Research*, 7 : 1132-1141.

Durrieu de Madron, L. 1994. Mortalité des arbres en forêt primaire de Guyane française. *Bois et forêts des tropiques*, 239 : 43-57.

Esseen, P.A. 1994. Tree mortality patterns after experimental fragmentations of an old-growth conifer forest. *Biological conservation*, 68(1) : 19-28.

Franklin, J.F., Shugart, H.H., Harmon, M.E. 1987. Tree death as an ecological process. *Bioscience* 37(8) : 550-556.

Monserud, R.A., Sterba, H. 1999. Modeling individual tree mortality for Austrian forest species. *Forest ecology and management*, 113 : 109-123.

Panaiotis, C., Carcaillet, C., M'Hamedi, M. 1997. Détermination of the natural mortality age of holm oak (*Quercus ilex* L.) stand in Corsica (Mediterranean island). *Acta oecologia*, 18(5) : 519-530.

- Pedersen, B.S. 1998. The role of stree in the mortality of midwestern oaks as indicated by growth prior to death. *Ecology*, 79(1) : 79-93
- Peet, R.K., Christensen, N.L. 1987. Competition and tree death. *Bioscience*, 37 : 586-594.
- Savage, M. 1994. Anthropogenic and natural disturbance and patterns of mortality in a mixed conifer forest in California. *Canadian journal of forest research*, 24(6) : 1149-1159.
- Strasberg, D., Faloya, V., Lepart, J. 1995. Patterns of tree mortality in an island tropical rainforest subjected to recurrent windstorms. *Acta oecologica*, 16(2) : 237-248.
- Wich, S.A., Steenbeek, R., Sterck, E.H.M., Palombit, R.A., Usman, S. 1999. Tree mortality and recruitment in an indonesian rain forest. *Tropical biodiversity*, 6(3) : 189-195.
- Williamson, G.B., Laurence, W.F., Oliveira, A.A., Delamonica, P., Gascon, C., Lovejoy, T.E., Pohl, L. 2000. Amazonian tree mortality during the 1997 El Nino drought. *Conservation biology*, 14(5) : 1538-1542.
- Woollons, R.C. 1998. Even-aged stand mortality estimation through a two-step regression process. *Forest ecology and management*, 105(1-3) : 189-195.
- Wyckoff, P.H., Clark, J.S. 2000. Predicting tree mortality from diameter growth : a comparison of maximum likelihood and Bayesian approaches. *Canadian journal of forest research*, 30 : 156-167.

2. Dynamique des chablis

UPROOTED TREES DYNAMICS

- Arthur, M.A., Tritton, L.M. Fahey, T.J. 1993. Dead bole mass and nutrients remaining 23 years after clear-felling of a northern hardwood forest. *Canadian Journal of Forest Research*, 7 : 1298-1305.
- Bingham, B.B., Sawyer, J.O. Jr 1988. Volume and mass of decaying logs in an upland old-growth redwood forest. *Canadian journal of forest research*, 12 : 1649-1651.
- Busse, M.D. 1994. Downed bole-wood decomposition in lodgepole pine forests of central Oregon. *Soil science society of America*, 1 : 221-227.
- Falinski, J.B. 1978. Uprooted trees, their distribution and influence in the primeval forest biotope. *Vegetatio*, 38(3) : 175-183.
- Hood, I.A., Sandberg, C.J., Kimberley, M.O. 1989. A decay study of windthrown indigenous trees. *New Zealand Journal of Botany*, 2 : 281-297.
- Jonsson, B.G., Dynesius, M. 1993. Uprooting in Boreal Spruce Forests - Long-Term Variation in Disturbance Rate. *Can. J. For. Res.*, 11 : 2383-2388
- Kirby, K.J., Reid, C.M., Thomas, R.C., Goldsmith, F.B. 1998. Preliminary estimates of fallen dead wood and standing dead trees in managed and unmanaged forests in britain. *Journal of Applied Ecology*, 1 : 148-155.
- Lindenmayer, D.B., Incoll, R.D., Cunningham, R.B., Donnelly, C.F. 1999. Attributes of logs on the floor of the Australian mountain ash (*Eucalyptus regnans*) forests of different ages. *Forest ecology and management*, 123(2-3) : 195-203.
- Maser, C., Trappe, J.M. 1984. The seen and unseen world of the fallen tree. USDA For. Serv., Gen. tech. Repot PNW-164. Pac. NW For. & Range Exp. St.
- Runckle, J.R., Yetter, T.C. 1987. Treefalls revisited: gap dynamics in the southern Appalachians. *Ecology*, 68(2) : 417-424.
- Schaetzel, R.J., Johnson, D.L., Burns, S.F., Small, T.W. 1989. Tree uprooting : review of terminology, process and environmental implications. *Canadian Journal of Forest Research*, 19 : 1-11.
- Schaetzel, R.J., Johnson, D.L., Burns, S.F., Small, T.W. 1989. Tree uprooting : review of impacts on forest ecology. *Vegetatio*, 79 : 165-176.
- Van der Meer, P.J., Bongers, F. 1996. Patterns of tree-fall and branch-fall in a tropical rain forest in French Guiana. *Journal of Ecology*, 84 : 19-29.

3 Dynamique des volis

SNAG DYNAMICS

- Cline, S.P., Berg, A.B., Wight, H.M. 1980. Snag characteristics and dynamics in Douglas-fir (*Pseudotsuga menziesii*) forests, western Oregon, USA. *Journal of wildlife management*, 44(4) : 773-786.
- Ganey, J.L. 1999. Snag density and composition of snag populations on two national forests in the northern Arizona. *Forest ecology and management*, 117 (1-3) : 169-178.
- Greif, G.E., Archibold, O.W. 2000. Standing-dead tree component of the boreal forest in central Saskatchewan. *Forest ecology and management*, 131 : 37-46.
- Jimerson, T.M. 1989. Snag densities in old-growth stands on the Casquet ranger district, Six rivers national park, California. U.S. For. Serv. Res. Pap. PSW, Berkeley, 196, 12 pages.
- Lee, P. 1998. Dynamics of snags in aspen-dominated midboreal forests. *Forest ecology and management*, 105(1-3) : 263-272.
- McComb, W.C., Muller, R.N. 1983. Snag densities in old-growth and second-growth Appalachian forests. *Journal of Wildlife Management* 47 : 376-382.
- Moorman, C.E., Russell, K.R., Sabin, G.R., Guynn, D.C.Jr 1999. Snags dynamics and cavity occurrence in the South Carolina Piedmont. *Forest ecology and management*, 118(1-3) : 37-48.
- Morrison, M.L., Raphael, M.G. 1993. Modeling the dynamics of snags. *Ecological applications*, 3(2) : 322-330.
- Raphael, M.G., Morrison, L.L. 1987. Decay and dynamics of snags in the Sierra Nevada, California. *Forest science*, 3 : 774-783.

C. La fonction "décomposition et recyclage du bois mort" "Dead wood decomposition and recycling" as a functional process

1. Généralités, méthodes, synthèses

GENERAL ASPECTS, METHODS, SYNTHESIS

- Christensen, O. 1984. The states of decay of woody litter determined by relative density. *Oikos*, 42 : 211-219.
- Christensen, O., 1977. Estimation of standing crop and turnover of dead wood in a Danish oak forest. *Oikos*, 28 : 177-186.
- Dajoz, R., 1974. Les insectes xylophages et leur rôle dans la dégradation du bois mort. *In* *Écologie forestière*, Paris, Gauthier-Villars, pp.257-307.
- Gray, A.N., Spies, T.A. 1995. Water content measurement in forest soils and decayed wood using time domain reflectometry. *Canadian journal of forest research*, 25(3) : 376-385.
- Schwarze, F.W.M.R., Engels, J., Mattheck, C. 2000. Fungal strategies of wood decay in trees. Springer.
- Stahl, G. 1998. Transect relascope sampling : a method for the quantification of coarse woody debris. *Forest science*, 1 : 58-63.
- Swift, M.J. 1977. The ecology of wood decomposition. *Sci. Prog.Oxf.* 64 : 175-199.
- Xiwei Yin 1999. The decay of forest woody debris : numerical modeling and implications based on some 300 data cases from North America. *Oecologia*, 121(1) : 81-98.

2. Forêts subalpines et boréales

SUBALPINE AND BOREAL FORESTS

- Albrecht, L., Rauh, J., Schmitt, M. 1993. Research on dead wood in Bavarian nature forest reserves. Broekmeyer, M. A. E., Vos, W., and Koop, H. *European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, The Netherlands. Wageningen, Pudoc Scient. Publ.* : 167-171.

- Boone, R.D., Sollins, P., Cromack, K.J.R. 1988. Stand and soil changes along a mountain hemlock death and regrowth sequence. *Ecology*, 3 : 714-722.
- Clark, D.F., Kneeshaw, D.D., Burton, P.J., Antos, J.A. 1998. Coarse woody debris in sub-boreal spruce forests of west-central British Columbia. *Can. J. For. Res.* 28 : 284-290.
- Duvall, M.D., Grical, D.F. 1999. Effects of timber harvesting on coarse woody debris in red pine forests across the Great Lakes States, U.S.A. *Canadian journal of forest research*, 29(12) : 1926-1934.
- Keim, R.F., Skaugset, A.E., Bateman, D.S. 2000. Dynamics of coarse woody debris placed in three Oregon streams. *Forest science*, 46(1) : 13-22.
- Krankina, O.N., Harmon, M.E. 1995. Dynamics of dead wood carbon pool in northwestern Russian boreal forests. *Water, air and soil pollution*, 82(1-2) : 227-238.
- Lewis, K.J., Lindgren, B.S. 1999. Influence of decay fungi on species composition and size class structure in mature *Picea glauca engelmannii* and *Abies lasiocarpa* in sub-boreal forests of central British Columbia. *Forest ecology and management*, 123(2-3) : 135-143.
- Marra, J.L., Edmonds, R.L. 1994. Coarse woody debris and forest floor respiration in an old-growth coniferous forest on the Olympic Peninsula, Washington, USA. *Canadian Journal of Forest Research*, 9 : 1811-1817.
- Richmond, A.D., Fausch, K.D. 1995. Characteristics and function of large woody debris in subalpine Rocky Mountain streams in northern Colorado. *Canadian journal of fisheries and aquatic sciences*, 8 : 1789-1802.
- Siitonen, J., Martikainen, P., Punttila, P., Rauh, J. 2000. Coarse woody debris and stand characteristics in mature managed and old-growth boreal mesic forests in southern Finland. *Forest ecology and management*, 128 : 211-225.
- Sollins, P. 1982. Input and decay of coarse woody debris in coniferous stands in western Oregon and Washington. *Can. J. For. Res.*, 12 : 18-28.
- Sollins, P., Cline, S.P., Verhoeven, T., Sachs, D., Spycher, G. 1987. Patterns of log decay in old-growth Douglas-fir forests. *Canadian journal of forest research*, 12 : 1585-1595.
- Spies, T.A., Franklin, J.F., Thomas, T.B. 1988. Coarse woody debris in douglas-fir forests of western Oregon Washington. *Ecology*, 69(6) : 1689-1702.
- Tyrrell, L.E., Crow, T.R. 1994. Dynamics of dead wood in old-growth hemlock-hardwood forests of northern Wisconsin and northern Michigan. *Canadian Journal of Forest Research*, 8 : 1672-1683.

3. Forêts tempérées

TEMPERATE FORESTS

- Christensen, O. 1977. Estimation of standing crop and turnover dead wood in a Danish oak forest. *Oikos*, 28 : 177-186.
- Frangi, J.L., Richter, L.L., Barrera, M.D., Aloggia, M. 1997. Decomposition of *Nothofagus* fallen woody debris in forests of Tierra del Fuego, Argentina. *Canadian Journal of Forest Research*, 7 : 1095-1102.
- Goodburn, J.M., Lorimer, C.G. 1998. Cavity trees and coarse woody debris in old-growth and managed northern hardwood forests in Wisconsin and Michigan. *Canadian Journal of Forest Research*, 3 : 427-438.
- Gore, J.A. and W.A. Patterson III. 1986. Mass of downed wood in northern hardwood forests in New Hampshire : potential effects of forest management. *Canadian Journal of Forest Research* 16 : 335-339.
- Green, P., Peterken, G.F. 1997. Variation in the amount of dead wood in woodlands of the Lower Wye Valley, UK, in relation to the intensity of management. *Forest ecology and management*, 98(3) : 229-238.

- Harmon, M.E., Franklin, J.F., Swanson, F.J., Sollins, P., Gregory, S.V., Lattin, J.D., Anderson, N.H., Cline, S.P., Aumen, N.G., Sedell, J.R., Lienkaemper, G.W., Cromarck, J.R., Cummins, K.W. 1986. Ecology of coarse woody debris in temperate ecosystems. *In* Mac Fayed & Ford (eds) *Advances in Ecological Research*. Academic Press, London, pp. 133-302.
- Mac Millan, P.C. 1988. Decomposition of coarse woody debris in an old-growth Indiana forest. *Can. J. For. Res.*, 18 : 1353-1362.
- Mattson, K.G., Swank, W.T., Waide, J.B. 1987. Decomposition of woody debris in a regenerating, clear-cut forest in the southern Appalachians. *Canadian journal of forest research*, 7 : 712-721.
- Mc Carthy, B.C., Bailey, R.R. 1994. Distribution and abundance of coarse woody debris in a managed forest landscape of the central Appalachians. *Canadian journal of forest research*, 24(7) : 1317-1329.
- Muller, R.N., Yan Li 1991. Coarse woody debris in an old-growth deciduous forest on the Cumberland Plateau, southeastern Kentucky. *Canadian Journal of Forest Research*, 11 : 1567-1572.
- Rice, M.D., Lockaby, B.G., Stanturf, J.A., Keeland, B.D. 1997. Woody debris decomposition in the Atchafalaya river basin of Louisiana following hurricane disturbance. *Soil science society of America journal*, 61(4) : 1264-1274.
- Spetich, M.A., Shifley, S.R., Parker, G.R. 1999. Regional distribution and dynamics of coarse woody debris in midwestern old-growth forests. *Forest science*, 45(2) : 302-313.
- Stewart, G.H., Burrows, L.E. 1994. Coarse woody debris in old-growth temperate beech (*Nothofagus*) forests of New Zealand. *Canadian Journal of Forest Research*, 10 : 1989-1996.

4. Géochimie, nutriments et biologie du sol

GEOCHEMISTRY, NUTRIENTS AND SOIL BIOLOGY

- André, J. 1997. La phase hétérotrophe du cycle sylvigénétique. Les dossiers de l'environnement de l'INRA, n°15 spécial Forêts : 87-99.
- Ausmus, B.S. 1977. Regulation of wood decomposition rates by arthropod and annelid populations. *Ecol. Bull.*, 25 : 180-192.
- Bernier, N., 1995. Fonctionnement des humus et dynamique des forêts d'altitude. Thèse Université de Savoie. 208 pages.
- Bernier, N., Ponge, J.F. 1994. Humus form dynamics during the sylvogenetic cycle in a mountain spruce forest. *Soc. Biol. Biochem.*, 26(2) : 183-220.
- Boddy, L., 1983. Microclimate and moisture dynamics of wood decomposing in terrestrial ecosystems. *Soil Biol. Biochem.*, 15(2) : 149-157.
- Boddy, L., Watkinson, S.C. 1995. Wood decomposition, higher fungi, and their role in nutrient redistribution. *Can. J. Bot.*, 73 : 1377-1383.
- Cornaby, B.W., Waide, J.B. 1973. Nitrogen fixation in decaying chestnut logs. *Plant and soil*. 39 : 445-448
- Edmonds, R.L., Thomas, T.B., Blew, R.D. 1995. Biogeochemistry of an old-growth forested watershed, Olympic national park, Washington. *Water Resour. Bull.*, 31(3) : 409-419.
- El Kichaoui, A. 1995. Décomposition ligneuse et mycorhization. Influence sur les premiers stades de développement de *Pinus sylvestris* et de *Betula verrucosa*. Thèse, Université de Toulouse. 213 pages.
- Grier, C.C. 1978. A *Tsuga heterophylla* - *Picea sitchensis* ecosystem of coastal Oregon decomposition and nutrient balances of fallen logs. *Can. J. For. Res.*, 8 : 198-206.
- Guggenberger, G., W. Zech, W. 1999. Soil organic matter composition under primary forest, pasture, and secondary forest succession, Región Huetar Norte, Costa Rica. *Forest ecology and management*, 124(1) : 93-104.
- Harmon, M.E., Sexton, J. 1995. Water balance of conifer in early stages of decomposition. *Plant and soil*, 172(1) : 141-152.

- Harvey, A.E., Jurgensen, M.F., Larsen, M.J., Graham, R.T. 1986. Relationships among soil microsite, ectomycorrhizae, and natural conifer regeneration of old-growth forests in western Montana. *Can. J. For. Res.*, 17 : 58-62.
- Harvey, E., Larsen, J., Jurgensen, F., Jones, A., 1989. Nitrogenase activity associated with decayed wood of living Northern Idaho Conifers. *Mycologia*, 81(5) : 765-771.
- Keenan, R.J., Prescott, C.E., Kimmins, J.P. 1993. Mass and nutrient content of woody debris and forest floor in western red cedar and western hemlock forests on northern Vancouver Island. *Canadian Journal of Forest Research*, 6 : 1052-1059.
- Li, C.Y., Crawford, R.H., Chang, T.T. 1997. Frankia in decaying fallen trees devoid actinorhizal hosts and soil. *Microbiological research*, 152(2) : 167-169.
- Mak, A., Fahey, T.J. 1990. Mass and nutrient content of decaying boles in an Engelmann spruce-subalpine fir forest, Rocky mountain national park, Colorado. *Canadian journal of forest research*, 6 : 730-737.
- Mc Fee, W.W., Stone, E.L., 1966. The persistence of decaying wood in the humus layers of northern forests. *Proc. of Soil Sci. soc. of Amer.*, 30 : 513-516.
- Means, J.E., MacMillan, P.C., Cromack, K. Jr. 1992. Biomass and nutrient content of Douglas-fir logs and other detrital pools in an old-growth forest, Oregon, USA. *Canadian Journal of Forest Research*, 10 : 1536-1546.
- Sollins, P., Grier, C.C., McCorison, F.M., Cromack, K., Fogel, R., Fredriksen, R.L. 1980. Internal element cycles of an old-growth Douglas-fir ecosystem in western Oregon. *Ecological monographs*, 50(3) : 261-285.
- Vogt, K.A., Edmonds, R., Grier, C., Piper, S. 1980. Seasonal changes in mycorrhizal and fibrous textured root biomass in 23 and 180 year old Pacific silver fir stands in western Washington. *Can. J. For. Res.*, 10 : 523-529.
- Wallace, J.B., Eggert, S.L., Meyer, J.L., Webster, J.R. 1999. Effect of resource limitation on detrital-based ecosystem. *Ecological monographs*, 69(4) : 409-442.
- Wei, X., Kimmins, J.P., Peel, K., Steen, O. 1997. Mass and nutrients in woody debris in harvested and wildfire-killed lodgepole pine forests in the central interior of British Columbia. *Canadian journal of forest research*, 27(2) : 148-155.

D. Les fonctions "pâturage" et "prédation"

"GRAZING" AND "PREDATION" AS FUNCTIONAL PROCESSES

1. Grande faune sauvage et herbivorie

LARGE WILDLIFE AND HERBIVORY

- Auguste, P., Patou-Mathis, M. 1994. L'aurochs au paléolithique. In Bailly, L., de Cohën, A.S. (eds). *Aurochs, le retour. Aurochs, vaches et autres bovins de la préhistoire à nos jours*. Centre jurassien du patrimoine, Lons-le-Saunier, pp. 3-16.
- Baker, W.L., Munroe, J.A., Hessel, A.E. 1997. The effects of elk on aspen in winter range in the Rocky mountain National Park. *Ecography*, 20(2) : 155-165.
- Borowski, S., Kossak, S. 1972. The natural food preferences of the european bison in seasons free of snow cover. *Acta theriologica*, 20 : 151-169.
- Borowski, S., Kossak, S. 1975. The food habit of deer in the Bialowieza primeval forest. *Acta theriologica*, 20 : 463-506.
- Bradshaw, R., Mitchell, F.J.G. 1999. The paleoecological approach to reconstructing former grazing-vegetation interactions. *Forest ecology and management*, 120 : 3-12.
- Buckland, P.C., Edwards, K.J. 1984. The longevity of pastoral episodes of clearance activity in pollen diagrams : the role of post-occupation grazing. *Journal of biogeography*, 11 : 243-249.
- Delore, M. 1996. Etude de l'impact d'une population de mouflons sur une régénération de sapins dans une forêt subnaturelle des Hautes-Alpes : le bois du Chapitre. Cemagref Nogent, ONF Gap.

- Frelich, L.E., Lorimer, C.G. 1985. Current and predicted long-term effects of deer browsing in hemlock forests in Michigan, USA. *Biol. Conserv.*, 34 : 99-120.
- Fuhlendorf, S.D., Smeins, F.E. 1997. Long-term vegetation dynamics mediated by herbivores, weather and fire in Juniperus-Quercus savanna. *Journal of vegetation science*, 8 : 819-828.
- Hanley, T.A., Bunnell, F.L., Starkey, E.E., Stevenson, S.K., Harestad, A.S. 1984. Habitat relationships of cervidae (deer) in old-growth forests. *Proc. Soc. Am. For.* : 361-367.
- Happe, P.J., Jenkins, K.J., Starkey, E.E., Sharrow, S.H. 1990. Nutritional quality and tannin astringency of browse in clear-cuts and old-growth forests. *J. Wildl. Manage.*, 54(4) : 557-566.
- Harestad, A. S., Rochelle, J.A., Bunnell, F.L. 1982. Old-growth forests and black-tailed deer on Vancouver Island. *Trans. N. Am. Wildl. Nat. Resour. Conf.*, 47 : 343-352.
- Houston, D.B., Moorhead, B.B., Olson, R.W. 1987. Roosevelt elk density in old-growth forests of Olympic national park. *Northwest Sci.*, 61(4) : 220 -225. 1987.
- Jedrzejewska, B., Okarma, H., Jedrzejewski, W., Milkowski, L. 1994. Effects of exploitation and protection on forest structure, ungulate density and wolf predation in Bialowieza Primeval forest, Poland. *Journal of Applied Ecology*, 1994, 31 : 664-676.
- Jenkins, K.J., Starkey, E.E. 1982. Social organization of Roosevelt elk in an old-growth. *J. Mammal.*, 63(2) : 331-334.
- Jenkins, K.J., Starkey, E.E. 1984. Habitat use by Roosevelt elk in unmanaged forests of the Hoh valley. *J. Wildl. Manage.*, 48(2) : 642-646.
- Jenkins, K.J., Starkey, E.E. 1993. Winter forages and diets of elk in old-growth and regenerating coniferous forests in western Washington. *Am. Midl. Nat.*, 130(2) : 299-313.
- Krasinski, Z.A. 1978. Dynamics and structure of European bison population in the Bialowieza primeval forest. *Acta Theoriologica*, 23 : 3-48.
- Lebreton, P. 1990. Histoire de la grande faune mammifère des forêts françaises depuis 2000 ans. Thèse de doctorat vétérinaire, Nantes.
- Lecomte, J. 1990. Herbivores lourds et gestion des écosystèmes. In *Introductions et réintroductions de mammifères sauvages*, Annales biologiques du Centre, 4, 314 pages.
- Leslie, D.M.Jr., Starkey, E.E., 1985. Fecal indices to dietary quality of cervids in old-growth forests. *J. Wildl. Manage.*, 49(1) : 142 -146.
- Leslie, D.M.Jr., Starkey, E.E., Vavra, M. 1984. Elk and deer diets in old-growth forests in western Washington. *J. Wildl. Manage.*, 48(3) : 762-775.
- McLaren, B. E. 1996. Plant-specific response to herbivory: simulated browsing of suppressed balsam fir on Isle Royale. *Ecology*, 77 : 228-235.
- Owen-Smith, R.N. 1998. Megaherbivores. The influence of very large body size on ecology. *Cambridge Studies in Ecology*, 369 pages.
- Putman, R. 1994. Effects of grazing and browsing by mammals on woodlands. *Br. Wildlife*, 5 : 205-213.
- Putman, R.J. 1996. Ungulates in temperate forest ecosystems : perspectives and recommendations for future research. *Forest ecology and management*, 88 : 205-214.
- Schreiner, E.G., Krueger, K.A. et al. 1996. Understory patch dynamics and ungulate herbivory in old-growth forests of Olympic National Park, Washington. *Can. J. For. Res.*, 26 : 255-265.
- Truett, J. 1996. Bison and elk in the American southwest : in search of the pristine. *Environmental management*, 20 : 195-206.
- Vera, F.W.M. 2000. *Grazing ecology and forest history*. CABi publishing, Wallingford, 506 pages.
- Wallis de Vries, M.F. 1995. Large herbivores and the design of large-scale nature reserves in western Europe. *Conservation biology*, 9 : 25-33.
- Wistendahl, W.A. 1975. Buffalo beats, a relict prairie within a southeastern Ohio forest. *Bulletin of the Torrey botanical club*, 102 : 178-186.

2. Grands carnivores et prédation naturelle

LARGE CARNIVORES AND NATURAL PREDATION

Backhouse, F. 1996 . Old-growth bears. *Nat. Can. (Ott.)*, 25(4) : 8-9.

Jedrzejska, B., Okarma, H., Jedrzejski, W., Milkowski, L. 1994. Effects of exploitation and protection on forest structure, ungulate density and wolf predation in Bialowieza Primeval forest, Poland. *Journal of Applied Ecology*, 1994, 31 : 664-676.

Jedrzejski, W.J., Jedrzejska, B., Okarma, H., Schmidt, K., Bunevich, A., Milkowski, L. 1996. Population dynamics (1869-1994), demography, and home ranges of the lynx in Bialowieza Primeval Forest (Poland and Belarus). *Ecography*, 19 : 122-138.

Jedrzejski, W.J., Jedrzejska, B., Okarma, H., Schmidt, Z., Zub, K., Musiani, M. 2000. Prey selection and predation by wolves in Bialowieza primeval forest, Poland. *Journal of mammalogy*, 81(1) : 197-212.

Oehler, D., Litvaitis, A. 1996. The role of spatial scale in understanding responses of medium-sized carnivores to forest fragmentation. *Can. Zool.*, 74 : 2070-2079.

Smith, A.A., Mannan, R.W., Davis, R. 1992. Black bear damage to old-growth trees around middens of Mount Graham red squirrels. *In* Kaufman, M.R., Moir, W.H., Bassett, R.L. (coord.). *Old-Growth Forests in the Southwest and Rocky Mountain Regions. Proceedings of a Workshop. Portal, Arizona, March 9-13, 1992. U.S. For. Serv. Gen. Tech. Rep. RM, No. 213* : 179-183.

Smith, D.W., Mech, L.D., Meagher, M., Clark, W.E., Jaffe, R., Philipps, M.K., Mack, J.A. 2000. Wolf-bison interactions in Yellowstone National Park. *Journal of mammalogy*, 83(4) : 1128-1135.

Van Ballenberghe, V., Hanley, T.A. 1984. Predation on deer in relation to old-growth forest management in southeastern Alaska. *In* Meehan, W.R., Merrell, T.R. Jr., Hanley, T.A. (editors). *Fish and Wildlife Relationships in Old-growth Forests. Proceedings of a symposium*, pp. 291-296.

Partie 4

Les aspects humains

Human aspects



A. Histoire des hommes, histoire des forêts

Human history, forests history

Avertissement : cette partie rassemble quelques références générales et succinctes, bien loin d'être exhaustives et spécifiques, mais dans lesquelles l'on trouvera des éléments permettant de recadrer le thème "forêt naturelle".

Casagnes-Brouet, S., Chambarlhac, V. 1995. L'âge d'or de la forêt. Editions du Rouergue, 254 pages.

Chabal, L. 1997. Forêts et sociétés en Languedoc (Néolithique final, Antiquité tardive). L'anthracologie, méthode et paléoécologie. Editions de la Maison des Sciences de l'Homme, Paris, 188 pages.

Cinotti, B. 1996. Evolution des surfaces boisées en France : proposition de reconstitution depuis le début du XIX(e) siècle. Revue forestière française, 48(6) : 547-562.

CNRS, 1982. Guide des recherches sur l'histoire des forêts françaises. Editions CNRS, Paris.

Corvol, A. 1987. L'homme aux bois. Histoire des relations de l'homme et de la forêt (XVIIe-XXe siècle). Fayard, 585 pages.

Denevan, W.M. 1992. The pristine myth : the landscape of the Americas in 1492. Annals of the Association of American Geographers 82(3):369-385.

Durand, A. 1998. Les paysages médiévaux du Languedoc (Xème-XIIème siècle). Presses universitaires du Mirail, Toulouse, 491 pages.

Fairbairn, J. 1996. The forest transition in France. Working paper 5, 45 pages.

Maury, A. 1994. Les forêts de la Gaule et de l'ancienne France. Jean de Bonnot éditeur.

Perlin, J. 1989. A forest journey : the role of wood in the development of civilization. New York : W.W. Norton, 445 pages.

Thirgood, J.V. 1981. Man and the mediterranean forest: a history of resource depletion. Academic Press.

B. Politique de protection des forêts

Forest protection politics

Alverson, W.S., Kuhlmann, W., Waller, D.M. 1994. Wild forests: conservation biology and public policy. Island Press, Washington.

Alverson, W.S., Waller D.M., Kuhlmann, W. 1994. Wild Forests. Washington, DC : Island Press, 320 pages.

- Barthod Ch. 1997. La protection des forêts dans la politique forestière française. Cas particulier des réserves intégrales. Communication orale, Colloque Naturalité et forêt d'Europe.
- Barthod, Ch. 1993. La conférence des Nations Unies sur l'environnement et le développement (Rio de Janeiro, 3-14 juin 1992) et la forêt. *Revue forestière française* XLV, 1 : 7-19.
- Barthod, Ch., Touzet, G. 1994. De Strasbourg à Helsinki. Les deux premières conférences ministérielles pour la protection des forêts en Europe. *Revue forestière française* XLVI, 4 : 319-334.
- Batabyal, A.A. 1998. On some aspects of the decision to conserve or harvest old growth forest. *Journal of Environmental Management*, 54(1) : 15-21.
- Blandin, P. 1995. Les forêts : développement ou conservation durable ? *Courrier de l'environnement de l'INRA*, 25 : 47-52.
- Carbiener, D. 1995. La gestion des forêts dans les zones protégées. Conseil de l'Europe, Strasbourg, 23 pages.
- Chardigny, F., Lebreton, Ph. 1994. La politique française de protection des paysages et sites naturels. Réflexion sur l'efficacité de la loi de 1930 sur le classement des sites. *Revue de géographie de Lyon*, 69(4) : 287-304.
- Delong, J.R. 1991. Protections particulières du patrimoine naturel forestier communal. *Rev. For. Fr.*, 43(n°sp.) : 162-164.
- Dixon, K.R., Juelson, T.C. 1987. The political economy of the spotted owl. *Ecology*, 68 : 772-776.
- Humphreys, D. 1996. The global politics of forest conservation since the UNCED. *Environmental Politics* 5(2):231.
- Le Meignen, P. 1992. La gestion forestière au sein des espaces naturels protégés. Antagonismes et confrontation d'idées. Compatibilité et complémentarités à rechercher. Parc national du Mercantour, Nice, 23 pages + annexes.
- Lebreton, Ph. 1995. Quelle gestion forestière dans les parcs nationaux ? Ministère de l'environnement, D.N.P., 41 pages.
- Marchand, H., 1990. Les forêts méditerranéennes. Enjeux et perspectives. Les fascicules du Plan Bleu, n°2. Edition Economica, 108 pages.
- Martinet, J.D. 1991. Forêts privées et patrimoines forestiers naturels : le point de vue des acteurs. *Rev. For. Fr.*, 43(n°sp.) : 165-168.
- Mayer, P. 2000. Hot spot : forest policy in Europe: achievements of the MCPFE and challenges ahead. *Forest policy and economics*, 1(2) : 177-185.
- Miller, C. 1996. A cautionary tale: reflections on reinventing the Forest Service. *Journal of Forestry*, 94(1) : 6.
- Parc national / Réserve de la Biosphère des Cévennes (coord.) 1998. Quelle nouvelle politique pour les espaces protégés ? Evolution des regards, solidarités et coopérations sur nos territoires. *Horizons Parcs nationaux* (ed.), 119 pages.
- Paul V. Ellefson, P.V. 2000. Hot spot in the field: National Forest Programmes - a new instrument within old conflicts of the forestry sector. *Forest policy and economics*, 1(1) : 95-106
- Perry, G.M., Pope, III C.A. 1995. Environmental polarization and the use of old-growth forests in the Pacific Northwest. *J. Environ. Manage.*, 44(4) : 385-397.
- Phillips, C.L. 1993. Old growth and private working forest. *Northwest Environ. J.*, 9(1-2) : 5-8.
- Pointereau, Ph. 1991. Propositions du réseau-forêt de France Nature Environnement concernant la protection, la gestion et le suivi scientifique de nos patrimoines naturels forestiers. *Revue Forestière Française*, n°spécial : 207-209.
- Pregernig, M. 2000. Putting science into practice: the diffusion of scientific knowledge exemplified by the Austrian 'Research Initiative Against Forest Decline'. *Forest policy and economics*, 1(2) : 165-176.
- Ramade, F. 1990. Conservation des écosystèmes méditerranéens. Enjeux et perspectives. Les fascicules du Plan Bleu n°3 : 144 pages.

Scarpa, R., Hutchinson, W.G., Chilton, S.M., Buongiorno, J. 2000. Importance of forest attributes in the willingness to pay for recreation: a contingent valuation study of Irish forests. *Forest policy and economics*, 1(3-4) : 315-329

Simberloff, D.S. 1987. The spotted owls fracas : mixing academic, applied and political ecology. *Ecology*, 68 : 766-772.

Sirmon, J.M. 1984. Regional, political and economical issues in managing old growth forest on national forest land. *Proc. Soc. Am. For.*, 1983 : 325-328.

Teeguarden, D.E. 1984. National policy, tradeoffs, and issues in managing old-growth forest for multiple benefits. *Proc. Soc. Am. For.*, 1983 : 320-324.

Watkins, C. and N. Griffin. 1993. The liability of owners and occupiers of land with large old trees in England and Wales. *English Nature Science*, 7 : 81-88.

C. Forêts naturelles, droit et société

Old-growth forests, laws and society

1. Forêts naturelles et droit

OLD-GROWTH FORESTS AND LAWS

Blumm, M.C. 1991. Ancient forests, spotted owls, and modern public land law. *Boston College Environmental Affairs Law Review*, 18 : 605-622.

Flournoy, A.C. 1993. Beyond the "spotted owl problem" : learning from the old-growth controversy. *Harvard Environ. Law Rev.*, 17(2) : 261-332.

Mc Avoy, L.H., Dustin, D.L. 1981. The right to risk in wilderness. *Journal of Forestry* 79(3) : 150-152.

Meyers, G.D. 1991. Old-growth forests, the owl, and yew : environmental ethics versus traditional dispute resolution under the endangered species act and other public lands and resource laws. *Boston College Environmental Affairs Law Review*, 18 : 623-668.

Sher, V.M., Stahl, A. 1990. Spotted owls, ancient forests, courts and congress : an overview of citizens' efforts to protect old-growth forests and the species that live in them. *Northwest Environ. J.*, 6(2) : 361-384.

2. Forêts naturelles et société

OLD-GROWTH FORESTS AND SOCIETY

Avertissement : cette partie rassemble quelques références générales et succinctes, bien loin d'être exhaustives et spécifiques, mais dans lesquelles le lecteur trouvera des éléments permettant de recadrer le thème " forêt naturelle ".

A.N.C.R. (Agence Nationale de Création Rurale) 1995. La forêt. Les savoirs et le citoyen : regards croisés sur les acteurs, les pratiques et les représentations, éditions A.N.C.R.

Cauquelin, A. 1989. L'invention du paysage, Plon, Paris.

Corvol, A., Arnould, P., Hotyat, M. 1995. La forêt. Perceptions et représentations. L'Harmattan, collection Alternatives rurales, 400 pages.

Kramer, C.V. 1992. Ancient forests - The human aspect. in Kaufmann, M.R, Moir, W.H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado: USDA Forest Service, General Technical Report RM-213 : pp 12-17.

Pointereau, P., Terrasse, J.F., Lebreton, P. 1996. Penser la forêt avec la nature et les citoyens. *Revue forestière française*, n° spécial : 195-205.

D. Philosophie et éthique des forêts naturelles *Philosophy and ethics of forest wilderness*

1. Généralités

GENERAL ASPECTS

- Elliot, R. 1994. Extinction, restoration, naturalness. *Environ. Ethics*, 16 : 135-144.
- Gómez-Pompa, A., Kaus A. 1992. Taming the wilderness myth. *BioScience* 42(4):271-279.
- Harrisson, R. 1992. Forêts, essai sur l'imaginaire occidental. Flammarion, 396 pages.
- Katz, E., Lauren, O. 1993. Moving beyond anthropocentrism : environmental ethics, development, and the Amazon. *Environmental Ethics*, 15 : 49-59.
- Larrère, C., Larrère, R. 1997. Du bon usage de la nature. Pour une philosophie de l'environnement. Aubier, 355 pages.
- Levi-Strauss, C. 1983. Le regard éloigné. Plon.
- Reichenbach, B.R., Anderson, V.E. 1995. On behalf of god : a Christian ethic for biology. Grand Rapids, MI : Wm. B. Eerdmans Publishing Co., 348 pages.
- Schmidtz, D. 1997. When preservationism doesn't preserve. *Environmental Values*, 6 : 327-340.
- Soule, M.E., Lease, G. (eds) 1995. Reinventing Nature ? Responses to Postmodern Deconstruction. Island Press, 186 pages.
- Terrasson, F. 1994. La civilisation anti-nature. Editions du Rocher, 298 pages.
- Terrasson, F. 1997. La peur de la nature. Editions Sang de la Terre, 192 pages.
- Thoreau, H.D. 1997 (1854). Walden, ou la vie dans les bois. Gallimard, 332 pages.
- Van Buren, J. 1995. Critical environmental hermeneutics. *Environmental Ethics* 17 : 259-275.
- Van de Veer, D., Pierce, C. (eds) 1994. The environmental ethics and policy book: philosophy, ecology, economics. Belmont, CA : Wadsworth Publishing Co., 649 pages.

2. Développement d'une éthique forestière

DEVELOPMENT OF A FOREST ETHICS

- Baldwin, A.D., de Luce, J., Pletsch, C. 1993. Beyond preservation : restoring and inventing landscapes. Minneapolis, University of Minnesota Press.
- Chase, A. 1998. In a dark wood: the fight over forests and the rising tyranny of ecology. Reviewed by Paul Wood. *Environmental Ethics*, 20 : 215-218.
- Craig, R.S. 1992. Further development of a land ethic canon. *Journal of Forestry* 90(1) : 30-31.
- Cronon, W. (ed.) 1995. Uncommon ground : toward reinventing nature. New York : Norton.
- Gregg, N.T. 1992. Sustainability and politics: the cultural connection. *Journal of Forestry* 90(7) : 17-21.
- Gunn, A.S. 1994. Environmental ethics and tropical rain forests : should greens have standing ? *Environmental Ethics*, 16 : 21-41.
- Irland, L.C. (ed.) 1994. Ethics in Forestry. Portland, OR: Timber Press, ISBN 0-88192-281-1.
- Mc Quillan, A.G. 1990. Is National Forest planning incompatible with a land ethic ? *Journal of Forestry*, 88(5) : 31-37.
- Mc Quillan, A.G. 1993. Cabbages and kings: the ethics and aesthetics of new forestry. *Environmental Values*, 2(3) : 191-222.
- Moore, P.D. 1990. The Exploitation of Forests. Science and Christian Belief (Exeter: Paternoster Press), 2 : 131-140.
- Proctor, J.D. 1996. Will the real land ethic please stand up ? *Journal of Forestry* 94(2) : 39.

Roth, D.M. 1995. The Wilderness movement and the National Forests. 2nd ed., rev. College Station, Texas : Intaglio Press, 105 pages.

Russell, D. 1998. Forestry and the art of frying small fish. *Environmental Values* 7 : 281-289.

Scheffer, V.B. 1993. The Olympic goat controversy: A perspective. *Conservation Biology* 7(4) : 916-919.

Stivers, R.L. 1993. The ancient forests of the Pacific Northwest: the moral debate. *Theology and Public Policy*, 5(2).

Thomas, J.W. 1994. Restoring the Agency's environmental ethic. *Inner Voice* (Association of Forest Service Employee's for Environmental Ethics), 6(1).

Zeide, B. 1998. Another Look at Leopold's Land Ethic. *Journal of Forestry* 96 : 13-19.

3. Sur la valeur (non commerciale) des forêts sauvages

ON THE NON COMMERCIAL VALUE OF OLD-GROWTH FORESTS

Booth, D.E. 1992. The economics and ethics of old-growth forests. *Environmental Ethics* 14 : 43-62.

Booth, D. 1993. *Valuing nature : the decline and preservation of old growth forests*. Lanham, MD : Rowman and Littlefield, 245 pages.

Booth, D.E. 1997. Preserving old-growth forest ecosystems : valuation and policy. *Environmental Values* 6 : 31-48.

Hamilton, L.S. 1993. *Ethics, religion and biodiversity : relations between conservation and cultural values*. Cambridge, England: The White Horse Press, 218 pages.

Kellert, Stephen R. 1993. Values and perceptions of invertebrates. *Conservation Biology*, 7 : 845-855.

Rolston, H. III. 1981. Values in Nature. *Environmental Ethics* 3 : 113-28.

Rolston, H. III. 1988. Values deep in the Woods. *American Forests* 94 (5/6), 33 : 66-69.

4. Santé, développement personnel et forêts naturelles

HEALTH, PERSONAL GROWTH AND OLD-GROWTH FORESTS

Easley, A.T., Passineau, J.F., Driver, B.L. (eds) 1990. *The use of wilderness for personal growth, therapy, and education*. USDA Forest Service, General Technical Report RM-193. 197 pages.

Hutanuwatr, P. 1999. Wilderness experience for personal growth in Siam. *International Journal of Wilderness* 5(1) : 34-37.

Plaisance, G. 1985. *Forêt et santé, guide pratique de sylvothérapie*, édition Dangles, collection "écologie et survie".

E. Une forêt de cultures

When forests are a culture

1. Arts des sylves, arts du sauvage

WOODLAND ARTS, ARTS OF THE WILDERNESS

Anderson, W. 1990. *Green Man: the Archetype of our oneness with the Earth*. Harper and Row, San Francisco

Ansieau, J. 1992. Georges Lacombe : 1868-1916 : ballades en forêt d'Ecouves. Musée des beaux-arts et de la dentelle, Alençon, 4 juillet / 27 septembre 1992, 83 pages.

Boisson, B. 1996. *La forêt primordiale*. Editions Instant Présent, 216 pages.

Boisson, B. 1996. *La forêt primordiale*. *Revue 3e millénaire*, n°39.

Challe, D., Marbot, B. 1991. Les photographes de Barbizon : la forêt de Fontainebleau. Publication : Hoebeker - bibliothèque nationale, Collection Le siècle d'or de la photographie, 92 pages.

Collectif, 1997. La forêt. Anthologie poétique. Editions du Chêne, 276 pages.

Engel De Janosi, C. 1953. The forest of Fontainebleau in painting and writing. Journal of aesthetics and art criticism, 11(4) : 390-396.

Kempf, C. 1987. Le retour des seigneurs de nos forêts d'Europe, Paris, Sang de la Terre.

Kempf, C. 1997. Bialowieza, forêt vierge d'Europe. Setec, Bialystok, 137 pages.

Mahaud, J., Donadieu, P. 2000. Arbres et arts : le paysage du Morbihan vu par les artistes à diverses époques. Revue forestière française, 3 : 271-282.

Michel, E. 1909. La forêt de Fontainebleau dans la nature, dans l'histoire, dans la littérature et dans l'art. Paris, Renourad. Gr.-8°, 258 pages.

Rolston, H. III 1998. Aesthetic experience in forests. The Journal of Aesthetics and Art Criticism, 56(2) : 157-166.

Valleys, A. 2000. Fontainebleau. La forêt des passions. Editions Stock, Paris, 327 pages.

2. Education à la nature

EDUCATION SUPPORTS

Back, F. 1987. L'homme qui plantait des arbres. D'après Jean Giono ; texte dit par Philippe Noiret. VHS, 30 mn.

CNRS, MNHN, ONF. 199?. Fontainebleau, forêt de paradoxes. Co-production CNRS Audiovisuel, MNHN, ONF, VHS 52 mn.

Gourier, J., Ruiller, J., Herzog, L. 2000. La forêt. Collection Kididoc, Nathan, Paris, pages non numérotées.

LaserMedia, Daddyoak, Eidos interactive (ed), 1999. Forestia (7/12ans). Boite comprenant un CD-Rom PC/Mac avec livret.

LaserMedia, Daddyoak, Eidos interactive (ed), 1999. Forestia Junior (4/7 ans). Boite comprenant un CD-Rom PC/Mac avec livret.

Parc naturel régional des Ballons des Vosges, CDDP des Vosges, Réserve naturelle du Massif du Grand Ventron 2000. Massif du Grand Ventron... raconte moi les Hautes Vosges. CD-Rom avec livret.

Parker, J., Fauchet, F (adaptation française) 1998. La forêt vierge, trésor de la planète. Collection Miroir de la connaissance, Nathan, Paris, 25 pages.

Yung, L., Yetter, B., Friemund, W.A., Brown, P.J. 1998. Wilderness and civilization : two decades of wilderness higher education at the University of Montana. International Journal of Wilderness, 4(2) : 21-24.

Partie 5

Bases scientifiques pour un réseau de conservation durable

Scientific basis for a viable conservation network

A. Définir un réseau de conservation représentatif et fonctionnel

Defining a representative and functional conservation network

1. Concepts et démarche : écosystème, réseau, priorité

CONCEPTS AND STEPS: ECOSYSTEM, NETWORK, PRIORITY

André, J. 1997. La protection des systèmes forestiers, de leurs espèces structurantes aux processus hétérotrophes. *Écologie*, 28(1) : 85-89.

André, J., Maurissen, Y. 1996. Les réserves forestières intégrales : lieu d'expression de processus hétérotrophes, moteurs souvent réprimés de biodiversité et de dynamisme. La désorganisation *stricto sensu*, activité négligée, un processus biologique à protéger et à relancer ? Lettre du MAB France, n°33.

Baerselman, F., Vera, F. 1995. Nature development. An explanatory study for the construction of ecological networks. The Hague, The Netherlands.

Bedward, M., Pressey, R.L., Keith, D.A. 1992. A new approach for selecting fully responsible representative reserve networks – addressing efficiency, reserve design and land suitability with an interactive analysis. *Biological conservation*, 62(2) : 115-125.

Belbin, L. 1993. Environmental representativeness – regional partitioning and reserve selection. *Biological conservation*, 66(3) : 223-230.

Burkey, T.V. 1989. Extinction in nature reserves : effects of fragmentation and the importance of migration between reserve fragments. *Oikos*, 55 : 75-81.

Burkey, T.V. 1995. Extinction rates in Archipelagoes : implication for populations in fragmented habitats. *Conservation biology*, 9 : 527-541.

Diamond, J.M. 1975. The island dilemma : lessons of modern biogeographic studies for the design of nature reserves. *Biological conservation*, 7 : 129-146.

Diamond, J.M. 1976. Island biogeography and conservation : strategy and limitations. *Science*, 193 : 1027-1029.

Doncaster, C.P., Micol, T., Jensen, S.P. 1996. Determining minimum habitat requirements in theory and practice. *Oikos*, 75 : 335-339.

Dudley, N., Solton, S. 1998. Protected Areas for a new Millenium. WWF & IUCN, Gland, Switzerland, 15 pages.

Fahrig, L., Merriam, G. 1994. Conservation of fragmented populations. *Conservation biology*, 8(1) : 50-59.

Freitag, S., Van Jaarsveld, A.S., Biggs, H.C. 1997. Ranking priority biodiversity areas : an interactive conservation value-based approach. *Biological conservation*, 82(3) : 263-272.

- Ghazoul, J. 1996. Are fragments worth conserving ? *TREE*, 11 : 507.
- Hansson, L., Angelstam, P. 1991. Landscape ecology as a theoretical basis for nature conservation. *Landscape ecology*, 5 : 191-201.
- Lajeunesse, D., Domon, G. et al. 1995. Development and application of an ecosystem management approach for protected natural areas. *Environmental Management*, 19(4) : 481-495.
- Loeschcke, V., Tomiuk, J., Jain, S.K. (eds) 1994. *Conservation genetics*. Birkhäuser verlag, Basel, Switzerland.
- Löfgren, R. 1987. Importance et valeur d'un réseau de grandes forêts protégées. In: *Atelier sur la situation et la protection des forêts anciennes naturelles et semi-naturelles en Europe*. Conseil de l'Europe, Coll. Rencontres environnement, 1987, n°3 : 31-38.
- Lynch, M., Gabriel, W. 1990. Mutation load and survival of small populations. *Evolution*, 44 : 1725-1737.
- Margules, C.R., Nicholls, A.O., Pressay, R.L. 1988. Selecting networks of reserves to maximize biological diversity. *Biological conservation*, 43(1) : 63-76.
- McCarthy, M.A., Lindenmayer, D.B. 1999. Incorporating metapopulation dynamics of greater gliders into reserve design in disturbed landscapes. *Ecology*, 80(2) : 651-667.
- Mladenoff, D.J., White, M.A., Crow, T.R., Pastor, J. 1994. Applying principles of landscape design and management to integrate old-growth forest enhancement and commodity use. *Conservation biology*, 8(3) : 752-762.
- Murphy, D.D., Noon, B.R. 1992. Integrating scientific methods with habitat conservation planning : reserve design for northern spotted owls. *Ecol. Appl.*, 2(1) : 3-17.
- Nicholls, A.O., Margules, C.R. 1993. An upgraded reserve selection algorithm. *Biological conservation*, 64(2) : 165-169.
- Noss, R.F. 1983. A regional landscape approach to maintain diversity. *Bioscience*, 33 : 700-706.
- Noss, R.F. 1996. Ecosystems as conservation targets. *Trends in ecology and evolution*, 11 : 297-298.
- Noss, R.F. 1996. Protected areas : how much is enough ? In Wright, R.G. *National parks and protected areas*. Blackwell science, Cambridge : pp. 91-120.
- Peters, R.L., Darling, J.D.S. 1985. The greenhouse effect and nature reserves. *Bioscience*, 35 : 707-717.
- Pressey, R.L. 1994. Ad hoc reservations - forward or backward steps in developing representative reserve systems ? *Conservation biology*, 8(3) : 662-668.
- Pressey, R.L., Humphries, C.J., Margules, C.R., Vane-Wright, R.I., Williams, P.H. 1993. Beyond opportunism – key principles for systematic reserve selection. *Trends in ecology and evolution*, 8 : 124-128.
- Pressey, R.L., Nicholls, A.O. 1989. Application of a numerical algorithm to the selection of reserves in semi-arid New South-Wales. *Biological conservation*, 50 : 263-278.
- Quinn, J.F., Hastings, A. 1987. Extinction in subdivided habitats. *Conservation Biology*, 1(3) : 198-208.
- Ryti, R.T. 1992. Effect of the focal taxon on the selection of nature reserves. *Ecological applications*, 2 : 404-410.
- Schafer, C.L. 1990. *Nature reserves. Island theory and conservation practice*. Smithsonian Institution press, Washington.
- Scott, J.M., Csuti, B., Smith, K. 1990. Playing Noah while playing the devil. *Bulletin of the ecological society of America*, 71 : 156-159.
- Scott, J.M., Csuti, B., Smith, K., Estes, J.E., Caicco, S. 1988. Beyond endangered species : an integrated conservation strategy for the preservation of biological diversity. *Endangered species update*, 5(10) : 43-48.
- Simberloff, D. 1998. Flagships, umbrellas and keystones : is single-species management passé in the landscape era. *Biol. Cons.* 83(3) : 247-257.

2. Définition et taille des réserves et des zones tampon

DESIGN AND SIZE OF THE CORE ZONE OF RESERVES AND BUFFER ZONES

- Andersen, M.C., Mahato, D. 1995. Demographic models and reserve designs for the California spotted owls. *Ecological applications*, 5 : 639-647.
- Beier, P. 1993. Determining minimum size habitats areas and habitats corridors for cougars. *Conservation biology*, 7 : 94-108.
- Butcher, G.S., Niering, W.A., Barry, W.T., Goodwin, R.H. 1981. Equilibrium biogeography and the size of nature reserves : an avian case study. *Oecologia*, 49 : 29-37.
- Clinnick, P.F. 1985. Buffer strip management in forest operations : a review. *Australian forestry*, 48 : 34-45.
- Grumbine, R.E. 1990. Viable populations, reserve size, and federal lands management : a critique. *Conservation Biology*, 4(2).
- Hinsley, S.A., Bellamy, P.E., Newton, I., Sparks, T.H. 1996. Influences of population size and woodland area on bird species distributions in small woods. *Oecologia*, 105 : 100-106.
- Holeksa, J. 1993. Gap size differentiation and the area of forest reserves. *In* Broekmeyer, M.A.E., Vos, W., Koop, H. *European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, The Netherlands Wageningen, Pudoc Scient. Publ.*, pp.159-165.
- Janzen, D.H. 1983. No park is an island : increase in interference from outside as park size decrease. *Oikos*, 41 : 402-410.
- Kitchener, D.J., Chapman, A, Dell, J., Muir, B.G., Palmer, M. 1980. Lizard assemblage and reserve size and structure in Western Australian wheatbelt – some implications for conservation. *Biological conservation*, 17 : 25-62.
- Laurance, W.F. 1991. Edge effects in tropical forest fragments : application of a model for the design of nature reserves. *Wild. Red.*, 19 : 651-655.
- Lewin, R. 1984. Parks : how big is big enough ? *Science*, 225 : 611-612.
- Lovejoy, T.E. 1981. Discontinuous wilderness : minimum area for conservation. *Parks*, 5(2) : 13-15.
- Lovejoy, T.E. 1981. Discontinuous wilderness : minimum area for conservation. *Tigerpaper*, 8(2) : 13-16.
- Lynch, M., Lande, R. 1998. The critical effective size for genetically secure population. *Animal conservation*, 1 : 70-72.
- Martin, J-L., Gaston, A.J., Hitier, S. 1995. The effect of island size and isolation on old growth forest habitat and bird diversity in Gwaii Haanas (Queen Charlotte Islands, Canada). *Oikos*, 72(1) : 115-131.
- Maurin, H., Le Lay, G., de Feraudy, E. 1998. Zoner les espaces naturels ? Objectifs, méthodes et perspectives. Synthèse du séminaire tenu à Paris le 2 décembre 1996. MNHN-IEGB-SPN, 84 pages.
- Moritz, C. 1994. Defining “evolutionary significant units” for conservation. *TREE*, 9 : 373-375.
- Murcia, C. 1995. Edge effects in fragmented forests: implications for conservation. *Trends in Ecology & Evolution*, 10(2) : 58-62.
- Palomares, F. 2001. Vegetation structure and prey abundance requirements of the Iberian lynx: implications for the design of reserves and corridors. *Journal of animal ecology*, 38(1) : 9-18.
- Pickett, S.T.A., Thompson, J.N. 1978. Patch dynamics and the design of nature reserves. *Biological conservation*, 13 : 27-37.
- Pressey, R.L., Logan, V.S. 1998. Size of selection units for future reserves and its influence on actual vs targeted representation of features : a case study in western New South Wales. *Biological conservation*, 85 : 305-319.
- Pressey, R.L., Possingham, H.P., Day, J.R. 1997. Effectiveness of alternative heuristic algorithms for identifying indicative minimum requirements for conservation reserves. *Biological conservation*, 80 : 207-219.

- Pressey, R.L., Possingham, H.P., Margules, C.R. 1996. Optimality in reserve selection algorithms – when does it matter and how much ? *Biological conservation*, 76 : 259-267.
- Shafer, C.L. 1995. Values and shortcomings of small reserves. *Bioscience*, 45 : 80-88.
- Shaffer, M.L. 1981. Minimum population size for species conservation. *Bioscience*, 31 : 131-134.
- Schonewald-Cox, C.M., Bayless, J.W. 1986. The boundary model : a geographical analysis of design and conservation of nature reserves. *Biological conservation*, 38 : 305-322.
- Simberloff, D.S., Abele, L.G. 1982. Refuge design and island biogeographic theory : effects of fragmentation. *American naturalist*, 120 : 41-50.
- Turner, I.M., Corlett, R.T. 1996. The conservation value of small, isolated fragments of lowland tropical rain forest. *Trends in Ecology & Evolution*, 11(8) : 330-333.
- Zuidema, P. A., Sayer, J. A. et al. 1996. Forest fragmentation and biodiversity: the case for intermediate-sized conservation areas. *Environmental Conservation*, 23(4) : 290-297.

3. Connectivité et définition des corridors

CONNECTIVITY AND CORRIDOR DESIGN

- Beier, P., Noss, R.F. 1998. Do habitat corridors provide connectivity ? *Conservation biology*, 12 : 1241-1252.
- Bennett, A.F. 1999. The linkages in the landscape. The role of corridors and connectivity in wildlife conservation. IUCN Publications, Cambridge, U.K., 254 pages.
- Bennett, A.F. 1990. Habitat corridors and the conservation of small mammals in fragmented forest environment. *Landscape ecology*, 4 : 109-122.
- Clevenger, A.P., Waltho, N. 2000. Factors influencing the effectiveness of wildlife underpasses in Banff National Park, Alberta, Canada. *Conservation biology*, 14(1) : 47-56.
- Darveau, M., Beauchesnes, P., Bélanger, L., Huot, J., Larue, P. 1995. Riparian forest strips as habitat for breeding birds in boreal forest. *Journal of wildlife management*, 59 : 67-78.
- Decamps, H., Joachim, J., Lauga, J. 1987. The importance for birds of the riparian woodlands within the alluvial corridor of the River Garonne, S.W. France. *Regulated rivers : research and management*, 1 : 301-316.
- Downes, S.J., Handasyde, K.A., Elgar, M.A. 1997. The use of corridors by mammals in fragmented Australian eucalypt forests. *Conservation biology*, 11(3) : 718-726.
- Fahrig, L., Merriam, G. 1985. Habitat patch connectivity and population survival. *Ecology*, 66 : 1762-1768.
- Harrison, R.L. 1992. Toward a theory of inter-refuge corridor design. *Conservation biology*, 6 : 293-295.
- Hill, C.J. 1995. Linear strips of rainforest vegetation as potential dispersal corridors for rainforest insects. *Conservation biology*, 9 : 1559-1566.
- Hobbs, R.J. 1992. The role of corridors in conservation : solution or bandwagon ? *TREE*, 7 : 389-391.
- Kroodsma, R.L. 1982. Edge effect on breeding forest birds along a power-line corridor. *Journal of applied ecology*, 19 : 361-370.
- Lindenmayer, D.B., Cunningham, R.B., Donnelly, C.F., Triggs, B.J., Belvedere, M., 1994. The conservation of arboreal marsupials in montane ash forests of the central highlands of Victoria, south-east Australia. V. Patterns of use and the microhabitat requirements of the mountain brushtail possum *Trichosurus* Ogilby in retained linear strips (wildlife corridors). *Biological conservation*, 68 : 43-51.
- Lindenmayer, D.B., Cunningham, R.B., Donnelly, C.F., Triggs, B.J., Belvedere, M., 1994. Factors influencing the occurrence of mammals in retained linear strips (wildlife corridors) and contiguous stands of montane ash in central highlands of Victoria. *Forest ecology and management*, 67 : 113-133.
- Lindenmayer, D.B., Nix, H.A. 1993. Ecological principles for the design of wildlife corridors. *Conservation Biology*, 7 : 627-630.

- Noss, R.F. 1987. Corridors in real landscapes : a reply to Simberloff and Cox. *Conservation biology*, 1 : 159-164.
- Rich, A.C., Dobkin, D.S., Niles, L.J. 1994. Defining forest fragmentation by corridor width : the influence of narrow forest-dividing corridors on forest nesting birds in southern New Jersey. *Conservation biology*, 8 : 1109-1121.
- Saunders, D.A., Hobbs, R.J. 1991. *Nature conservation 2 : the role of corridors*. Surrey Beatty, Chipping Norton, NSW, Australia.
- Simberloff, D.S., Cox, J. 1987. Consequences and costs of conservation corridors. *Conservation biology*, 1 : 63-71.
- Simberloff, D.S., Farr, J.A., Cox, J., Mehlman, D.W. 1992. Movement corridors : conservation bargains or poor investments ? *Conservation biology*, 6 : 493-504.
- Szacki, J. 1987. Ecological corridor as a factor determining the structure and organization of a Bank vole population. *Acta theoriologica*, 32 : 31-44.
- Ward, J.V., Stanford, J.A. 1995. Ecological connectivity in alluvial river ecosystems and its disruption by flow regulation. *Regulated rivers : research and management*, 11 : 105-119.

4. Viabilité, intégrité, fonctionnalité

VIABILITY, INTEGRITY, FUNCTIONING

- Baker, W.L. 1992. The landscape ecology of large disturbances in the design and management of nature reserves. *Landscape ecology*, 7(3) : 183-194.
- Boyce, M.S. 1992. Population viability analysis. *Annual review of ecology and systematics*, 23 : 481-506.
- Brothers, T.S., Spingarn, A. 1992. Forest fragmentation and alien plant invasion of central Indiana old-growth forests. *Conservation biology*, 6(1) : 91-100.
- Hay, M.E. 1994. Species as "noise" in community ecology : do seaweeds block our view of the kelp forest ? *TREE*, 9 : 414-416.
- Houston, D., Schreiner, E. 1995. Alien in National Parks – drawing lines in space and time. *Conservation biology*, 9 : 204-209.
- Knapp, L.B., Canham, C.D. 2000. Invasion of an old-growth forest in New York by *Ailanthus altissima* : sapling growth and recruitment in canopy gaps. *The journal of the Torrey botanical club*, 127(4) : 307-315.
- Lamberson, R.H., Noon, B.R., Voss, C., McKelvey, K.S. 1994. Reserve design for territorial species : the effects of patch size and spacing on the viability of the Northern spotted owl. *Conservation biology*, 8 : 185-195.
- Laurance, W.F., Gascon, C. 1997. How to creatively fragment a landscape. *Conservation Biology*, 11(2) : 577-579.
- Mauchamp, A. 1997. Threats from alien plant species in the Galapagos Islands. *Conservation biology*, 11 : 260-263.
- McKelvey, R. 1996. Viability analysis of endangered species: a decision-theoretic perspective. *Ecol. Model.*, 92(2/3) : 193-207.
- Newmark, W.D. 1995. The extinction of mammal populations in western North America national parks. *Conservation biology*, 9(3) : 512-526.
- Pettersson, B. 1985. Extinction of an isolated population of the middle spotted woodpecker *Dendrocopos medius* (L.) in Sweden and its relation to general theories on extinction. *Biological conservation*, 32 : 335-353.
- Reed, D.H., Bryant, E.H. 2000. Experimental test of minimum viable population size. *Animal conservation*, 3 : 7-14.
- Rainbow, P. 1998. Impacts of invasions by alien species. *Journal of zoology*, 246 : 247-248.
- Wallis de Vries, M.F. 1995. Large herbivores and the design of large-scale nature reserves in western Europe. *Conservation biology*, 9 : 25-33.

Willamson, M.H., Fitter, A. 1996. The characters of successful invaders. *Biological conservation*, 78 : 163-170.

5. Analyse critique et amélioration par itération

EVALUATION AND STEP BY STEP IMPROVEMENTS

Hector, T.S., Carr, M.H., Zwick, P.D. 2000. Identifying a linked reserve system using a regional landscape approach : the Florida ecological network. *Conservation biology*, 14(4) : 984-1000.

Kirkpatrick, J.B. 1983. An iterative method for establishing priorities for the selection of nature reserves : an example from Tasmania. *Biological conservation*, 25 : 127-134.

Margules, C.E. 1989. Introduction to some Australian developments in conservation evaluation. *Biological conservation*, 50 :1-11.

Peres, C.A., Terborgh, J.W. 1995. Amazonian nature reserves – an analysis of the defensibility status of existing conservation units and design criteria for the future. *Conservation biology*, 9 : 34-46.

Prendergast, J.R., Quinn, R.M., Lawton, J.H. 1999. The gaps between theory and practice in selecting nature reserve. *Conservation biology*, 13(3) : 484-492.

Pressey, R.L., Johnson, I.R., Wilson, D.P. 1994. Shades of irreplaceability – towards a measure of the contribution of sites to a reservation goal. *Biodiversity and conservation*, 3 : 242-262.

Pressey, R.L., Nicholls, A.O. 1989. Efficiency in conservation evaluation : scoring versus iterative approaches. *Biological conservation*, 50 : 199-218.

Stokland, J.N. 1997. Representativeness and efficiency of bird and insect conservation in Norwegian boreal forest reserves. *Conservation Biology*, 11 : 101-111.

Virkkala, R., Rajasärkkä, A., Väisänen, R.A., Vickholm, M., Virolainen, E. 1994. Conservation value of nature reserves : do hole-nesting birds prefer protected forests in southern Finland ? *Ann. Zool. Fennici.*, 31 : 173-186.

6. Quelques exemples de mise en œuvre

SOME EXAMPLES OF IMPLEMENTATION

Bollinger, M. 2000. Des réserves pour redonner vie à nos forêts jardinées. *Environnement +*, 1 : 19-23.

Falinski, J.B. 1991. Le Parc national de Bialowieza et le système intégral des espaces protégés en Pologne. *Revue Forestière Française*, 43 (n°spécial) : 190-206.

Fridman, J. 2000. Conservation of forest in Sweden: a strategic ecological analysis. *Biol. Cons.* 96 : 95-103.

Indermühle, M., Kaufmann, G., Steiger, P. 1998. Konzept waldreservate schweiz. Eidgenössische Forstdirektion, 102 zeite.

Jongman, R.H.G. 1995. Nature conservation in Europe : developping ecological networks. *Landscape and urban planning*, 32 : 169-183.

Noss, R.F. 1993. A bioregional conservation plan for the Oregon Coast Cascade. *Natural Areas journal*, 13 : 276-290.

Purdie, R.W., Blick, R., Bolton, P. 1987. Selection of a conservation reserve network in the Mulga biogeographic region of south-western Queensland, Australia. *Biological conservation*, 38 : 369-384.

B. Analyse de la protection existante

Analysis of current forest protection

1. Méthodes

METHODS

Lowry, D.G. 1992. An Old-growth forest inventory procedure for the Arapaho and Roosevelt national forests, Colorado. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service. General Technical Report RM-213, 121-127.

Myers, N., Mittermeier, R.A., Mittermeier, C.G., Da Fonseca, G.A.B., Kent, J. 2000. Biodiversity hotspots for conservation priorities. *Nature*, 403 : 853-858.

Nel, E.M., Wessman, C.A., Veblen, T.T. 1992. The use of digital image processing techniques in old-growth inventories. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service. General Technical Report RM-213, 135-138.

Olson, D.M., Dinerstein, E. 1998. The global 200 : a representation approach to conserving the earth's most biologically valuable ecoregions. *Conservation biology*, 12 : 502-515.

Popp, J.B., Jackson, P.D., Basset, R.L. 1992. Old-growth concepts from habitat type data in the southwest. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service. General Technical Report RM-213, 100-105.

Pressey, R.L., Logan, V.S. 1994. Level of geographical subdivision and its effects on assessments of reserve coverage – a review of regional studies. *Conservation biology*, 8 : 1037-1046.

Scott, J.M., Davis, F., Csuti, B., Noss, R., Groves, B., Anderson, C., Caicco, J., D'Erchia, S., Edwards, T.C., Ulliman, J., Wright, R.G. 1993. Gap analysis – a geographic approach to protection of biological diversity. *Journal of wildlife management*, 123 : 17.

Williams, P., Margules, D.C., Rebelo, A., Humphries, C., Pressey, R. 1996. A comparison of richness hotspots, rarity hotspots and complimentary areas for conserving diversity of British birds. *Conservation biology*, 10 : 155-174.

2. Les zones à haute biodiversité forestière

BIODIVERSITY HOT SPOTS

> France

France

Ministère de l'Environnement, 1995. La diversité biologique en France – Programme d'action pour la faune et la flore sauvages. Ministère de l'Environnement, 318 pages.

Ministère de l'Environnement, SPN, IEGB, MNHN 1987-1997. Notre Patrimoine Naturel ZNIEFF (note NPZ 1 à 20). Série de publication par région.

Piveteau, V., Arnoult, P., Barthod, C., Bras, P., Hotyat, M., De Mongolfier, J., Pointereau, Ph. 1999. Les espaces boisés en France. Bilan environnemental. Ifen, Editions Frison-Roche, 197 pages.

> Europe

Europe

Väisänen, R. and K. Heliövaara. 1994. Hot-spots of insect diversity in northern Europe. *Ann. Zool. Fennici* 31 : 71-81.

Veerkamp, M.T., Kuyper, T.W. 1993. Mycological investigations in forest reserves in The Netherlands. Broekmeyer, M. A. E., Vos, W., and Koop, H. European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, The Netherlands, Wageningen, Pudoc Scient. Publ. : 127-143.

Villar, L., Romo, A.M., Perdigo, M.T. 1993. The beechwoods of the central prepyrenees (Spain). A preliminary survey for conservation. *Biol. Cons.*, 66 : 85-93.

WWF Austria, 2000. Natura 2000 in the Alpine Région : Analysis of the national lists and additional sites Needed.

WWF European Policy Office, 2000. Habitat Directive WWF European Shadow list, 224 pages.

3. Les espaces forestiers protégés

FOREST PROTECTED AREAS

> France

France

Fiers, V. 1998. Observatoire du patrimoine naturel des réserves naturelles de France. Analyse et bilan de l'enquête 1996. Quétigny-RNF, 200 pages.

Fiers, V., Gilg, O., Pont B. (sous presse). Contribution des réserves naturelles à la connaissance et à la conservation du patrimoine naturel forestier. *Rev. For. Fr.*

France Nature Environnement (FNE) 1992. Rapport d'étude sur la situation des réserves forestières en Europe, 25 pages.

Klein, J.P., Pont, B., Faton, J.M., Kniebiely, P. 1993. The network of river system nature reserves in France and the preservation of alluvial forests. In Broekmeyer, M.E.A., Vos, W., Koop, H. (eds) *European forest reserves. Proceedings of the European forest reserves workshop 6-8 May 1992, Wageningen, The Netherlands.* Pudoc scientific publishers, Wageningen, pp. 91-96.

> Autres pays

Other countries

Halkka, A., Lappalainen, L., Karjalainen, H. (ed.) 2001. La protection des forêts en Europe. Rapport WWF (traduction WWF-France), 36 pages.

Halkka, A., Lappalainen, L., Karjalainen, H. (ed.) 2001. Insight into Europe's forest protection. WWF report, 36 pages.

Ibero, C. 1994. Status of old-growth and ancient semi-natural forest in western Europe. WWF International, 62 pages.

Leopold, D.J., Reschke, C., Smith, D.S. 1988. Old-growth forests of Adirondack park, New York. *Nat. Areas J.*, 8(3) : 166-189.

Morrisson, P. 1991. Old growth in the Pacific Northwest : a status report. The wilderness society, Washington DC.

Ovaskainen, O. (ed.) 1998. Survey of old growth forests in north-western Russia. Finnish nature league publication n° 1, 100 pages, 5 maps.

Parviainen, J. 1999. Strict forest reserves in Europe. Efforts to enhance biodiversity and strengthen research related to natural forest in Europe. *EFI Proceedings*, n°16.

Parviainen, J., Bücking, W., Vandekerckhove, K., Schuck, A., Päivinen, R. 2000. Strict forest reserves in Europe : efforts to enhance biodiversity and research on forests left for free development in Europe (EU-Cost Action E4). *Forestry*, 73(2) : 107-118.

Projectgruppe naturwaldreservate im arbeitskreis standortskartierung der arbeitsgemeinschaft forst-einrichtung 1993. Empfehlungen für die einrichtung und betreuung von naturwaldreservate in Deutschland. *Forstarchiv*, 64 : 122-129.

Pyykkö, J. (ed.) 1996. Survey of the Russian Karelian natural forests of Vienansalo. WWF Finland.

Roemer, H.L., Pojar, J., Joy, K.R. 1988. Protected old-growth forests in coastal British Columbia. *Nat. Areas J.*, 8(3) : 146-159.

Safford, R.J. 1997. A survey of the occurrence of native vegetation remnants on Mauritius in 1993. *Biological conservation*, 80(2) : 181-188.

Schmidt, T.L., Spencer, J.S. Jr., Hansen, M.H. 1996. Old and potential old forest in the Lake States, USA. *Forest. Ecology and Management*, 86 : 81-96.

Sollander, E. (coord.) 1999. WWF European forest scorecards 2000. WWF, Gland (Switzerland), 77 pages.

Taiga rescue network. 2000. Last of the last. The old-growth forests of the boreal Europe.

Voloscuk, I. 1993. The virgin forests and reserves in Romania. Broekmeyer, M. A. E., Vos, W., and Koop, H. European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, The Netherlands : 69-74. Wageningen, Pudoc Scient. Publ.

WCMC. 2000. European forests and protected areas : gap analysis. Unep-WCMC, text and CD-Rom.

WWF. 2000. Forest conservation in Russia : an overview. WWF Forests for Life campaign, WWF-Russia.

Zukrigl, K. 1990. Naturwaldreservate in Österreich. Stabd und neu aufgenommene flächen. Bundesmin. F. umwelt, Jugend und familie, Umweltbundesamt, bd 21, Wien, 232 pages.

C. Identification et suivi *Identification and monitoring*

1. Critères, indicateurs et vérificateurs (CIV) de naturalité et d'intégrité fonctionnelle : concepts

CRITERIA, INDICATORS AND VERIFIERS (CIV) OF NATURALNESS AND FUNCTIONAL INTEGRITY : CONCEPTS

Anderson, J.E. 1991. A conceptual framework for evaluating and quantifying naturalness. Conservation biology, 5 : 347-352.

Brooks, R.P., O'Connell, T.J., Wardrop, D.H., Jackson, L.E. 1998. Towards a regional index of biological integrity. Environmental monitoring and assessment, 51(1-2) : 131-143.

Day, S.P. 1993. Woodland origin and 'ancient woodland indicators' : a case study from Sidlings Copse, Oxfordshire, U.K. The Holocene, 3 : 45-53.

De Leo, G.A., Levin, S. 1997. The multifaceted aspects of ecosystem integrity. Conservation ecology (1) : 3. Available from the internet. URL ://www.consecol.org/vol1/iss1/art3.

Götmark, F. 1992. Naturalness as an evaluation criterion in nature conservation : a response to Anderson. Conservation biology, 6 : 455-458.

Henjum, Mark G. 1996. Maintaining ecological integrity of inland forest ecosystems in Oregon and Washington. Wildl. Soc. Bull., 24(2) : 227-232.

McGeoch, M., Chown, S.L. 1998. Scaling up the value of bioindicators. TREE 13 : 46-47.

2. CIV relatifs à la paléoécologie et à l'histoire humaine

CIV RELATED TO PALEOECOLOGY AND HUMAN HISTORY

Note : nous notons ici pour mémoire cette catégorie de CIV, relative aux trajectoires écologiques naturelles, et aux interactions fortes avec l'histoire humaine en Europe. Pour des exemples, le lecteur se reportera aux chapitres "paléoécologie" et "histoire".

3. CIV relatifs à la biodiversité

CIV RELATED TO BIODIVERSITY

Balmford, A. 1998. On hotspots and the use of indicators for reserve selection. Trends in ecology and evolution, 13 : 409-419.

Fenton, M.B., Acharya, L., Audet, Hickey, M.B.C., Merriman, C., Obrist, M.K., Syme, D.M. 1992. Phyllostomid bats (Chiroptera : Phyllostomidae) as indicators of habitat disruption in the Neotropics. Biotropica, 24 : 440-446.

Hedenås, H., Ericson, L. 2000. Epiphytic macrolichens as conservation indicators: successional sequence in *Populus tremula* stands. Biol. Cons., 93 : 43-53.

- Hermý, M., Honnay, O., Firbank, L., Grashof-Bokdam, C., Lawesson, J.E. 1999. An ecological comparison between ancient and other forest plant species of Europe, and the implications for forest conservation. *Biological conservation*, 91 : 9-22.
- Kapos, V., Ganade, G.M., Matsui, E., Victoria, R.L. 1993. ^{13}C as an indicator of edge effects in tropical rain forest reserves. *Journal of ecology*, 81 : 425-432.
- Kremen, C. 1992. Assessing the indicator properties of species assemblages of natural area monitoring. *Ecological applications*, 2 : 203-217.
- Kuusinen, M. 1996. Cyanobacterial macrolichens on *Populus tremula* as indicators of forest continuity in Finland. *Biol. Cons.*, 75 : 43-49.
- Lawton, J.H., Bignell, D.E., Bolton, B., Bloemers, G.F., Eggleton, P., Hammond, P.M., Hodda, M., Holt, R.D., Larsen, T.B., Mawdsley, N.A., Stork, N.E., Srivastava, D.S., Watt, A.D. 1998. Biodiversity inventories, indicator taxa and effects of habitat modification in tropical forest. *Nature*, 6662 : 72-76.
- Lindemayer, D.B., Margules, C.R., Botkin, D.B. 2000. Indicators of biodiversity for ecologically sustainable forest management. *Conservation biology*, 14(4) : 941-950.
- Medellin, R.A., Equihua, M., Amin, M.A. 2000. Bat diversity and abundance as indicators of disturbance in neotropical rainforests. *Conservation biology*, 14(6) : 1666-1675.
- Nilsson, S.G., Arup, U., Baranowski, R., Ekman, S. 1995. Tree-dependent lichens and beetles as indicators in conservation forests. *Conservation Biology*, 9(5) : 1208-1215.
- Nordyke, K.A., Buskirk, S.W. 1988. Evaluation of small mammals as ecological indicators of old-growth conditions. U.S. For. Serv. Gen. Tech. Rep., RM-166 : 353-358.
- Rameau, J.C., Olivier, L. 1991. La biodiversité forestière et sa préservation. Intérêt patrimonial de la flore, de la végétation et des paysages forestiers. *Rev. For. Fr.*, 43(n°sp.) : 19-27.
- Rameau, J.C., Timbal, J. 1987. Protection de la flore et foresterie. *Rev. For. Fr.*, 39(1) : 25-32.
- Timbal, J. 1983. Quelques commentaires sur la liste des plantes protégées de France. *Rev. For. Fr.*, 35(2) : 153-157.

4. CIV relatifs à la structure des peuplements

CIV RELATED TO FOREST STAND STRUCTURE

- Brown, S., Schoeder, P., Birdsey, R. 1997. Aboveground biomass distribution of US eastern hardwood forests and the use of large trees as indicator of forest development. *Forest ecology and management*, 96 (1-2) : 37-47.
- Gilg, O. 1997. Eléments d'évaluation de la naturalité des écosystèmes forestiers vosgiens. PNR des Ballons des Vosges, 48 pages.
- Lee, P., Hanus, S., Grover, B. 2000. Criteria for estimating old growth in boreal mixedwoods from standard timber inventory data. *Forest ecology and management*, 129(1-3) : 25-30.
- Mehl, M.S. 1992. Old-growth descriptions for the major forest cover types in the Rocky mountain region. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service. General Technical Report RM-213, pp. 106-120.

5. CIV relatifs au fonctionnement

CIV RELATED TO FUNCTIONAL PROCESSES

- Burger, J.A., Kelting, D.L. 1999. Using soil quality indicators to assess forest stand management. *Forest ecology and management*, 122(1-2) : 155-166.
- Hill, K.J., Hamer, K.C. 1998. Using species abundance models as indicators of habitat disturbance in tropical forests. *Journal of applied ecology*, 35(3) : 458-460.
- Kaufmann, M.R. 1992. Carbon, water and nutrient relations - Distinguishing functional features of old-growth Lodgepole Pine forests in the southern Rocky mountains. In Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado, USDA Forest Service. General Technical Report RM-213 : pp. 39-43.

- Kneeshaw, D.D., Burton, P.J. 1998. Assessment of functional old-growth status: a case study in the sub-boreal spruce zone of British Columbia, Canada. *Natural Areas Journal* 18(4) : 293-308.
- Lavelle, P., Bignell, D., Lepage, M., Wolters, V., Roger, P., Ineson, P., Heal, O.W., Dhillion, S. 1997. Soil function in a changing world : the role of invertebrate ecosystem engineers. *Eur. J. Soil Biol.* 33(4) : 159-193.
- Leary, R.F., Allendorf, F.W. 1989. Fluctuating asymmetry as an indicator of stress : implications for conservation biology. *TREE*, 4 : 214-217.
- Muys, B., Granval, P. 1997. Earthworms as bio-indicators of forests quality. *Soil and biochemistry*, 29(3-4) : 323-328.
- Ohlson, M., Soderstorm, L., Hornberg, G., Zackrisson, O., Hermansson, J. 1997. Habitat qualities versus long-term continuity as determinants of biodiversity in boreal old-growth swamp forests. *Biol. Conserv.*, 81(3) : 221-231.
- Schumaker, N. H. 1996. Using landscape indices to predict habitat connectivity. *Ecology*, 77 : 1210-1225.
- Trasar-Cepada, C., Leiros, C., Gil-Sotres, F., Seone, S. 1998. Towards a biochemical quality index for soils : an expression relating several biological and biochemical properties. *Biology and fertility of soils*, 26(2) : 100-106.
- Welsh, H.H. Jr., Ollivier, L.M. 1998. Stream amphibians as indicators of ecosystem stress: a case study from California's redwoods. *Ecol. Appl.*, 8(4) : 1118-1132.

D. Gestion conservatoire et restauration

Conservative management and restoration

1. Gestion conservatoire

CONSERVATIVE MANAGEMENT

- Astrie, G., Pechin, A. 1987. Incidence de la non-exploitation sur le devenir de divers types de forêts pyrénéennes. Engref/Cemagref Grenoble, 96 pages + annexes.
- Béguin, D. 1991. Patrimoines naturels forestiers et conservatoires régionaux d'espaces naturels. *Rev. For. Fr.* 43(n°sp.) : 169-170.
- Broekmeyer, M.E.A., Vos, W., Koop, H. (eds) 1993. European Forest Reserves. Proceedings of the European Forest Reserves Workshop, 6-8 May 1992, The Netherlands. Wageningen: Pudoc Scient. Publ., 306 pages.
- Broggi, M.F., Willi, G., 1983. Réserves forestières et protection de la nature. Contribution à la protection de la nature en Suisse. Ligue Suisse pour la protection de la Nature, n°14. 76 pages.
- Carbiener, D. 1995. Les Arbres qui cachent la Forêt. Aix-en-Provence: Edisud, 243 pages.
- Cluzeau, C., Pont, B. 1997. Suivi à long terme de la dynamique spontanée des forêts alluviales dans six Réserves Naturelles. Résultats de la première campagne de mesures, 43 + annexes, 26 pages.
- Dutoit, T., Bonnetaud, D. 1997. La gestion de la réserve biologique domaniale des falaises d'Orival dans la forêt de la Londe-Rouvray (Seine-Maritime). *Revue forestière française*, 49(3) : 204-214.
- Fernandez-Galiano, E. 1990. La protection des forêts anciennes. Actes Du Colloque Européen "Protection et gestion des milieux naturels et forestiers". Strasbourg, 26 Avril 1990 : 27-30.
- Grisson, P. 1985. Un danger qui menace la forêt française : les déséquilibres biologiques. *Rev. For. Fr.*, 37(n°sp.) : 29-44.
- Hubert, L. 1991. De la gestion des espaces... à la protection des espèces : les réserves biologiques. *Revue Forestière Française*, n°spécial : 152-157.
- Kaufmann, M.R., Moir, W.H., Covington, W.W. 1992. Old-growth Forests : What do we know about their ecology and management in the Southwest and Rocky mountain regions ? In

- Kaufmann, M.R.; Moir, W. H., Basset, R.L. Old-growth Forests in the Southwest and Rocky mountain regions. Proceedings of a workshop; Portal, Arizona. Fort Collins, Colorado. USDA Forest Service. General Technical Report RM-213, pp.1-11.
- Kerrick, M.A., Johnson, K., Pederson, R.J. 1984. What information is necessary for planning the management of old-growth forest for wildlife ? Proc. Soc. Am. For., 1983 : 383-386.
- Key, R.S., Ball, S.J. 1993. Positive management for saproxylic invertebrates. English Nature Science, 7 : 89-101.
- Koop, H. 1985. Ecological monitoring of natural and semi-natural forests. In Forest dynamics research in western and central Europe. Proceedings of IUFRO workshop of subject group S1.01.00 Ecosystems, Wageningen, : 257-262
- Koop, H., Bodez, C.A.J.M. 1991. Bilan européen des réserves intégrales forestières et leurs enseignements pour la foresterie. Revue Forestière Française, n°spécial : 185-189.
- LSPN. 1993. Réserves forestières et protection de la nature. Contributions à la protection de la nature en Suisse, 14 pages.
- Maizeret, C., Olivier, L. 1996. Les objectifs de gestion des espaces protégés. Eléments pour la définition des objectifs. DNP, Aten, Montpellier, 88 pages.
- Marcot, B.G., Wisdom, M.J., Li, H.W., Castillo, G.C. 1994. Managing for featured, threatened, endangered and sensitive species and unique habitats for ecosystem sustainability. U.S. For. Serv. Gen. Tech. Rep. PNW, N°329. 39 pages.
- Mauz, I. 1991. Gestion et protection des patrimoines naturels forestiers du massif vosgien. Nancy: ENGREF, 83 pages.
- Michelot, J.L. 1994. Gestion et suivi des milieux naturels fluviaux. L'expérience des réserves naturelles. Quétigny, RNF, 43 pages.
- Ministère de l'agriculture, 1995. Les indicateurs de la gestion durable des forêts françaises. Paris, 49 pages
- Ministère de l'agriculture, 2000. Les indicateurs de la gestion durable des forêts françaises. Paris, 130 pages
- Muller, S., Génot, J.-Cl. 1991. La conservation des patrimoines naturels forestiers dans le Parc naturel régional des Vosges du Nord. Rev. For. Fr., 43(n°sp.) : 51-56.
- Noblecourt, T. 1993. Laisser des arbres morts en forêt : nouveauté écologique ou nécessité justifiée ? Arborescences, 43 : 35-37.
- O.N.F. 1995. Instruction sur les réserves biologiques dirigées et séries d'intérêt écologique particulier. Paris, 20 pages.
- O.N.F. 1998. Instructions sur les réserves biologiques intégrales. Paris, 36 pages.
- Pont, B. 1993. Patrimoines naturels forestiers. La lettre des réserves, 28 : 17-26.
- Pont, B., Cluzeau, C. 1997. Suivi à long terme de la dynamique spontanée des forêts alluviales dans six RN. Quétigny, RNF, 43 pages
- Runkle, J.R. 1991. Gap dynamics of old-growth eastern forests : management implications. Nat. Areas J., 11(1) : 19-25.
- Sales, P. 1995. Parc National de Bialowieza : leçon de choses dans une réserve intégrale. Paris: Atelier technique des espaces naturels. Ministère de l'Environnement, 40 pages.
- Schnitzler, A. 1997. Prise en compte des cycles sylvigénétiques naturels pour une saine définition de la gestion conservatoire. Dossier de l'environnement de l'INRA, 15 : 57-76.
- Stöckli, B. 1996. La régénération des forêts de montagne sur du bois mort. La forêt, 49(2) : 6-12.
- Tammi, N.D., Paige, S.L., Boyce, S.G. 1984. Management alternatives to meet old growth forest objectives : a north Carolina piedmont case. Proc. Soc. Am. For., 1983 : 374-377.
- Thomas, J.W., Ruggiero, L.F., Mannan, R.W., Schoen, J.W., Lancia, R.A. 1988. Management and conservation of old-growth forests in the United States. Wildl. Soc. Bull., 16(3) : 252-262.

USDA Forest Service. 1997. Guidance for conserving and restoring old-growth forest communities on National Forests in the southern region. Report of the region 8 Old-growth team. Atlanta, GA: U.S. Dept. of Agriculture, Forest Service, Region 8. 118 pages.

Winter, T. 1993. Deadwood - is it a threat to commercial forestry ? *English Nature Science*, 7 : 74-80.

2. Restauration écologique

ECOLOGICAL RESTORATION

Bonnicksen, T.M., Stone, E.C. 1985. Restoring naturalness to national parks. *Environmental Conservation*, 9 : 479-486.

Covington, W.W., Moore, M.M. 1994. Postsettlement changes in natural fire regimes and forest structure : ecological restoration of old-growth Ponderosa pine forests. *J. Sustain. For.*, 2(1/2) : 153-181.

Featherstone, A.W. 1996. Regenerating the caledonian forest : restoring ecological wilderness in Scotland. *International Journal of Wilderness* 2(3) : 36-41, 47.

Foster, D.R., Orwig, D.A., McLachlan, J.S. 1996. Ecological and conservation insights from reconstructive studies of temperate old-growth forests. *Trends Ecol. Evol.*, 11(10) : 419-424.

Heyerdahl, E.K., Card, V. 2000. Implications of paleorecords for ecosystem management. *TREE*, 15 : 49-50.

Schnitzler, A. 1997. La création d'espaces forestiers primaires. *La lettre du réseau nature de FNE* 3.

USDA Forest Service. 1997. Guidance for conserving and restoring old-growth forest communities on National Forests in the southern region. Report of the region 8 Old-growth team. Atlanta, GA: U.S. Dept. of Agriculture, Forest Service, Region 8. 118 pages.

Partie 6

Les toutes dernières forêts naturelles de la France

The last of the last ancient forests of France



A. Inventaire des forêts naturelles relictuelles *Inventory of old-growth forests remnants*

- Ceconello, A. 1991. Inventaire des forêts subnaturelles du massif vosgien. Mémoire DESS, Paris.
- Coriol, G. 1998. Etude préalable à l'aménagement de l'une des dernières hêtraie-sapinières subnaturelles du Mont Lozère : la forêt du Cougnet. Rapport Engref, 158 pages.
- Gilg, O., Schwoehrer, C. 1999. Evaluation de l'importance du patrimoine naturel forestier (forêts subnaturelles et réserves forestières intégrales) dans le réseau des réserves naturelles. RNE, 35 pages.
- Gonin-Reina, P. 1989. Contribution à l'étude de l'évolution des forêts non-exploitées dans les Pyrénées. Cemagref, Parc national des Pyrénées, 46 pages + annexes.
- Greslier, N. 1993. Inventaire des forêts subnaturelles de l'arc alpin français. Engref/Cemagref, 65 pages + annexes.
- Greslier, N., Renaud, J.P., Chauvin, Ch. 1995. Les forêts subnaturelles de l'arc alpin français. Réflexion méthodologique pour un recensement et un typologie des principales forêts alpines peu transformées par l'homme. Revue Forestière Française, 3 : 241-254.
- Ponthus, C. 1996. Inventaire des forêts subnaturelles des Pyrénées françaises. ONE, 58 pages + volume d'annexes.
- Renaud, J.P. 1995. Etude des forêts subnaturelles alpines. Bilan général de la première phase. Cemagref, 15 pages.

B. Réserve naturelle de la Massane (Pyrénées orientales) *Natural reserve of La Massane (Pyrenees)*

- Athias-Binche, F. 1981. Contribution à la connaissance des uropodides libres de quelques écosystèmes forestiers européens. Thèse Paris VI : 308 pages.
- Athias-Binche, F. 1985. Analyses démogr. des pop. d'Uropodides de la hêtraie de la Massane. Pedobiologia 28 : 225-253.
- Baudière, A. 1974. Contribution à l'étude structurale des forêts des P.O. : hêtraies et chênaies acidiphiles. Coll. phytosociologiques, III, Les forêts acidiphiles, Lille, pp. 17-44.
- Brustel, H., Van Meer, C. 1999. Sur quelques éléments remarquables de l'entomofaune saproxylique pyrénéenne et des régions voisines (Coleoptera). Bull. Soc. Ent. de France 104(3) : 231-240.

- Cassagnau, P. 1973. Les populations d'*Hypogastrura sullbergi* dans la moitié orientale des Pyrénées : écologie et cycle de développement. *Pirineos* 108 : 93-100.
- Clauzade, G., Rongon, Y. 1960. Observations sur la végétation lichénique de la hêtraie de la Massane et de ses environs immédiats. *Vie et Milieu* 11(3) : 437-464.
- Clergue-Gazeau, 1987. Influence du climat méditerranéen sur la faune simuliidienne d'une rivière pyrénéenne : la Massane. *Ecol. Medit.* 13(1-2) : 3-13.
- Dajoz, R. 1974. Les insectes xylophages et leur rôle dans la dégradation du bois mort. In Pesson, P. *Ecologie forestière*. Gauthier-Villars : 257-287.
- Dajoz, R. 1960. Les Coléoptères mycétophyles de la Forêt de la Massane. *Vie et Milieu*, 11(2) : 195-208.
- Dajoz, R. 1961. Les plantes vasculaires de la forêt de la Massane. Le cas du Hêtre. *Vie et Milieu*, 12(4) : 677-700.
- Dajoz, R. 1964. Les Coléoptères des fleurs de chêne vert dans le massif des Albères. *L'entomologiste*, 20(3-4) : 60-73.
- Dajoz, R. 1965. Catalogue des Coléoptères de la forêt de la Massane. *Vie et Milieu*, Suppl. 15(4) : 1-207.
- Dajoz, R. 1966. Ecologie et biologie des Coléoptères xylophages de la Hêtraie. *Vie et Milieu*, 17(1C) : 531-636.
- Dajoz, R. 1966. Ecologie et biologie des Coléoptères xylophages de la Hêtraie. *Vie et Milieu*, 17(2C) : 637-763.
- Dejaifve, P.-A. 1992. Les oiseaux nicheurs de la Réserve de la Massane. *Réserve Naturelle de la Massane, Travaux scientifiques*, 33 : 1-54.
- Doby, J.M., Doby-Dubois, M. 1955. Les Culicidés des P.O. Observations sur l'écologie des stades larvaires. *Vie et Milieu*, 6(3) : 383-392.
- Durrieu, G. 1966. Etude écologique de quelques groupes de champignons parasites des plantes spontanées dans les Pyrénées. . . Thèse, Université Toulouse : 1-277.
- Garrigue, J. 1994. Première contribution à la connaissance des galles de la Réserve Naturelle de la Massane. *Réserve Naturelle de la Massane, Travaux* 37 : 1-44.
- Garrigue, J., Magdalou, J.A. 2000. Réserve naturelle de la Massane : suivi forestier & cartographie assistée par système d'information géographique. *Travaux scientifiques*, 55, 44 pages.
- Gers, Ch. 1981. Biogéographie et écologie des Collembolés édaphiques dans la zone orientale des Pyrénées. Thèse 3^{ème} cycle, Toulouse, 153 pages.
- Geslot, K. 1998. Les "Mouchouses". Proposition de classement en Réserve Biologique Dirigée et Site Natura 2000. ONF, 83 pages + annexes.
- Grewcock, D. 1988. Comparaison de la structure des communautés de syrphides dans des milieux écologiquement perturbés et non perturbés. *Réserve Naturelle de la Massane, Travaux scientifiques*, 26 : 1-10.
- Iablokoff, A.K. 1954. Les faunes relictées de la Massane dans la biogéographie des glaciations quaternaires. *Vie et Milieu*, 5(1) : 1-13.
- Izarra, D.C. 1980. Les Collembolés de la forêt de la Massane. *Trav. Labo. Ecobiol. Arthrop. édaph.* Toulouse 2(4) : 1-7.
- Ledoux, J.C., Emerit, M., Pinault, G. 1995. Les Araignées de la Réserve Naturelle. *Réserve Naturelle de la Massane, Travaux scientifiques*, 40 : 1-18.
- Marty, N.C. 1981. Approche pédologique et relations sol-végétation dans la Réserve Naturelle de la Massane. *Réserve Naturelle de la Massane, Travaux scientifiques*, 9 : 62 pages.
- Médard, P., Guibert, E. 1991. Inventaire chiroptérologique de la Réserve de la Massane. *Réserve Naturelle de la Massane, Travaux scientifiques*, 31 : 1-39.
- Meierhofer, I. 1995. Etude phénologique des Coléoptères coprophages de la Réserve. *Réserve Naturelle de la Massane, Travaux scientifiques*, 42 : 1-24.
- Meierhofer, I. 2001. Etude sur la succession des Coléoptères coprophages dans la Réserve Naturelle

- de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 57 : 1-17.
- Moubayed, Z. 1986. La rivière Massane, Inventaire faunistique et recherches écologiques. Réserve Naturelle de la Massane, Travaux scientifiques, 21 : 1-61.
- Parmentier, S. 1991. Etude de la croissance de hêtres dans la réserve naturelle de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 30 : 1-32.
- Pellicier, Ph. 1999. Contribution à l'étude systématique et écologique des micromycètes parasites des plantes spontanées de la Réserve Naturelle de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 51 : 1-30 (4 planches).
- Percie du Sert, Th. 1982. Relations entre la phénologie et la morphologie du Hêtre dans le massif des Albères. Réserve Naturelle de la Massane, Travaux scientifiques, 12 : 1-73.
- Puig, J.N. 1979. Notice sur la végétation. Réserve Naturelle de la Massane, Travaux scientifiques, 7 : 1-51.
- Ryckewaert, Ph. 1983. Les Lépidoptères de la Réserve de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 19.
- Schaefer, L. 1940. Recherche de l'*Anthaxia midas* ssp *oberthüri* Schaefer. à la Massane. Bull. Soc. Linn. Lyon, 9(2) : 23-25.
- Sommer, F. 1984. Etude de la Myrmécofaune de la Réserve de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 15 : 1-27.
- Sommer, F. 1986. Etude de certains aspects de la macrofaune du sol de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 18 : 1-7.
- Sommer, F., Cagnant, H. 1988. Peuplements de fourmis des Albères orientales France. Vie et Milieu, 38(2) : 189-200.
- Torregrosa, Orts, M., Feliu, C., Fons, R. 1987. Contribution à la connaissance des helminthes parasites de micromammifères. Réserve Naturelle de la Massane, Travaux scientifiques, 22 : 1-33.
- Travé, J. 1963. Ecologie et biologie des Oribates saxicoles et arboricoles. Vie et Milieu, Suppl. 14 : 1-267.
- Travé, J. 2000. La Réserve Naturelle de la Massane. Un exemple de forêt ancienne protégée. Forêt méditerranéenne, XXI (2) : 278-282.
- Travé, J., Duran, F., Garrigue, J. 1999. Biodiversité, richesse spécifique, Naturalité. L'exemple de la Réserve Naturelle de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 50 : 30 pages.
- Travé, J., Fernandez, I. 1985. Evolution réciproque des biocénoses et des activités humaines dans la Réserve Naturelle de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 16.
- Travé, J., Gadea, E., Delamare, Deboutville, U. 1954. Contribution à l'étude de la faune de la Massane. Vie et Milieu, 5(2) : 201-214.
- Travé, J., Garrigue, J. 1996. Plan de gestion. Réserve Naturelle de la Massane, Travaux scientifiques, 46 : 1-125.
- Travé, J., Garrigue, J., Duran, F. 1996. Le mésoclimat de la réserve naturelle de la Massane. Réserve Naturelle de la Massane, Travaux scientifiques, 45 : 1-28.

C. Réserve de la Biosphère du Fango (Corse)

Biosphère reserve of Fango (Corsica)

- Andrei-Ruiz, M.C., Mouillot, D., 1995. Micro-répartition et analyse de la diversité des diptères dans le delta du Fango. Réserve MAB du Fango - Haute-Corse. Résumé comm. orale, 39ème Congrès National de l'Association Française de Limnologie, 3 au 8 juillet 1995.
- Blondel, J., Blondel, C., Dervieux, A., Kowalski, H., Maistre, M., Perret, P., Zandt, H. 1989. Peuplements d'oiseaux et populations de mésanges dans la forêt domaniale du Fango (Réserve MAB). Trav. Scien. Parc Nat. Rég. Rés. Nat. Corse, 23 : 17-55.

- Blondel, J., Chessel, D., Frochot, B. 1988. Bird species impoverishment, niche expansion and density inflation in Mediterranean island habitats. *Ecology*, 69 : 1899-1917.
- Blondel, J., Clamens, A., Cramm, P., Gaubert, H., Isenmann, P. 1987. Population studies on tits in the mediterranean region. *Ardea*, 75 : 21-34.
- Blondel, J., Dervieux, A., Maistre, M., Perret, P. 1991. Feeding ecology and life history variation of the Blue Tit in Mediterranean deciduous and scerophyllous habitats. *Oecologia*, 88.
- Blondel, J., Frochot, B. 1976. Caractères généraux de l'avifaune Corse. Effet de l'insularité et influence de l'homme sur son évolution. *Bulletin de la Société des Sciences Historiques et Naturelles de Corse*, 620 : 63-74.
- Blondel, J., Isenmann, P., Maistre, M., Perret, P. 1992. What are the consequences of being a downy oak (*Quercus pubescens*) or a holm oak (*Quercus ilex*) for breeding blue tits (*Parus caeruleus*) ? *Vegetatio*, 99-100 : 129-136.
- Carcaillet, C., Barakat, H., Panaiotis, C., Loisel, R. 1997. Fire and late-Holocene expansion of *Quercus ilex* and *Pinus pinaster* on Corsica. *Journal of Vegetation Science*, 8 : 85-94.
- De Frescheville, J. 1977. Observations sur les insectes Orthoptéroïdes du Filosorma. *Bulletin de la Société des Sciences Historiques et Naturelles de Corse*, 625 : 33-46.
- Lumaret, J.P. 1977. Note préliminaire sur la distribution des coléoptères scarabéïdés coprophages dans la vallée du Fango. *Bulletin de la Société des Sciences Historiques et naturelles de la Corse*, 625 : 47-56.
- Panaiotis, C., Loisel, R., Paradis, G. 1995. Dating natural gaps in the holm oak forest (*Quercus ilex* L.) in Fango MAB Reserve (Corsica) by reading rings of maquis components. *Ann. Sc. Forest.*, 52 : 477-487.
- Panaiotis, C., Loisel, R., Roux, M. 1998. Analyse de la réponse de la végétation aux trouées naturelles dans une futaie âgée de *Quercus ilex* (L.) en Corse (île méditerranéenne). *Can. J. For. Res.*, 28 : 1125-1134.
- Panaiotis, C., Carcaillet, C., M'Hamedi, M. 1997. Determination of the natural mortality age of an holm oak (*Quercus ilex* L.) stand in Corsica (Mediterranean Island). *Acta Oecologica*, 18(5) : 519-530.
- Viale, D., Andrei-Ruiz, M.C., Lepretre, A. 1993. Analyse systémique de l'entomocénose de la chênaie dans la réserve Mab du Fango (Haute-Corse). AFCET, Second European Congress on Systems Science, Prague, Oct. 5-9 1993, vol. IV : 1235-1244.
- Viale, D., Frontier, S. 1980. La vallée du Fango (Haute-Corse) réserve de la biosphère. *Forêt méditerranéenne*, II(1) : 89-94.
- Zandt, J. 1987. Etude de la population de chenilles de la forêt du Fango - statistiques et croissance. Thèse Univ. Leyden; Pays-Bas.

D. Forêt subnaturelle du Bois du Chapitre (Haute-Alpes) *Ancient forest of Bois du Chapitre (Hautes-Alpes)*

- Blanchard, E. 1995. Analyse des modalités de la dynamique linéaire de la végétation du bois du Chapitre (Hautes-Alpes). DEA ECAMM, Université de Marseille, 44 pages.
- Boudin, G., Brun, J.J. 1999. Ouvertures forestières et diversité fonctionnelle des humus. L'exemple d'une sapinière des Alpes intermédiaires du Sud : Le bois de Tavanet (Bassin de Gap-Chaudun, Hautes-Alpes). Cemagref, Grenoble, 18 pages.
- Caner, L. 1994. Caractérisation des humus de différentes phases du cycle sylvigénétique d'une hêtraie-sapinière non exploitée des Hautes-Alpes : le bois du Chapitre (05). Mémoire de 3ème année ENSAIA, Nancy, 35 pages.
- Caner, L. 1995. Caractérisation chimique de la matière organique des litières et des sols d'une hêtraie-sapinière des Alpes du sud : le bois du Chapitre. DEA Geosciences, Nancy.

- Cathalifaud, R. 1966. Etude du régime alimentaire du mouflon dans une forêt naturelle (Bois du Chapitre, Hautes-Alpes). Cemagref, Nogent s/ Vernisson, ONF, Gap.
- Delore, M. 1996. Etude de l'impact d'une population de mouflons sur une régénération de sapins dans une forêt subnaturelle des Hautes-Alpes : le bois du Chapitre. Cemagref, Nogent s/ Vernisson, ONF, Gap.
- Lavigne, C. 1993. Inventaire ornithologique du Bois du Chapitre. ONF, Gap.
- Merle, H. 1999. Etude de la structure et de la dynamique des forêts du bassin versant de Gap Chaudun (Hautes-Alpes). Mémoire FIF 3ème année, ENGREF, Nancy.
- ONF 1990. Aménagement de la forêt domaniale de Gap Chaudun (2121,81 ha). ONF, Gap.
- Rameau, J.C. (coord.), sans date. Biodiversité et gestion forestière. Programme de Gap-Chaudun. Engref, Nancy (synthèse des résultats par thème, non numérotée).
- Sandoz, J.C. 1993. Caractérisation et organisation spatiale des structures d'une hêtraie-sapinière non exploités des Hautes-Alpes : le bois du Chapitre (05). Mémoire 3ème année ENSAIA, Nancy, 30 pages.
- Soutrenon, A. 1994. Observations pathologiques. Etudes Forêts subnaturelles. Cemagref, Grenoble.
- Thinon, M. 1995. Travaux d'analyses pédo-anthracologiques. Etudes Forêts subnaturelles. Cemagref, Grenoble.
- Varese, P. 1993. Les types de stations forestières et la dynamique de la végétation au Bois du Chapitre (F.D. de Gap-Chaudun – 05). Doc. ENGREF, 21 pages.

E. Forêt subnaturelle de Sixt (Haute Savoie)

Ancient forest of Sixt (Haute-Savoie)

- Abgrall, J.F. 1996. Composition et structure des peuplements de Carabidae et de Curculionidae dans une pessière d'altitude peu anthropisée, forêt de Belleface (Sixt, Haute-Savoie). Cemagref, Grenoble, 41 pages.
- Chaillet, F. 1995. Caractérisation de l'entomofaune d'une forêt subnaturelle d'altitude (site de Sixt, Massif du Haut Giffre, Haute-Savoie, 74). Etude par piègeage d'une population de Carabiques du sol. Cemagref, Grenoble, IUP Environnement Université de Paris VII, 49 pages.
- Courbaud, B. 1996. Réalisation d'un modèle de croissance pour l'épicéa en forêt subnaturelle d'altitude de Sixt-Belleface. Cemagref, Grenoble, 46 pages.
- Courbaud, B. 1997. Modélisation de l'éclaircissement et de la croissance de l'épicéa (*Picea abies*, L. Karst) en forêt irrégulière de montagne. Thèse Cemagref, Grenoble, Université Lyon I, 244 pages.
- Icard, C. 1995. Etude de l'entomofaune dans trois forêts subnaturelles des Alpes. Cemagref, Grenoble, BTSA Mirecourt, 27 pages.
- Peltier, A., Touzet, M-C., Armengaud, C., Ponge, J.F. 1997. Establishment of *Fagus sylvatica* and *Fraxinus excelsior* in an old-growth beech forest. *Journal of vegetation science*, 8 : 13-20.
- Renaud, J.P., Mermin, E. 1994. Caractérisation et organisation spatiale des structures d'une pessière non exploitée en Haute Savoie. Cemagref, Grenoble, 21 pages.
- Renaud, J.P., Mermin, E. 1994. Installation de placettes permanentes dans deux forêts subnaturelles des Alpes françaises : objectifs – protocole de mesure et résultats – développements. Cemagref, Grenoble, 37 pages.
- Sagot, C. 1995. Structure et fonctionnement des humus forestiers d'altitude : l'exemple de la pessière subnaturelle de Belleface. Cemagref, Grenoble, Université Joseph Fourier Grenoble I, 31 pages.
- Sagot, C., Brun, J.J., Grossi, J.L., Chautat, J.H., Boudin, G. 1999. Distribution de vers de terre et forme d'humus lors du développement d'une pessière subnaturelle. *European journal of soil biology*, 35(4) : 163-169.

Soutrenon, A. 1994. Etude forêts subnaturelles alpines : observations pathologiques effectuées en 1994. En forêts du Moulinet (06), de Sixt (74) et du bois du Chapitre (05). Cemagref, Grenoble, 7 pages.

Thouvenin, C., Courbaud, B. 1999. Forêt de montagne : modélisation de la régénération en sapinières-pessières irrégulières. Cemagref, Grenoble, 82 pages.

Thouvenin, C., Faivre, P., Trosset, L. 1997. The superficial bleaching of some topsoil mineral layers under a mountainous forest. Example of a Norway spruce forest in the humid northern Alps (France). Conference Observation of the mountain environment in Europe, Borovetz, BGR, 10 pages.

F. Réserve naturelle du Ravin de Valbois (Doubs)

Natural reserve of Ravin of Valbois (Doubs)

Caillet, M. 1998. Etude des macromycètes de la forêt non exploitée du Ravin de Valbois. Cléron, DNE.

Carteron, R., Trivaudéy, M.J. 1991. Profil historique des formations végétales de trois réserves naturelles, Remoray, Valbois, Frotey. Etude réalisée en 1987, 116 pages.

Gillet, F. 1988. Végétation muscinale et phytocoenoses de la réserve de Valbois (Doubs). Cahiers de l'Environnement n°6.

Gillet, F., Michalet, R. 1984. Etude phytosociologique du Vallon de Valbois. Univers 13 : 7-20.

Pigeault, E. 1998. Forêt non exploitée du Ravin de Valbois : Inventaire de l'état zéro par placettes permanentes, CFPPA de Chateaufarine, 33 pages.

G. Réserves naturelles des Hautes Vosges (Alsace, Lorraine)

Natural reserves of Hautes Vosges (Alsace, Lorraine)

Boudot, J.P., Bruckert, S., Souchier, B. 1981. Végétation et sols climax sur les Grauwackes de la série du Markstein (Hautes-Vosges). Ann. Sci. Forest., 38(1) : 87-106.

Carbiener, R. 1957. Etude de quelques sols des Hautes Vosges. Bulletin A.F.E.S., 92 : 1000-1010.

Carbiener, R. 1964. La détermination de la limite naturelle de la forêt par des critères pédologiques et géomorphologiques dans les Hautes-Vosges et le Massif Central, Comptes-rendus Académie des Sciences Paris, Paris, n° 258 : 4136-4138.

Closset, D., Schnitzler, A. 2000. Etude comparative des différents protocoles de recherche appliqués aux forêts d'Europe à caractère naturel. PNR des Ballons des Vosges - Univ. Metz. Laboratoire UPRES-EBSE, équipe de phytoécologie. 16 pages.

Closset, D., Schnitzler, A. 2000. Naturalité de la hêtraie d'altitude. Réserve Naturelle du Frankenthal Misheimle. PNR des Ballons des Vosges - Univ. Metz. Laboratoire UPRES-EBSE, équipe de phytoécologie. 36 pages.

Conservatoire des sites alsaciens, 1991. Etude des forêts à caractères naturels de la réserve naturelle du Ventron : 20 pages + cartes.

Conservatoire des Sites Alsaciens, Conservatoire des Sites Lorrains, Parc Naturel Régional des Ballons des Vosges, 1991. Réserve Naturelle du Massif du Grand Ventron. Etude des forêts à caractères naturels de la Réserve Naturelle du Grand Ventron, 20 pages + cartes.

Conservatoire des Sites Alsaciens, Conservatoire des Sites Lorrains, Parc Naturel Régional des Ballons des Vosges, 1993. Réserve Naturelle du Massif du Grand Ventron. Définition et cartographie du périmètre réserve forestière intégrale. Munster, 21 pages + cartes.

Duchauffour, Ph., Millischer, H. 1954. Étude des types de végétation dans une sapinière vosgienne (forêt de Bussang). Revue Forestière Française, 6 : 160-178.

- Duchauffour, Ph., Pardé, J., Jacamon, M., Debazac, E. 1958. Un exemple d'utilisation pratique de la cartographie des stations : la forêt du Ban d'Étival (Vosges), *Revue Forestière Française*, 10 : 597-630.
- Garnier, E. 1994. L'homme et son milieu : le Massif du Grand Ventron à travers les âges. Université de Besançon - Parc Naturel Régional des Ballons des Vosges, 76 pages.
- Garnier, E. 1998. Jalons pour une histoire de l'environnement : la Réserve Naturelle du Frankenthal-Missheimle, relations des sociétés et du milieu. Université de Besançon, Parc Naturel Régional des Ballons des Vosges, 59 pages.
- Gilg, O. 1996. L'avifaune forestière nicheuse de la Réserve Naturelle du Massif du Grand Ventron. Conservatoire des Sites Alsaciens - Parc Naturel Régional des Ballons des Vosges, 52 pages + annexes.
- Gilg, O. 1997. Elément d'évaluation de la naturalité des écosystèmes forestiers vosgiens : éléments conceptuels et méthodologiques. Applications aux hêtraies sapinières de la Réserve naturelle du massif du Grand Ventron. DEA ECAMM, Marseille III, 53 pages.
- Groupe Tétrras Vosges, 1996. Synthèse des observations de Grand Tétrras (*Tetrao urogallus*) et de gélinotte des Bois (*Bonasa bonasia*) dans le massif vosgien, rapport d'expertise, 4 pages + tableaux.
- Groupe Tétrras Vosges, 1997. Grand tétras et Gélinotte des Bois. Bilan et perspectives pour les tétraonidés dans le Massif Vosgien. Annales des journées techniques du groupe Tétrras Vosges, Strasbourg 2 et 3 décembre 1995, Wasselonne, Ott imprimeur : 215 p. Herrenschmidt, V., Vandiel, J. M. 1990. Le lynx dans les Vosges, le Jura et les Alpes. Bulletin information ONC.
- Koerner, W., J. L. Dupouey, E. Dambrine, and M. Benoît. 1997. Influence of past land use on the vegetation and soils of present day forest in the Vosges mountains, France. *Journal of Ecology*, 85 : 351-358.
- Linot, M. 1994. Milieux forestiers et espèces forestières remarquables du département des Vosges. Synthèse bibliographique liée à la Directive Habitats, mastère en sciences forestières, Nancy, ENGREF Nancy, 104 pages + annexes.
- Mougeat, P. 1998. Les fourmis rousses des bois de Gérardmer : bio-indicatrices de l'équilibre forestier ? ONF, 50 pages + annexes.
- Parc naturel régional des Ballons des Vosges, 1994. Réserve naturelle de la Tourbière de Machais. Plan de gestion 1993-1998, Munster, brochure en impression limitée avec microordinateur, non publié, 75 pages + annexes.
- Parc naturel régional des Ballons des Vosges, 2000. Réserve naturelle du Massif du Grand Ventron. Plan de gestion 2000-2004, Munster, brochure en impression limitée, non publié, 157 pages (approuvé pour une validité de 5 ans du 1er janvier 2000 au 31 décembre 2004 par arrêté préfectoral n° 3200/2000 du 5 décembre 2000)
- Picard, J. F. 1995. Evolution de la croissance radiale du hêtre (*Fagus sylvatica* L) dans les Vosges. Premiers résultats sur le versant lorrain. *Ann. Sci. Forest.*, 52:11-21.
- Picard, J.F., Ballon, P., Colin, G., Frochot, H. 1994. Incidence des populations de cervidés sur la régénération du Sapin dans les Vosges. *Rev. For. Fr.*, 56(2) : 137-151.
- Pierrat, V. 1989. Hautes-Vosges : à propos de quelques éléments du patrimoine glaciaire. *Bull. Soc. Ent. Mulhouse*, pp. 43-48.
- Probst, A., Massabuau, J.Ch., Probst, J.L., Fritz, B., 1990. Acidification des eaux de surface sous l'influence des précipitations acides : rôle de la végétation et du substratum, conséquences pour les populations de truites : le cas des ruisseaux des Vosges, *C. R. Acad. Sci. Paris*, 311(IIa) : 405-411.
- Rameau, J.C., 1985. Le massif vosgien. Végétation naturelle, types de forêts, E.N.G.R.E.F. Nancy.
- Rameau, J.C., 1994. Le Gazon du Faing. Phytodynamique forestière des Hautes Chaumes. Engref, 30 pages.
- Renaud, J.P., Kunster, Ch., Hauschild, R. 2000. La réserve biologique domaniale de Guebwiller (Haut-Rhin). Présentation générale et résultats d'un premier inventaire réalisé selon le protocole COST. ONF, 49 pages + annexes.

- Renaud, J.P., Unterreiner, A., 1996. La Réserve Naturelle du Frankenhtal-Missheimle : propositions de gestion des espaces forestiers de la zone de transition (zone bleue). Office National des Forêts - Parc Naturel Régional des Ballons des Vosges, 32 pages + annexes.
- Schilt, Ch. 1996. Les érablaies du massif vosgien : guide de sylviculture. FIF-ENGREF Nancy/ONF, DR Alsace, 102 pages + annexes.
- Schirmer, A., Waechter, A., Schortanner, M., Michel, C. 1988. Carte des habitats naturels des Hautes-Vosges (1/25000ème) : Schnepfenried, crête entre le Tanet Gazon du Faing et le Grand Ballon, Massif du Grand Ventron, Neufs-Bois, Fachepremont, Forêt Domaniale de Haute-Meurthe, Petit Ballon, forêt communale de La Bresse (pour partie). Plan de Protection et de Mise en Valeur des Hautes-Vosges.
- Schwoehrer, C. 1998. Réserve Naturelle de la tourbière de Machais. Plan de gestion 1998-2002. Parc Naturel Régional des Ballons des Vosges, Munster, 86 pages + annexes et cartes (approuvé pour une validité de 5 ans du 1er janvier 1998 au 31 décembre 2002 par arrêté préfectoral n°97-2569 du 31 décembre 1997).
- Schwoehrer, C. 1999. Réserve Naturelle du Massif du Grand Ventron. Plan de gestion 2000 – 2004. Parc Naturel Régional des Ballons des Vosges, Munster, 157 pages + annexes et cartes (approuvé pour une validité de 5 ans du 1er janvier 2000 au 31 décembre 2004 par arrêté préfectoral n° 3200/2000 du 5 décembre 2000).
- Schwoehrer, C., Despert, Y. 2000. Réserve Naturelle du Frankenthal - Missheimle. Plan des Gestion 2001-2005. Parc Naturel Régional des Ballons des Vosges, Munster, 182 pages + annexes et cartes.
- Schwoehrer, C., Michel C. 1994. Réserve Naturelle de la tourbière de Machais. Plan de gestion 1993-1998. Parc Naturel Régional des Ballons des Vosges, Munster, 75 pages + annexes et cartes.
- Société entomologique de Mulhouse, 1997. Inventaire entomologique de la forêt communale de Kruth (Haut-Rhin) & propositions de mesures de gestion de la biodiversité. Office National des Forêts, 92 pages.
- Soldati, F. 2000. Les coléoptères sylvatiques de la Réserve Naturelle du Grand Ventron : inventaire des principales espèces et rapport entre les éléments saproxyliques et les milieux. OPIE Languedoc-Roussillon – Parc Naturel Régional des Ballons des Vosges, 30 pages.
- Soldati, F. 2001. Les coléoptères sylvatiques de la Réserve Naturelle du Frankenhtla-Missheimle : premier inventaire sur les zones touchées par la tempête de décembre 1999. OPIE Languedoc-Roussillon - Parc Naturel Régional des Ballons des Vosges, 25 pages.
- Timbal, J. 1968. Contribution à l'étude des associations forestières de la forêt de Sainte-Hélène (Vosges). Thèse 3e cycle, Orsay, ronéo 104 pages + 1 carte phytosociologique.
- Tondon, J. 1992. Inventaire des pessières naturelles (*Picea abies*) du massif vosgien. Mastère de Sciences Forestières, ENGREF Nancy, 125 pages.
- Vandel, J.M. 1995. Le lynx dans le massif vosgien, situation en 1994. Bulletin mensuel de l'O.N.C., 202 : 2-15.

H. Réserves naturelles alluviales (Rhin, Rhône, Loire)

Floodplain natural reserves (Rhin, Rhône, Loire)

- Beekman, F. 1980. La dynamique d'une forêt alluviale rhénane et le rôle des lianes. Coll. Phytosociologique, IX : 475-501.
- Buchel, E. 1992. Capture de chauve-souris dans les forêts du Rhin et dans les réserves naturelles d'Ertsein et d'Offendorf, Conservatoire des Sites Alsaciens : 6.
- Carbiener R. 1970. Un exemple de type forestier exceptionnel pour l'Europe occidentale: la forêt du lit majeur du Rhin au niveau du fossé rhénan (Fraxino-Ulmetum, Oberd. 53). Intérêt écologique et biogéographique, comparaison à d'autres forêts thermophiles. *Vegetatio*, 20(1-4) : 97-148.
- Carbiener, R., Schnitzler, A., Walter, J.N.M. 1988. Problèmes de dynamique forestière et de définition des stations en milieu alluvial. Coll. Phytosoc., XIV, Nancy-1985, Cramer ed., Vaduz.

- Cluzeau, C., Pont, B. 1997. Suivi à long terme de la dynamique spontanée des forêts alluviales dans 6 réserves naturelles. Résultats de la première campagne de mesures. Rés. Nat. de France - Rapport au Minist. Environnement, 43 pages + annexes.
- Geissert, F. 1997. Etude de la faune malacologique dans la réserve naturelle de la Forêt d'Erstein. Rapport d'étude Conservatoire des sites Alsaciens, 11 pages.
- Klein, J.P., Carbiener, R., Steimer, F., Trendel, J.M. 1992. Les réserves naturelles des forêts alluviales rhénanes d'Erstein et d'Offendorf : un patrimoine biologique européen. Bull. Soc. Ind. Mulhouse, 824(1) : 21-58.
- Lacoumette, G. 1996. Forêts du Rhin. Guide des réserves naturelles rhénanes. Conservatoire des sites alsaciens, 138 pages.
- Pleiss, B. 2000. Mise en place d'un suivi de végétation dans la Réserve naturelle de l'île de Rhinau. ENSA Rennes, Conservatoire des sites alsaciens.
- Pont, B. 1987. Comparaison de l'avifaune nicheuse d'une ripisylve et de peupleraie de la moyenne vallée du Rhône. Bièvre, 9(1) : 9-16.
- Pont, B. 1987. La végétation alluviale de l'île de la Platière (Isère-Ardèche): état actuel et dynamique. Rapport de stage Labo. Bot. Univ. Grenoble, 67 pages.
- Pont, B. 1994. Eléments bibliographiques en vue de la mise au point d'une méthode de suivi à long terme de la dynamique forestière spontanée des ripisylves. Rapport Réserves Naturelles de France, 15 pages.
- Pont, B. 1995. Suivi à long terme de la dynamique forestière spontanée des ripisylves. Première phase : mise au point de la méthode et test sur 6 réserves naturelles. Rapport final, Réserves Naturelles de France, 12 pages + annexes.
- Schnitzler, A. 1988. Typologie phytosociologique, écologie et dynamique des forêts alluviales du complexe géomorphologique ello-rhénan (Plaine Rhénane centrale d'Alsace). Thèse d'état, université Louis Pasteur, Strasbourg, 494 pages + annexes.
- Schnitzler, A. 1995. Community ecology of arboreal lianas in gallery forests of the Rhine valley, France. Acta oecologica, 16(2) : 219-236.
- Schnitzler, A. 1995. Les forêts alluviales des lits majeurs de l'Allier et de la Loire moyenne entre Villeneuve/Allier et Charité/Loire. Etude phytosociologique, diagnostic de naturalité et propositions de renaturation. Doc Phytosocio. N.S.16.
- Van de Winckel, R. 1980. Le Wyhlerwald, l'architecture et la dynamique d'une forêt alluviale rhénane sauvage. Coll. Phytosociologique, IX : 502-542.
- Walter, J.M. 1979. Etude des structures spatiales en forêt alluviales rhénane. I. Problèmes structuraux et données expérimentales. Oecol. Plant., 14(3) : 345-353
- Walter, J.N.M. 1982. Architectural profiles of flood forests in Alsace. In : Derschke, H. (ed.) : Struktur und Dynamik von Wäldern. Ber. Internat. Symp. IVV Rinteln 1981 - J. Cramer, Vaduz, pp.187-234.
- Wuillot, J. 1986. Variabilité spatiale et état de référence de la végétation de l'île des Molottes (haut Rhône français). D.E.A. Univ. Lyon I / Univ. Grenoble, 15 pages + annexes.

I. Réserves biologiques intégrales de Fontainebleau

Strict biological reserves of Fontainebleau

- Armendariz, I., Arpin, P. 1996. Nematodes and their relationship to forest dynamics : I. Species and trophic groups. Biol Fertl Soils, 23 : 405-413.
- Arpin, P., Armendariz, I. 1996. Nematodes and their relationship to forest dynamics : II. Abundance and morphometric variability of Mononchida related to changes in humus forms. Biol Fertl Soils, 23 : 414-419.
- Arpin, P., Ponge, J.F., Faille, A., Blandin, P. 1998. Diversity and dynamics of eco-units in the biological reserves of the Fontainebleau forest (France) : contribution of soil biology to a functional approach. European journal of soil biology, 34(4) : 167-177.

- Boissière, J.C. 1990. Les lichens saxicoles et terricoles de la forêt de Fontainebleau. Bulletin de la Société Botanique de France, Lettres bot., 137(2) : 175-795.
- Faille, A., Lemée, G., Pontailler, J.Y. 1984. Dynamique des clairières d'une forêt inexploitée (réserves biologiques de la forêt de Fontainebleau). I. Origine et état actuel des ouvertures. Acta Oecologica, Oecol. Gener., 5(1) : 35-51.
- Faille, A., Lemée, G., Pontailler, J.Y. 1984. Dynamique des clairières d'une forêt inexploitée (réserves biologiques de la forêt de Fontainebleau). II. Fermeture des clairières actuelles. Acta Oecologica, Oecol. Gener. 5(2) : 181-199.
- Koop, H., Hilgen, P. 1987. Forest dynamics and regeneration mosaic shift in unexploited beech (*Fagus sylvatica*) stands at Fontainebleau (France). Forest ecology and management, 20 : 135-150.
- Lemée, G. 1966. Sur l'intérêt écologique des réserves biologiques de la forêt de Fontainebleau. Bulletin de la Société botanique de France, 113 : 305-323.
- Lemée, G. 1985. Rôle des arbres intolérants à l'ombrage dans la dynamique d'une hêtraie naturelle (forêt de Fontainebleau). Acta Oecologica, Oecol. Gener., 6(1) : 3-20.
- Lemée, G. 1987. Dynamique de fermeture par régénération et évolution morphométrique du hêtre dans les vides d'une forêt non exploitée (Réserves biologiques de la forêt de Fontainebleau). Bulletin d'écologie, 18(1) : 1-11.
- Lemée, G. 1987. Les populations de chênes (*Quercus petraea* Liebl.) des réserves biologiques de la Tillaie et du Gros Fouteau en forêt de Fontainebleau : structure, démographie, évolution. Rev. Ecol. (Terre et Vie), 42 : 329-355.
- Lemée, G. 1989. Structure et dynamique de la hêtraie des réserves biologiques de la forêt de Fontainebleau : un cas de complexe climacique de forêt feuillue monospécifique tempérée. Acta oecologica/ Oecologica generalis, 10 : 155-174.
- Lemée, G. 1990. Evolution du paysage dans la forêt de Fontainebleau au cours des cinq derniers millénaires. Bull. Ecol., 21(4) : 119-127.
- Lemée, G. 1990. Les réserves biologiques de la Tillaie et du Gros-Fouteau en forêt de Fontainebleau, écosystèmes climaciques. Bull. Soc. Bot. Fr., 137 Lettres bot. (1) : 47-62.
- Lemée, G. 1992. Le paysage végétal de la réserve biologique des hauteurs de la Solle en forêt de Fontainebleau : un exemple de synassociation soustraite aux interventions de l'homme. Rev. Ecol. (Terre Vie), 47 : 351-366.
- Lemée, G., Faille, A., Pontailler, J.Y. 1991. Dynamique linéaire et cyclique d'une forêt inexploitée : cas des réserves biologiques de la forêt de Fontainebleau. Colloque phytosociologiques "Phytodynamique et biogéographie : histoire des forêts", Bailleul, pp.273-282.
- Luce, J.M. 1996. Ecologie des Cétoines (Insecta : coleoptera) microcavernicoles de la forêt de Fontainebleau. Thèse Museum National d'histoire naturelle, 166 pages.
- Ponge, J.F., Delhay, L. 1995. The heterogeneity of humus profiles and earthworm communities in a virgin beech forest. Biol Fertl Soils, 20 : 24-32.
- Ponge, J.F., Ferdy, J-B. 1997. Growth of *Fagus sylvatica* saplings in an old-growth forest as affected by soil and light conditions. Journal of vegetation science, 8 : 789-796.
- Ponge, J.F., Patzel, N., Delhay, L., Devigne, E., Levieux, C., Beros, P., Wittebroodt, R. 1999. Interactions between earthworms, litter and trees in an old-growth beech forest. Biol Fertl Soils, 29 : 360-370.
- Pontailler, J.Y., Faille, A., Lemée, G., 1997. Storms drive successional dynamics in natural forests: a case study in Fontainebleau forest (France). Forest Ecology and Management, 98(1) : 1-15.
- Rose, F. 1990. The epiphytic (corticolous and lignicolous) lichen flora of the forêt de Fontainebleau. Bulletin de la Société botanique de France, Lettres bot., 137(2-3) : 197-209.

J. Les forêts vierges tropicales de Guyane (partiel)

Tropical rainforest of French Guyana (a selection)

Note : compte tenu de l'importance des écosystèmes forestiers de Guyane française comme laboratoire de recherche sur les forêts naturelles tropicales au niveau international, un grand nombre d'articles font référence sur des thématiques comme l'impact de la fragmentation et la conservation de la biodiversité. Ces références ont été présentées dans les parties précédentes et ne sont pas reprises ici. Le lecteur intéressé pourra s'y reporter, notamment pour retrouver les articles de messieurs Charles-Dominique, Cosson, Granjon, Masson, Riera, Ringuet, Thiollay,...

Bariteau, M. 1992. Régénération naturelle de la forêt tropicale humide de Guyane : étude de la répartition spatiale de *Qualea rosea* Aublet, *Epurea falcata* Aublet et *Symphonia globulifera* Linnaeus f. Annales des sciences forestières, 49(4) :359-382.

Betsch, J.M. 1998. Conservation de la diversité structurale et fonctionnelle et de la fertilité des sols en Guyane. In Fleury, M. (ed.), Poncy, O. (ed.) 1998. Conserver, gérer la biodiversité, quelle stratégie pour la Guyane ? JATBA, revue d'ethnologie, 40(1-2) : 121-136.

Favrichon, V. 1994. Classification des espèces arborées en groupes fonctionnels en vue de la réalisation d'un modèle de dynamique de peuplement en forêt guyanaise. Revue d'écologie, 4 : 379-403.

Favrichon, V. 1998. Apport d'un modèle démographique plurispécifique pour l'étude des relations diversité/dynamique en forêt tropicale guyanaise. Annales des sciences forestières, 55(6) :655-669.

Forget, J.M. 1989. La régénération naturelle d'une espèce autochore de la forêt guyanaise : *Epeura falcata* Aublet (Caesalpinaceae). Biotropica, 21(2) : 115-125.

Fromard, F., Puig, H., Mougin, E., Marty, G., Betoulle, J.L., Cadamuro, L. 1998. Structure, above-ground biomass and dynamics of mangrove ecosystems : new data from French Guiana. Oecologia, 115(1-2) : 39-53.

Gasc, J.P., Sarthou, C., Garrouste, R., Villiers, J.F., Cremers, G., Thiollay, J.M. 1998. Inselbergs et savanes-roches en Guyane : biodiversité et conservation des milieux associés aux affleurements granitiques. J.A.T.B.A., 40(2) : 311-327.

Grandville, J.J. de 1986. Les formations végétales de la bande cotière de Guyane française. In Le littoral guyanais, Sepanguy, Sepanrit, 47-63.

Grandville, J.J. de 1988. Phytogeographical characteristics of the Guianan forests. Taxon, 37(3) : 578-594.

Grandville, J.J. de 1991. Remarks on the montane flora and vegetation types in the Guianas. Willdenowia, 21(1) : 201-213.

Grandville, J.J. de 1992. Un cas de distribution particulier : les espèces forestières péri-amazoniennes. C.R. Société de biogéographie, 68(1) :1-33.

Grandville, J.J. de, Sastre, C. 1973. Aperçu sur la végétation des inselberg du sud-ouest de la Guyane française. C.R. Société de biogéographie, 439 : 54-58.

Granville, J.J. de 1994. Les formations végétales primaires de la zone intérieure de Guyane. Congrès Sepanguy, Cayenne 1990, pp. 21-40.

Hoff, M. 1991. Liste des milieux, habitats et formations végétales de Guyane. Museum national d'histoire naturelle, 24 pages.

Hoff, M. 1994. Biodiversité floristique d'un bassin fluvial tropical : le Sinnamary. Ecologie, 25(3) : 189-200.

Lourenco, W.R. 1991. La " province " biogéographique guyanaise. Etude de la biodiversité et des centres d'endémisme en vue de la conservation des patrimoines génétiques. Compte rendu des séances de la société de biogéographie, 67(2) : 113-131.

Pelissier, R., Riéra, B. 1993. Dix ans de dynamique d'une forêt dense humide de Guyane française. Revue d'écologie, 48(1) : 21-33.

- Sabatier, D., Prévost, M.F. 1990. Quelques données sur la composition floristique et la diversité des peuplements forestiers de Guyane française. *Bois et forêts des tropiques*, 219 : 31-55.
- Sanite, L. 1995. Conservation et gestion du patrimoine naturel guyanais. *Nature guyanaise*, 51 pages.
- Sarrailh, J.M. 1990. L'opération Ecerex : études sur la mise en valeur de l'écosystème forestier guyanais. Après déboisement : le point sur les recherches en cours. *Bois et forêts des tropiques*, 219 : 79-97.
- Sastre, C., Grandville, J.J. de 1974. Observations phytogéographiques sur les inselbergs du bassin supérieur du Maroni. *C.R. Société de biogéographie*, 444 : 7-15.
- Sterck, F., Van der Meer, P., Bongers, F. 1992. Herbivory in two rain forest canopies in French Guyana. *Biotropica*, 24(1) : 97-99.
- Théry, M., Larpin, D. 1993. Seed dispersal and vegetation dynamics at a cock-of-the-rock's lek in the tropical forest of french Guiana. *Journal of tropical ecology*, 9(1) : 109-116.
- Thiollay, J.M. 1988. Diversité spécifique et coexistence en forêt tropicale : l'occupation des milieux par une guildes d'oiseaux insectivores en Guyane. *Revue d'écologie*, 1 : 59-92.
- Thiollay, J.M. 1992. Influence of selective logging on bird species diversity in Guiana rain forest. *Conservation biology*, 6(1) : 47-63.
- Thiollay, J.M. 1997. Disturbance, selective logging and bird diversity : a neotropical forest study. *Biodiversity and conservation*, 6 : 1155-1173.
- Thiollay, J.M. 1999. Long-term dynamics of a tropical savana bird community. *Biodiversity and Conservation*, 7 : 1291-1312

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