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ABSTRACT

Entries within this selected bibliography of social sciences in forestry are arranged alphabetically within subcategories of a subject-matter classification scheme. The five major categories of the system relate to social science applications of forestry at large; forestry's productive agents; forest production; manufacturing; and marketing, trade, and demand for forest output. Each entry includes the cumulative index number, subcategory code, author, title, bibliographic information and brief annotation. A subject index and cumulative author index for 1981 are also included. (DC)

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SOCIAL SCIENCES in FORESTRY

A CURRENT SELECTED BIBLIOGRAPHY

NO. 56 OCTOBER 1981

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Cumulative Author Index for 1981

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SOCIAL SCIENCES IN FORESTRY

A Current Selected Bibliography

No. 56 October 1981

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SOCIAL SCIENCES IN FORESTRY

Subject-Matter Classification Scheme

Note: This outline is regarded as working for the most part from the general to the specific. Material covering two or more sections of this outline is classified in the most general of these sections. Material which is classifiable in any of two or more sections is classified in the most specific of these sections. *Asterisks mark those subjects which are not represented in this issue.

I. SOCIAL SCIENCE APPLIED TO FORESTRY AT LARGE

A. General principles, scope, content, method

B. History, status, prospects of forestry in an area, society in an area (This section includes material on forest resources alone, as opposed to that on consumer or intermediate resources alone, for which see appropriate sections.)

1. General
2. United States, Canada
3. Other north-temperate nations
4. South-temperate nations
5. Nations in lower latitudes

C. Law, politics, policy, plan, program, and their administration

D. Other influences

1. Taxation

a. General
b. Property, general and special; severance; lieu payment
c. Income, inheritance, other

2. Valuation (See also IIIA5i)
*3. Insurance
4. Social interest, value system, custom, folklore, culture
5. Characteristics of the individual
*6. Public relations, other

E. Research (For research on specifc topics, see those topics.)

*F. Professional and subprofessional affairs, education, employment of foresters

G. Social and economic development (See also IB)

H. Environmental concern

II. APPLIED TO FORESTRY'S PRODUCTIVE AGENTS
(See also the individual operation or type of output in III, IV, V)

A. Labor (Some material on labor will be found in IF, IV)

*1. General, employment, demand
*2. Supply, union
3. Wage, cost hours, productivity, technology, training, return, benefit
*4. Working condition, turnover, absenteeism, safety, insurance
5. Characteristics of the worker

B. Owner, ownership, manager, entrepreneuer, holding (See also IC, IIC3)

*1. General
2. Public

a. General
b. Federal, central
c. Regional, local

3. Private

a. General
*b. Industrial
c. Nonindustrial

C. Land

*1. Context of supply, requirement, etc.
*2. Description, use trend and status, interpreted description
3. Management, use prospect and plan, planning, marketing, tenure
*4. Research method

D. Capital

1. General, investment, interest, finance
(For investment in forest production, see IIIE; for that in manufacturing, see IVA4)
*2. Credit

III. APPLIED TO FOREST PRODUCTION (See also IIB, C)

A. Production including nontimber commodities and services

1. General, supply, multipurpose management
2. Christmas trees, greens
3. Range and livestock
*4. Naval stores, maple product
5. Recreation

a. General
b. Research
*c. Decision
d. Demand, consumer, market
e. Parks and wilderness areas
*f. Interpretation
g. Aesthetic values
h. Consumer activities such as driving, walking, camping, etc.
i. Valuation

*6. Water, soil, watershed management, shelterbelts
7. Wildlife, hunting, fishing
8. Urban forestry

B. Production chiefly of timber

1. General, supply
*2. Soil, site, site improvement
3. Tree regeneration and improvement; plantation
4. Intermediate cutting, pruning, stand improvement
5. Harvest cutting, rotation, cutting cycle, stocking, regulation, allowable cut
(For harvesting treated as engineering, see IVB)

C. Roads, other forest-management transportation
(For transportation in harvesting, see IVB4; in manufacturing and marketing, VD)

D. Damage and protection

1. From fire
*2. Prescribed burning

3. From insects
*4. From other agencies
(For water damage and soil erosion, see IIIA6)

E. Decision making, planning, investment, accounting, inventorying
(For investment in general, see IID1)

IV. APPLIED TO MANUFACTURING
(For material on forestry in general, including forest land resources, see IID1)

A. The industry in general

1. Status and trend

a. General
b. United States, Canada
c. Other north-temperate nations
*d. South-temperate nations
e. Nations in lower latitudes

*2. Directory
(Includes those covering specific branches of industry.)
3. History
4. Decision making, planning, investment, accounting, inventorying
(For a specific branch of industry, see that branch, "Operation of firm"; for investment in general, see IID1)

B. Timber-harvesting industry
(Includes roundwood in general; for specific types, see IVC, "raw material." For harvesting as silviculture, see IIIB4, 5)

*1. Status and trend
*2. Operation of firm
3. Utilization of the stand or tree
(For utilization of a specific product, see the branch of industry in question.)

a. General
*b. Logging residue and its disposal

*4. Transportation (Skidding, yarding, loading, hauling to mill. For transportation in forest management, see IIIC; in manufacturing and marketing, see VD)

C. Wood-using industry

1. Lumber, allied products, pallet

a. Industry status and trend
*b. Production, consumption, stocks, other statistics
(For sawtimber, see IB, IVB; for sawlogs, see IVC1d)
*c. Operation of firm
d. Raw material

2. Pulp, paper, board

a. Industry status and trend
b. Operation of firm
c. Raw material
*d. By-products

3. Veneer, plywood, panel

a. Industry status and trend
*b. Operation of firm
*c. Raw material

*4. Bark, chips other residue
(See also IVB3 and the industry branch in question, "Operation of firm.")
*5. Furniture
*6. Particleboard, hardboard, fibreboard, flakeboard
7. Construction
8. Charcoal, fuelwood, other combustibles; energy
9. Other wood-using industry (including pole, piling, post, mine timber, railway tie)

D. Other forest industry

1. Decorative product
2. Naval stores
3. Maple product
4. Other

V. APPLIED TO MARKETING, TRADE, DEMAND FOR FOREST OUTPUT
(For marketing and demand for productive agents, see II)

A. Demand (See also IF)

1. General; history of consumption; consumption-production relationships
*2. Consumption or production prospect, goal, requirement, prediction (For material on short-term requirement, see the industry in question in IV, "Industry status and trend.")
*3. Consumer and his preference
(For material on specific forest resources, see also IIIA,B)

B. Market, marketing, trade, export, import

1. General
*2. Futures, hedging
3. Stumpage, roundwood
4. Lumber, plywood, composition board
5. Pulp, paper, paperboard

a. Product
b. Raw material

6. Other wood products
*7. Christmas trees, greens
*8. Other type of output (See also IIC3)

C. Price, value

1. General
2. Stumpage, roundwood
*3. Other type of output
*4. Price reporting

*D. Transportation (Includes transportation in manufacturing.) (For transportation in forest management, see IIIC; in harvesting see IVB4)

1469. 56 IA COMOLLI PAUL M. "Principles and Policy in Forestry Economics." The Bell Journal of Economics, Vol. 12, No. 1 (1981), pages 300-309. Market-oriented, neoclassical interpretation of the classical optimum-rotation problem in forestry economics.

1470. 56 IA DUERR WILLIAM A. "Productivity as a Forestry Theme." Journal of Forestry, Vol. 79, No. 8 (1981), pages 520-522. A theme of the forestry profession is productivity. Forestry has always addressed the productivity problem on the strength of conviction: that wood is good, that all the forest's resources are good. This conviction is justification enough for the productivity theme.

1471. 56 IB1 CAMPBELL JOHN "The World's Third Forest." The Commonwealth Forestry Review, Vol. 59, No. 4 (1980), pages 527-536. World population is expected to double by the year 2025, placing unprecedented demands on the world's resources, creating tensions between nations which risk the future of mankind. The third forest of man-made fuel-wood and industrial plantations is estimated to require a sustained annual investment of $5bn to the end of the century. The world's third forest could be the vehicle to take us forward.

1472. 56 IB1 GAMMIE J.I. World Timber to the Year 2000. F.I.U. Special Report No. 98. The Economist Intelligence Unit London. (1981), 88 pages. World resource, production and international trade, future demand forecasts, and price trends of world trade supplies.

1473. 56 IB2 BOISINGER CHARLES L. California Forests: Trends, Problems, and Opportunities. USDA Forest Service Resource Bulletin PNW-89. (1980), 138 pages. Most recent information on forest area in California, volume of timber, ownership of forest resources, and rate of use and replenishment. Analysis of physical opportunities to increase timber production and discussion of problems relating to timber production as well as: detailed statistical tables; historical sketch of California forestry; profile of the state's forest industry; discussion of past, present, and future timber harvest; and a brief summary of nontimber forest resources.

1474. 56 IB2 CONSIDINE THOMAS J. JR., POWELL DOUGLAS S. Forest Statistics for Pennsylvania - 1978. USDA Forest Service Resource Bulletin NE-65. (1980), 88 pages. Statistical report on the third forest survey of Pennsylvania conducted in 1977 and 1978. Current status of forest-land area, timber volume, and annual growth and removals as well as timber products output by timber industries.

1475. 56 IB2 ELLIS THOMAS H., MACE ARNETT C. JR. "Forest Research in Florida." Journal of Forestry, Vol. 79, No. 8 (1981), pages 502-505, 515. Florida is experiencing serious land-use conflicts due to dramatic increases in population and economic activity. Forest managers have increased timber growth despite these conflicts. Many groups are cooperating in diverse research efforts

to provide the basis for continued productivity of the state's fifteen million acres of commercial forestland.

1476. 56 IB2 FELT DOROTHY G. Forest Area and Timber Resource Statistics for the Beartooth Working Circle, Montana, 1977. USDA Forest Service Resource Bulletin INT-24 (1980), 22 pages. Land area, commercial timberland area, timber inventory, and growth and mortality data based on Resources Evaluation standards.

1477. 56 IB2 JAKES PAMELA J. Minnesota Forest Statistics, 1977 USDA Forest Service Resource Bulletin NC-53 (1980), 85 pages. Forest area, timber volume, net annual growth, timber removals, mortality, and timber products output based on Fourth Minnesota Forest Inventory.

1478. 56 IB2 JAKES PAMELA J. The Fourth Minnesota Forest Inventory: ARFA. USDA Forest Service Pesource Bulletin NC-54 (1980), 37 pages. In 1977 the fourth Minnesota Forest Inventory found 13.7 million acres of commercial forestland, down 11 percent from 1962. Analysis of the inventory and tables of forest area.

1479. 56 IB2 KNIGHT HERBERT A. "A Closer Look at South Carolina's Hardwoods." In, Proceedings of the Eighth Annual Hardwood Symp., Asheville, NC (1980), pages 164-181.

1480. 56 IB2 MCCLURE JOE P. "Multiresource Inventories -- Meeting Future Information Needs." In, Proceedings: Timber Supply: Issues and Options. For. Prod. Res. Soc., Madison, WI (1979), pages 67-69. South Carolina was selected as a pilot state to test new multiresource inventory concepts and procedures. Evaluation subjects and information needs developed for the pilot study have been improved and are now being used in Florida. Future information needs will be met by expanding this and other inventory research as rapidly as possible.

1481. 56 IB2 OSWALD DANIEL D. Forests and Timber Resources of California's Central Coast. USDA Forest Service Resource Bulletin PNW-83 (1979), 56 pages. Summary of the findings of a 1972 inventory, includes tables of area, timber volume, timber growth and harvest, and mortality, discussion of current timber resources and potential limitations on their availability.

1482. 56 IB2 PAILLE G. "A Canadian Perspective on Intensive Forest Management in Sweden." Pulp and Paper Canada, Vol. 82, No. 6 (1981), pages 56, 59, 61, 63. Both Sweden and Canada must minimize timber losses, harvest the maximum amount of fiber permissable and grow more wood now to satisfy their timber demand.

1483. 56 IB2 SHEFFIELD RAYMOND M. Forest Statistics for Central Florida 1980. USDA Forest Service Resource Bulletin SE-55 (1981), 33 pages. Since 1970 commercial forest land declined by 202,000 acres (8 percent) and now occupies 2.5 million acres (25 percent) of the land area. Nonindustrial private landowners control 84 percent of these forests. Inventory of softwood and hardwood growing stock increased by 19 and 24 percent with softwood species making up 58 percent of the inventory. Net annual growth of growing stock totaled 96 million cubic feet, 111 percent more than annual timber removals.

1484. 56 IB2 SPENCER JOHN S. JR.; JAKFS PAMELA J. Iowa Forest Resources, 1974. USDA Forest Service Resource Bulletin NC-52 (1980), 90 pages. Second inventory of Iowa's forest resources shows declines in commercial forest area and in growing-stock and sawtimber volumes between 1954 and 1974. Text and statistics on forest area and timber volume, growth, mortality; ownership, stocking, future timber supply, timber use, forest management opportunites, and nontimber resources.

1485. 56 IB3 ALEKSEEV V.A., DOLGOR N. "The Current State of Forestry in Mongolia." Lesnoe Khozyaĭstvo, No. 5 (1980) In Russian. Pages 69-70. Cited in Forestry Abstracts, Vol. 42, No. 6.

1486. 56 IB3 ANDERSSON FOLKE "The Swedish Coniferous Forest Project." Ambio, Vol. 10, No. 2/3 (1981), pages 126-129 Swedish contribution to the MAB program, "Ecological effects of different land uses and management practices on temperate and Mediterranean forest landscapes." Project was set up in 1972 to investigate, on a basic research level, the structure and function of an environment of great economic and cultural importance to Sweden.

1487. 56 IB3 BAGNARESI U. "Forestry Planning in Italy." Italia Agricola, Vol. 117, No. 1 (1980) In Italian. Pages 21-34. Cited in Forestry Abstracts, Vol. 42, No. 6.

1488. 56 IB3 BALABANIAN O. "Forests, A Source of Conflicts in the Limousin Hills." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 255-262.

1489. 56 IB3 BEDLINSKIĬ S.V. "Forests in the Defense of Moscow." Lesnaya Promyshlennost', No. 5 (cited in Forestry Abstracts Vol. 42, No. 3). (1980). In Russian. Inside front cover, 4-5. Historical account of forest defenses used in 1941 against the Germans. Main defenses were obstructions formed by deliberate felling and rows of posts used to prevent tank advance. Fuelwood supply to Moscow, organizational and personal details of the defense role of the forest service.

1490. 56 IB3 BROSSELIN A. "The Forest Resources of the Communes in the Gold Coast in the Nineteenth Century." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 172-179.

1491. 56 IB3 FODGAARD S., HELLES F., JØRGENSEN A.A. WALTER Land Use Competition between Agriculture and Forestry in Denmark. Report No. 9 (Series 2) Dept. of Forestry, Royal Veterinary and Agricultural University, Thorvaldsensvej 57 DK 1871, Kobenhavn V, Denmark (1981) In Danish. 85 pages. Research on the comparative competition for land between agriculture and forestry under present Danish conditions, mainly from a business economic point of view, but supplemented by considerations of the regional economic implications. Aim is to improve the basis for decisions about land use on a regional level, the fundamental assumption being that marginal farmland might, within a few years, be converted into forestry if economically reasonable.

1492. 56 IB3 FRUHAUF C. "From Peasant Forestry to Capitalist Forestry in the Pays de Sault under the Old Regime." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 160-165.

1493. 56 IB3 GARRIER G. "Reforestation in the Rhone and the Part Played by the Council General in the Second Half of the Nineteenth Century." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 166-171.

1494. 56 IB3 GENSSLER H. "Natural Forest 'Cells' in North Rhine-Westphalia." Nederlands Bosbouw Tijdschrift, Vol. 52, No. 4. (1980) In German with Dutch summary. pages 104-112. Cited in Forestry Abstracts Vol. 42, No. 5. Recent history, selection, management and functions of forest reserves established first in this state in 1970 and later in other parts of West Germany.

1495. 56 IB3 GRAINGER ALAN "Reforesting Britain." The Ecologist, Vol. 11, No. 2 (1981), pages 56-81. Covers: historical overview; effects of deforestation; world timber supply; Britain's present wood needs; integrating farming and forestry; new types of silviculture; land availability; funding the forests.

1496. 56 IB3 JOLAS T. "Communal Forests at Minot, Gold Coast." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 218-229.

1497. 56 IB3 KROTH W., BARTELHEIMER P. Improvements of the Methodical Basis for the Test-Enterprise Network in Forestry, An Expert's Report for the Federal Department of Nutrition, Agriculture, and Forestry. Federal Department of Nutrition, Agriculture, and Forestry, Bonn. (1981) In German. 81 pages. Status and trends of German forestry are investigated through a sample of enterprises. One recommendation for improvement: include smaller holdings for a more representative sample.

1498. 56 IB3 MIEGROET M. VAN, VERHEGGEN J.F. The Forest of the Twenty-first Century. Part II: Functions and Means. Groene Band N 36 (1979) In French. 26 pages.
Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). Analysis of a report to the president by Bertrand de Jouvenal on the importance of the forest and its confrontation with the actual situation in Belgium. Relative importance of the economic, ecological and social functions of the forest are studied and their interaction assessed, resulting in the fixation of levels of investment and actual costs. Sound recreation policy is required to optimize forest use.

1499. 56 IB3 MORY P., SEVRIN R. "Villages and Forests. A Relic Forest in a Region with Few Woodlands." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 238-254.

1500. 56 IB3 OHGANE E. "Problem and Method of Forestry Management." Journal of the Japanese Forestry Society, Vol. 61, No. 2 (cited in Forestry Abstracts Vol. 42, No. 4). (1979). In English with Japanese summary, pages 41-46. Forest management has become too theoretical in Japan, and is often regarded as a form of business economics, with insufficient attention to practical technology and long-term maintenance of productivity.

1501. 56 IB3 PACHER J. "Economic and Forest Policy Concepts in German Forestry Literature of the Second Half of the Eighteenth Century." Allgemeine Forst- und Jagdzeitung, Vol. 151, No. 9 (cited in Forestry Abstracts Vol. 42, No. 4). (1980). In German with summaries in English and French, pages 157-160.

1502. 56 IB3 PARDÉ J., TOMIMURA S. "Forests and Forest Research in Japan." Revue Forestière Française, Vol. 32, No. 5 (1980) In French, pages 490-500.

1503. 56 IB3 PLOCHMANN RICHARD "Forestry in the Federal Republic of Germany." Journal of Forestry, Vol. 79, No. 7 (1981), pages 451-454. The Federal Republic of Germany is intensively and realistically practicing multiple use management. Diversity in stands, age classes, and treatment is the key to achieving their objectives while also providing timber for industry.

1504. 56 IB3 RINAUDO Y. "Forests and Agricultural Land. The Example of the Var in the Nineteenth Century." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981), In French. pages 136-148.

1505. 56 IB3 SHOARD M. The Theft of the Countryside. London: Temple Smith (1980), 272 pages. Cited in Forestry Abstracts Vol. 42, No. 5. Critique of the ways intensive agriculture and forestry are destroying the traditional patterns of the English countryside and its wildlife. Suggests the extension of the planning system to cover farming and forestry activities with the creation of regional countryside planning authorities, and the establishment of six new national parks in areas of lowland England where pressure is most intense.

1506. 56 IB3 TAGA LEONORE SHEVER Externalities in the Soviet Economy: Forestry Problems and Policies. Ph.D. Dissertation, Univ. of Calif., Berkeley. (1979), 395 pages.

1507. 56 IB3 VIGIER PH. "The Forestry Troubles of the Farly Nineteenth Century in France." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 128-135.

1508. 56 IB3 VUOKILA YRJÖ "Forestry in Finland Now and in the Future." Quarterly Journal of Forestry, Vol. 75, No. 2 (1981), pages 97-101. Finland will be able to provide the international markets with high-quality timber in adequate quantities continuously in the future.

1509. 56 IB3 WIECKO E. "Trends in Forestry in Poland." Mitteilungen der Bundesforschungsanstalt für Forst- und Holzwirtschaft. No. 119 (1978) In German with an English summary. Pages 65-81. Cited in Forestry Abstracts, Vol. 42, No. 6. Historical developments, statistics and present policies with regard to forest estate, forest management, silviculture, labor, mechanization, amenity, administration and research. Data on hunting and minor forest products in 1975, areas of national parks and reserves, and timber production in 1960, 1975 and 76.

1510. 56 IB3 ZEHETMAYR J.W.L. "Forestry in South Wales 1960-80." Forestry, Vol. 54, No. 1 (1981), pages 89-106.

1511. 56 IB3 "Forestry in Southern Tyrolia." Allgemeine Forstzeitung, Vienna, No. 5 (1981) In German. Pages 137-162. Development, state, and prospects of the mostly mountainous forests on the southern side of the alps are described in a series of articles.

1512. 56 IB4 BARTON I.L., HORGAN G.P. "Kauri Forestry in New Zealand, a Protagonist's View." New Zealand Journal of Forestry, Vol. 25, No. 2 (1980), pages 199-216. Over the next decade the virtual cessation of timber extraction from virgin kauri forests is inevitable. If New Zealanders wish to use kauri timber in the future it will have to be taken from intensively managed regenerating stands designated for timber production, and from artificially established stands.

1513. 56 IB4 FAEHSER L. "An Information System for Forestry in Brazil." Allgemeine Forst- und Jagdzeitung, Frankfurt a.M., No. 7 (1981) In German with English and French summaries, pages 136-139. The numerous forest enterprises in Brazil suffer from a lack of organized access to information. The forestry faculty in Curitiba has learned, through questionnaires, what kinds of information are needed.

1514. 56 IB4 WRIGHT J.P. "The Trouble with Pines! Public Criticism of Softwood Plantation Development." Australian Forestry, Vol. 43, No. 3 (1980), pages 189-194. Marked escalation in softwood planting in Australia in recent years has coincided with an increase in public awareness and criticism of forestry, particularly with regard to possible adverse environmental effects of plantation development activities. Actions taken to date in response to criticism are outlined and some proposals made concerning future management of softwood plantation development.

1515. 56 IB5 DOSSO HENRI, GUILLAUMET JEAN LOUIS, HADLEY MALCOLM "The Tai Project: Land Use Problems in a Tropical Rain Forest." Ambio, Vol. 10, No. 2/3 (1981), pages 120-125. The Tai Forest in the southwestern Ivory Coast is the scene of rapid population growth and substantial development, which are quickly changing the last large tract of evergreen rain forest in West Africa; but it is an area where research can still demonstrate that the needs of development are compatible with the needs of conservation.

1516. 56 IB5 GRAINGER ALAN "The State of the World's Tropical Forests." The Ecologist, Vol. 10, No. 1/2 (1980), pages 6-54. Covers: regional survey; threats to the forest, shifting cultivation, conflagration, mining; wild life trade; wood export; questionable logging systems; cultural consequences of deforestation; forest dwellers; world wide ecological implications of tropical deforestation.

1517. 56 IB5 GULÇUR M. "Wood Drain from the Forest of Somalia." Somali Range Bulletin, No. 10. (1980), pages 5-8. Cited in Forestry Abstracts, Vol. 42, No. 6. Current resources are likely to be exhausted in ten years or less. Plantations are recommended.

1518. 56 IB5 HERRERA RAFAEL, JORDAN CARI F., MEDINA ERNESTO, KLINGE HANS "How Human Activities Disturb the Nutrient Cycles of a Tropical Rainforest in Amazonia." Ambio, Vol. 10, No. 2/3 (1981), pages 109-114. Tropical rainforests of the Amazon Basin have evolved highly effective mechanisms for recycling nutrients - mechanisms which the authors believe are largely independent of the nutrient supply from the soil, enabling the forests to prosper even on poor soils. But those mechanisms stop functioning when the forests are disturbed, and the nutrients irretrievably lost.

1519. 56 IB5 KARTAWINATA KUSWATA, ADISOEMARTO SOENARTONO, RISWAN SOEDARSONO, VAYDA ANDREW "The Impact of Man on a Tropical Forest in Indonesia." Ambio, Vol. 10, No. 2/3 (1981), pages 115-119. Extensive logging operations in Indonesia's East Kalimantan province have caused considerable damage to the remaining forest, resulting in "genetic erosion" and the extinction of some species. Local population has derived little direct benefit from commercial logging operations.

1520. 56 IB5 PANT M.M. "The Impact of Social Forestry on the National Economy of India." The International Tree Crops Journal, Vol. 1, No. 1 (1980), pages 69-92. Analysis of economic benefits of examples of the three main components of social forestry: farm forestry on private land, rural forestry on commercial land, and urban forestry. Pioneering social forestry programs of Gujarat state and difficulties of protecting trees on communal land.

1521. 56 IB5 PAPÁNEK FRANTIŠEK "Forests and Their Improvement in Algeria." Lesnicky Casopis, Vol. 27, No. 2 (1981), In Czech with an English summary, pages 167-171.

1522. 56 IB5 PRAKOSO S.H. "Challenge Faces Indonesia in the Future Development of Its Forest Resources." Agricultural Information Development Bulletin, Vol. 2, No. 2 (1980), pages 10-13. Also published in Indonesian Agricultural Research and Development Journal, Vol. 1, No. 3/4 (1979). Cited in Forestry Abstracts Vol. 42, No. 5.

1523. 56 IB5 ROMM JEFF "The Uncultivated Half of India, Part I." The Indian Forester, Vol. 107, No. 1 (1981), pages 1-23. Conditions for investment; land classification; management units, to organize people for investment in uncultivated lands.

1524. 56 IB5 ROUTLEY RICHARD, ROUTLEY VAL "Destructive Forestry in Melanesia and Australia." The Ecologist, Vol. 10, No. 1/2 (1980), pages 56-67.

1525. 56 IB5 SOUTH P.M., MOORE D. Forestry Development Project Sarawak, Malaysia. The Coordination and Development of Forestry and Forest Industries in Sarawak. Rome: FAO, Forestry Dept. Field Document 1. (1980), 33 pages.

1526. 56 IB5 SWAMINATHAN M.S. "Indian Forestry at the Crossroads." The International Tree Crops Journal, Vol. 1, No. 1 (1980). In English with French and Spanish abstracts, pages 61-67. There is a need to review national forestry policy, and unless forestry can become a people's movement, rather than remain the responsibility of forestry departments, ecological security and timber need requirements cannot be guaranteed. New forestry policy should contain: changes in public policy, technological support, and full services.

1527. 56 IC ASSIER-ANDRIEU L. "Customary Rights in the Forestry Question. The Struggles of a Community in the French Catalan Pyrenees, 1820-1828." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 149-159.

1528. 56 IC BINKLEY CLARK S. "Regional Planning." Nonindustrial Private Forests: Data and Information Needs, Conference Proceedings. Center for Resource and Environmental Studies, Duke University, Durham, NC 27706, USA. (1981), pages 33-39. Information needs for regional forestry planning, with special attention to private nonindustrial forests.

1529. 56 IC CARRON L.T. "Self-Sufficiency in Forest Policy in Australia." Australian Forestry, Vol. 43, No. 3 (1980), pages 203-209. Arguments for a policy of self-sufficiency (complete replacement of imports by a home grown equivalent, particularly from coniferous plantations) and the present status of self-sufficiency, on a state and a national basis, are reviewed. It is suggested that, by contrast with a policy of self-sufficiency, the Australian Forestry Council's view that "forest policy throughout Australia should be directed towards ensuring that Australia's long term capability to supply such of its own requirements of forest products as might be consistent with economic and environmental considerations" seems at present more socially, economically and politically realistic.

1530. 56 IC CLERC F. "Forest Policy: Persona, Institutions and Development." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 354-363.

1531. 56 IC CORTNER HANNA J., SCHWEITZER DENNIS L. "Institutional Limits to National Public Planning for Forest Resources: the Resources Planning Act." National Resources Journal, Vol. 21, No. 2 (1981), pages 203-222.

1532. 56 IC GOETZ V., KROESCHELL K., WINKLFR W. Concise Dictionary of Agricultural Rights, Vol. I. Frich Schmidt Verlag, Berlin (1981) In German. Contains articles on forest planning, cooperatives, neighborhood legislation, forest rights, statistics and administration.

1533. 56 IC GREGERSON H., CONTRERAS A. Fconomic Analysis of Forestry Projects. FAO Forestry Paper No. 17. Rome: FAO (1979). In French, 193 pages.

1534. 56 IC GREGERSON H., CONTRERAS A. Economic Analysis of Forestry Projects: Case Studies. Forestry Paper No. 17 Supp. 1, Rome: FAO. (1979). Six case studies, each numbered separately.

1535. 56 IC GREGERSON H., CONTRERAS A. Economic Analysis of Forestry Projects: Readings. FAO Forestry Paper No. 17, Supp. 2 Rome: FAO (1980), 216 pages.

1536. 56 IC MOULIN A. "Some Facts Relating to French Forest Policy." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 364-367.

1537. 56 IC OGDEN GERALD RUPFRT "Forestry for a Nation: The Making of a National Forest Policy under the Weeks and Clarke-McNary Acts, 1900-1924." Ph.D. dissertation, The University of New Mexico. (1980) Available through University Microfilms International.

1538. 56 IC PLESCHBERGER WERNER "Forestry Theory." Centralblatt für das Gesamte Forstwesen, Vol. 98, No. 1 (1981). In German with an English abstract, pages 29-55.

1539. 56 IC ROMM JEFF "The Uncultivated Half of India (Part II) Formation of Investment-Oriented Policy." The Indian Forester, Vol. 107, No. 2 (1981), pages 69-85. Features of administrative and market systems that affect uses of uncultivated lands and how they might be modified to increase investment in these lands. Considers aspects of policy that presently constrain or might stimulate investment in the uncultivated half, and concludes that present policy does not appear to be governed primarily by the purpose to increase land productivity.

1540. 56 IC ROSS LFSTER STUART "Forestry Policy in China." Ph.D. dissertation, The University of Michigan. (1980) Available through University Microfilms International.

1541. 56 IC SHANDS W.E., HAGENSTEIN P.R., ROCHE M.T. National Forest Policy: from Conflict toward Consensus. Washington, D.C., U.S.A. The Conservation Foundation (cited in Forestry Abstracts Vol. 42, No. 4). (1979), 37 pages. Past, present, and possible future directions of U.S. national forest policy, considering in particular the debate over clear felling and wilderness designation, and the National Forest Management Act of 1976. Increasing demand for, and conflict between different types of recreation in relation to various forest management options.

1542. 56 IC SPURR STEPHEN H. "Clearcutting on National Forests." Natural Resources Journal, Vol. 21, No. 2 (1981), pages 223-243. Analysis of how the clearcutting controversy has evolved provides a valuable case study to demonstrate that our administrative, legislative, and judicial processes can work.

1543. 56 IC TIKKANEN ILPO "Causality as a Conceptual Frame for Forest Policy Analysis." Silva Fennica, Vol. 15, No. 1 (1981), pages 30-37. A general frame of reference for empirical policy analysis, upon which the effectiveness analysis of forest policy is also based.

1544. 56 IC TIKKANEN ILPO "Effects of Public Forest Policy in Finland, an Econometric Approach to Empirical Policy Analysis." Silva Fennica, Vol. 15, No. 1 (1981), pages 38-64.

1545. 56 IC ZUNDEL R. "The New Forest Legislation in Hesse, Lower Saxony and Schleswig-Holstein." Forst- und Holzwirt, Vol. 34, No. 2 (cited in Forestry Abstracts Vol. 42, No. 4). (1979). In German, pages 31-35. Differences between these states in their interpretation of the German federal forest law of 1975, concerning the high proportion of forestland area and public forests in Hesse and the much lower proportion of both in the two northern states.

1546. 56 IC Irish Forestry Policy. National Economic and Social Council Publication, Irish Republic, No. 46 (cited in Forestry Abstracts Vol. 42, No. 3). (1979), 225 pages. Introduction and commentary by the Council and a report by F.J. Connery that includes: background, existing forest estate (including forest industry and marketing), proposals for expansion, summary and recommendations.

1547. 56 IC Planning Methodology - Guide to the Economic Evaluation and Financing of Forestry Projects. Paris, Institute for the Study of Economic and Social Development. (1980). In French, 70 pages.

1548. 56 ID1A NELSON CHRIS JR. "The I.R.S. Viewpoint on Administration of the Timber Provision of the Internal Revenue Code." Timber Tax Journal, Vol. 15, No. 1 (1979), pages 21-27.

1549. 56 ID1A RIIHINEN PÄIVIÖ "Effectiveness of Forest Taxation Reform as a Means of Economic Policy." Silva Fennica, Vol. 15, No. 1 (1981), pages 92-99. Taxation and aggregate demand; forest taxation in Finland; forest taxation and public revenue; effect on investment, production and employment; equating differences in regional and personal income; effect on the balance of payments; static vs. dynamic analysis.

1550. 56 ID1A THOMPSON EARL G., JORDAN ROBERT D. "Income, Estate, and Property Tax Aspects of Investments in Marginally Productive Farmland." Journal of Real Estate Taxation, Vol. 6 (1978), pages 46-66. Summarized in Timber Tax Journal, Vol. 16, No. 1. Tax advantages and disadvantages associated with investments in farmland and timberland with only marginal productive capability, and effects of state assessment practices, federal income tax laws, and federal estate and gift tax laws on the investment.

1551. 56 ID1B CHEYNEL P. "Forest Taxation (in France). Timber Merchants and Value Added Tax." Forêt Privée, No. 120. (1978) In French, pages 15-18. Cited in Forestry Abstracts, Vol. 42, No. 6.

1552. 56 ID1B WEAD JAMES K. Timber Taxation in the States. The Council of State Governments, Lexington, Kentucky. (1978), 42 pages. Cited in Timber Tax Journal, Vol. 16, No. 1. Results of a survey of existing types of taxes levied by states or authorized by states to be levied by local governments on timber and forestland. Discussion of tax administration includes details on the agencies within the state governments that are responsible for valuation of property, valuation of standing timber, and tax collection.

1553. 56 ID1C BOELTER ALLEN H. "The Forest Land Owner and His Income Tax." National Woodlands, Vol. 1, No. 7 (1979), pages 5-6. Summarized in Timber Tax Journal, Vol. 16, No. 1. Qualification for long-term capital gains treatment with the three basic types of timber sales: lump sum, pay as cut, and use in trade or business; types of casualty losses which may be deductible; and the minimum tax established by the Tax Reform Act of 1976.

1554. 56 ID1C CARTER T. HEYWARD JR. "The Application of Section 2032A to the Valuation of Timberland for Federal Estate Tax Purposes." South Carolina Law Review, Vol. 29, No. 4 (1978), pages 577-625. Summarized in Timber Tax Journal, Vol. 16, No. 1. Comprehensive review of Section 2032A and its application to estates which include timberland.

1555. 56 ID1C CHEYNEL P. "Forest Taxation (in France). The Exploitation of a Forest and Direct Taxes." Forêt Privée, No. 118 (1977) In French. Pages 15-20. Cited in Forestry Abstracts, Vol. 42, No. 6.

1556. 56 ID1C CHEYNEL P. "Forest Taxation (in France). The Sale of a Forest or of Parts of a Forestry Group, as It Concerns Income Tax." Forêt Privée, No. 119. (1978) In French. Cited in Forestry Abstracts, Vol. 42, No. 6.

1557. 56 ID1C OFFICER DENNIS T., BANKS WARREN E. "Estates vs. Gifts in a Period of Inflation." Taxes - The Tax magazine, Vol. 58, No. 1 (1980), pages 68-72. Summarized in Timber Tax Journal, Vol. 16, No. 1. Arithmetical tool for evaluating the tradeoff between a present gift or a future transfer at death of appreciating assets such as forest land and timber.

1558. 56 ID1C OLSON SCOTT C., HANEY HARRY L. JR., SIEGEL WILLIAM C. "State Death Tax Implications for Private Nonindustrial Forestry." Forest Products Journal, Vol. 31, No. 7 (1981), pages 28-38.

1559. 56 ID1C PATAT C. "Problems of (French) Forest Taxation for Persons Taxed on Real Income." Forêt Privée, No. 121 (1978). In French, pages 19-23, 25-31. Cited in Forestry Abstracts, Vol. 42, No. 6.

1560. 56 ID1C SUTHERLAND CHARLES F., SIEGEL WILLIAM C. "How Gifting between Spouses Can Reduce Forest Estate Taxes." Journal of

Forestry, Vol. 77, No. 10 (1979), pages 655-657. Summarized in Timber Tax Journal, Vol. 16, No. 1. How changes made in the federal estate tax by the 1976 Tax Reform Act affect timber estates held jointly by husband and wife.

1561. 56 ID2 BARE B.BRUCE "Forest-Land Valuation in Washington State: Controversy over Methodology." Assessor's Journal, Vol. 13, No. 2 (1978), pages 81-99. Summarized in Timber Tax Journal, Vol. 16, No. 1. Eligible forest land in Washington State is subject to an annual ad valorem tax based on "current forest use." Review of abstraction method (comparison of actual market sales evidence by a land appraiser) and regression analysis method used by the Washington State Department of Revenue to determine fair market value of bare forest land; comparison of the results of each with values based on an income approach, and discussion of the relationship between bare land and timber-stand values for trees of various ages.

1562. 56 ID2 POLENO Z. "Complex Evaluation of Mixed Forest Stands." Communicationes Instituti Forestalis Cechoslovèniae No. 11 (1979) In English with summaries in Czech and Russian. Pages 113-126. Cited in Forestry Abstracts, Vol. 42, No. 5. Studies on the financial value of mixed stands with special reference to methodology.

1563. 56 ID2 TURKEWITSCH I. W. "Complex Economic Evaluation of Forests." Lesnoe Chozjajstwo, Moskau 1 (1979) In Russian. Pages 12-17. Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). Economic evaluation of the recreational function of forests is defined by the value of the hours that are spent in the forest. Value of one recreational hour is equated with the value of one work hour. This value is defined by the quotient of the national income and the number of work hours diminished by the expenses for recreation in the forest.

1564. 56 ID2 WIENER ALFRED A. "Appraising National Forest Timber Values: A Concept Reexamined." Journal of Forestry, Vol. 79, No. 6. (1981), pages 372-376. Due to nonstable markets, some modification of earlier appraisal methods seems necessary. A "lump-sum equivalent" is developed through the use of an inflation factor to set off against the discount factor.

1565. 56 ID4 FROEHLICHER R. "The Forests as One of the Roots of Regional Identity in the Countries of the Rhine." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 230-237.

1566. 56 ID4 CELLAR SHELDON "Village Woodlot Schemes and Peasant Survival Strategies in Sahelian Mali." Paper presented at African Studies Association Annual Meeting for Panel on Renewable Natural Resources Management in the Sahel: the Issue of Popular Participation. (1980), 19 pages.

1567. 56 ID4 GROSHENS M.C. "Forests and Habitat." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 263-272.

1568. 56 ID4 KERNAN F.S. Children, Forests and Trees. Rome: FAO, Forestry Dept. (1980). In English, Spanish and French, 29 pages.

1569. 56 ID4 THOMSON JAMES T. "Peasant Perceptions of Problems and Possibilities for Local-level Management of Trees in Niger and Upper Volta." Paper presented at African Studies Association Annual Meeting for Panel on Renewable Natural Resources Management in the Sahel: the Issue of Popular Participation. (1980), 22 pages.

1570. 56 ID4 VERDIER Y. "Paths in the Forest. The Folk Tales." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 344-352.

1571. 56 ID5 BOISSIÈRE J. "Foresters and Timber Merchants from the Mowan to Paris.". Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 180-188.

1572. 56 IE GUILLARD J. "The Present State of Research in Forest Economics in France." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 89-91.

1573. 56 IE JOHNSTON D.R. The Formulation of Research Programs. Research and Development Paper, Forestry Commission, No. 126. (1980), 16 pages. Cited in Forestry Abstracts Vol. 42, No. 5. Discussion of the formulation of applied research programs in forestry from the viewpoint of finance, organization, and identification of projects.

1574. 56 IE MCCLURE JOE P. "Gathering Multipurpose Inventory Data." Nonindustrial Private Forests: Data and Information Needs, Conference Proceedings. Center for Resource and Environmental Studies, Duke University, Durham, NC 27706, USA. (1981), pages 75-82. Statewide forest inventories have been conducted throughout the US by the Nationwide Forest Survey for almost fifty years. Prior to the 1974 Forest and Rangeland Renewable Resources Planning Act (RPA) these periodic state-by-state timber inventories were restricted to commercial timberlands and data gathering was limited to timber oriented forest classifications and to measurements of volume, growth, and removals of traditional timber products. The 1974 RPA and other more recent legislation gave the Forest Survey a new and broader responsibility for gathering information on both timber and nontimber forest and range resources. As a result of the RPA, Forest Survey was transformed into a multiresource inventory organization and renamed Renewable Resources Evaluation (RRE).

1575. 56 IE MORANDINI R. "Fields of Forestry Research." Italia Agricola, Vol. 117, No. 1 (1980) In Italian. Pages 93-102. Cited in Forestry Abstracts, Vol. 42, No. 6. Forestry research centers in Italy, their work, and areas where research is needed.

1576. 56 IE SPEIDEI G. "Reflection on the Present Situation and Future Problems of Forest Science Research." Forst-wissenschaftliches Centralblatt, Vol. 100, No. 1 (1981). In German with an Englisb summary. Pages 15-27. Improvement in supplying the economy with roundwood and melioration of the environment are the main tasks in forest research. Macroeconomic goals can be reached by choosing forest species appropriate to local soil conditions, as well as by the structure of the stands and diminution of production inefficiency.

1577. 56 IE YOUNGS R.L. "What Research Is Called for?" In, Proceedings, Timber Supply: Issues and Options, held in San Francisco, California, October 2-4, 1979. Published by Forest Products Research Society, 2801 Marshall Court, Madison, WI 53705. Proceedings No. P-79-24. (1979?), pages 216-218.

1578. 56 IG CASTILLO R.A. DEL "Education and Training Needs in Support of Forestry for Local Community Development (in the Philippines)." In, FAO/SIDA Seminar on Forestry in Rural Community Development. (1980), pages 127-143.

1579. 56 IG CLARK G.C. "Appropriate Extension and Communication Systems for Promoting and Sustaining Forestry in Rural Community Development." In, FAO/SIDA Seminar on Forestry in Rural Community Development. (1980), pages 115-120.

1580. 56 IG KING K.F.S. "Forestry's Contribution to Social and Economic Development." The Commonwealth Review, Vol. 59, No. 4 (1980), pages 527-536.

1581. 56 IG MCARTHUR LAURENCE BARRETT "The Impact of Various Forest Management Practices on Passerine Community Structure." Ph.D. dissertation, West Virginia University. (1980) Available through University Microfilms International.

1582. 56 IG TOMÁS J. GONZALO FERNÁNDEZ "An Institutional Framework for Development-Oriented Forestry." Unasylva, Vol. 32, No. 127 (1980), pages 34-37. What is needed is a change from current attitudes focused on knowledge of the resources to an approach directed primarily toward man and his needs.

1583. 56 IG Report of the FAO/SIDA Seminar on Forestry in Rural Community Development. FAO, Rome Forest Resources Div. (1980), 176 pages.

1584. 56 IH BURLEY J., NAMKOONG G. "Conservation of Forest Genetic Resources.". Invited paper prepared for the Eleventh Commonwealth Forestry Conference, Trinidad, (1980), 25 pages. Needs for conservation of forest genetic resources in relation to moral commitments to future generations of man and to technical requirements for future markets and environments.

1585. 56 IH LUGO ARIEL E., BROWN SANDRA "Ecological Monitoring in the Luguillo Forest Reserve." Ambio, Vol. 10, No. 2/3 (1981), pages 102-107. 11,000 hectares of mountainous tropical forest in

Puerto Rico supply water for more than 200,000 people. Conservation policies are guided by almost 100 years of continuous ecological monitoring.

1586. 56 IIA3 SCHOEPFER W., DUMMEL K. "One Year of Improved Assortment Piece Rate - Interim Results and Prospects." Der Forst- und Holzwirt, Hannover, No. 6 (1981) In German. Pages 125-137. Improved piece rate has proven to be an easily applied and flexible wage system after a one-year test run.

1587. 56 IIA3 STEVENS JAMES F. "Competency Based Training in the Forest Product Industry." Pulp and Paper Canada, Vol. 82, No. 2. (1981), pages 25-27, 31. Development of a competency based training system implemented by Simpson Timber Co. (Alberta, Canada) in response to a series of specific needs. Included are step by step design procedures, which can be utilized to create educational packages; cost effectiveness; and results of the program.

1588. 56 IIA5 PFNNETIER CL. "Woodcutters in the Cher Department at the End of the Nineteenth Century. Working Conditions, Social Consciousness, and Reaction to the Crisis in Agriculture and Forestry." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 189-203.

1589. 56 IIA5 SLAMA O. "The Psychological Requirements for Some Occupations in Forestry." Lesnictví, Vol. 26, No. 6 (cited in Forestry Abstracts Vol. 42, No. 4). (1980). In Czech with Russian, English, German, and French summaries, pages 511-520. Relative importance of various psychological characteristics and their minimum and optimum levels were determined in a study of 71 workers in 7 forestry occupations: logger; drivers of trucks, tractors, wheeled skidders, and front-end loaders; felling foremen; and forestry school student (apprentice).

1590. 56 IIB2A "Forestry as Business - Domaenverket/Schweden." Allgemeine Forst- Zeitschrift, Munich, No. 3/4 (1981) In German. Pages 33-70. The Swedish State Forest Service as a forest enterprise managed almost like a private business, is described in this special issue. Also discusses which Swedish methods can be applied to German forestry.

1591. 56 IIB2B ALWARD GREGORY SCOTT "Evaluation Model for Regional Economic Aspects of Forest Service Land Management Policies." Ph.D. dissertation, Colorado State University. (1980) Available through University Microfilms International.

1592. 56 IIB2B PARRY BRIAN THOMAS "Administrative Implementation as an Element in Policy-Making: Cases from the United States Forest Service, Region 5." Ph.D. dissertation, University of California, Berkeley. (1980) Available through University Microfilms International.

1593. 56 IIB2B PINGAUD M.C. "The King's Forest in the Valois; Ethnographical Documents." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 318-332.

1594. 56 IIB2C FOX BRUCE EDWARD "A Long-Term Timber Sale Policy for Michigan's State Forests." Ph.D. dissertation, The University of Michigan. (1980) Available through University Microfilms International.

1595. 56 IIB2C LEY CH. "Forests in the Communal Budget." Schweizerische Zeitschrift fuer Forstwesen, Zuerich, No. 6 (1981) In German with a French summary. Pages 397-410. Forests, formerly the "financial backbone" of Swiss communes have lost this function in wide areas to other sources of revenues. The situation must be evaluated and goals defined.

1596. 56 IIB2C SPEICH A.P. "Forests in the Community." Schweizerische Zeitschrift fuer Forstwesen, Zuerich, No. 6 (1981). In German with a French summary. Pages 383-395. Two thirds of Swiss forests are in the ownership of communities. Their members should engage more in questions of management policy and basic objectives to identify themselves with "their" forests.

1597. 56 IIB3A AKKERMANS P. "The Accessibility of Private Forests in Flanders." Groenkontakat 2 (1980) In French. Pages 5-6. Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). Conservation and management of castle-domains with park grounds and gardens, or surrounding forest poses serious problems. Leasing by public authorities of private domains, suitable for recreation and social use, is advised.

1598. 56 IIB3A ANNE R. "Rights and Obligations of a Private Owner of Suburban Forest (in France)." Forêt Privée No. 119 (cited in Forestry Abstracts Vol. 42, No. 4). (1978). In French, pages 17-21.

1599. 56 IIB3A BIRCH THOMAS W., DENNIS DONALD F. The Forest-land Owners of Pennsylvania. USDA Forest Service Res. Bull. NE-66 (1980), 90 pages. A statistical analytical report of private commercial forest-land owners in Pennsylvania. Study was conducted in conjunction with the third forest survey of Pennsylvania by the USDA Forest Service. Includes landowner characteristics, attitudes, and intentions of owners regarding reasons for owning, recreational use, timber management and harvesting, etc.

1600. 56 IIB3A BUTTOUD G. "Private Forest Owners and the State." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981) In French. Pages 96-101.

1601. 56 IIB3A DE MONTGOLFIER J., BERTIER P. "An Attempt to Express the Forestry Problem as One of Inheritance." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981) In French, pages 115-125.

1602. 56 IIB3A DEVEAUX M. "The Uses and In[illegible]tation of Forest Inventories in Private Forests." Forêt Privée No. 129 (cited in Forestry Abstracts Vol. 42, No. 4). (1979). In French, pages 40-47.

1603. 56 IIB3A HAROU PATRICE A. "Forest Ownership in the European Community." Journal of Forestry, Vol. 79, No. 3 (1981), pages 298, 307-309. Private forests comprise 60 percent of the forest area in the European Community. Pronounced fragmentation of holdings is a serious obstacle to management and regular wood supply. Average size of a private holding is about 4.5 hectares. Various fiscal and nonfiscal incentives are used to foster management of these properties.

1604. 56 IIB3C BINKLEY CLARK SHEPARD Timber Supply from Private Nonindustrial Forests, a Microeconomic Analysis of Landowner Behavior. Yale University: School of Forestry and Environmental Studies Bulletin No. 92 (1981), 97 pages. Microeconomic model incorporating timber and nontimber objectives for improving estimation of timber supply from private non-industrial forests.

1605. 56 IIB3C BRABÄNDER H.D. "Subsidies and Ffficiency in Forestry Cooperatives." Silva Fennica, Vol. 15, No. 1 (1981), pages 79-84. Forestry cooperatives in the Federal Republic of Germany, ecoromic analysis of coops.

1606. 56 IIB3C CHAUSSIN E. "Villagers and Their Forests." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 311-317.

1607. 56 IIB3C HOLMES W.D., TODD J.D. Economic Survey of Private Forestry Income and Expenditure, Scotland 1978. Dept. of Forestry, Univ. of Aberdeen. (1980), 55 pages.

1608. 56 IIB3C HOLMES W.D., TODD J.D. Economic Survey of Private Forestry Income and Expenditure, Scotland 1979. Dept. of Forestry, Univ. of Aberdeen. (1981), 55 pages.

1609. 56 IIB3C HOLMES W.D., TODD J.D. Economic Surveys of Private Forestry, Costs of Operations in Scotland for Forest Year 1978. Department of Forestry, University of Aberdeen (1981), 46 pages.

1610. 56 IIB3C HOLMES W.D., TODD J.D. Economic Surveys of Private Forestry, Costs of Operations in Scotland for Forest Year 1979. Department of Forestry, University of Aberdeen (1981), 44 pages.

1611. 56 IIB3C JÄRVELÄINEN VELI-PEKKA "Aspects of Research Strategy in Studying Forest Owners' Behavior." Silva Fennica, Vol. 15, No. 1 (1981), pages 25-29. Research concerning forest owners' behavior plays an important role in the evaluation of the effectiveness of forest policy on small woodlands.

1612. 56 IIB3C KATO F. "The Importance of Forests as an Economic Factor of Agricultural Holdings." Allgemeine Forstzeitschrift, No. 11 (1981) In German. Pages 245-250. Over 40 percent of all agricultural holdings in Germany include forests. Owners' requirements of wood, savings in the form of standing timber, and income from work in the forest are the main functions of farm forests. Their importance can be discussed only within the scope of the whole enterprise.

1613. 56 IIB3C KINGSLEY NEAI P. "The Northeastern Forest Landownership Study." Nonindustrial Private Forests: Data and Information Needs, Conference Proceedings. Center for Resource and Environmental Studies, Duke University, Durham, NC 27706, USA. (1981), pages 83-96.

1614. 56 IIB3C KURTZ WILLIAM B., LEWIS BERNARD J. "Decision-Making Framework for Nonindustrial Private Forest Owners: An Application in the Missouri Ozarks." Journal of Forestry, Vol. 79, No. 5 (1981), pages 285-288. By means of a psychological testing technique (Q-sort), owners were classified into types on the basis of their motivations and objectives in holding land. This approach seems useful where information or assistance programs are being designed to fit landowners' specific interests.

1615. 56 IIB3C MADIGAN G., JONES A.R.C. "The Private Forest Owners of Eastern Canada - a Survey." Silva Fennica, Vol. 15, No. 1 (1981), pages 65-72. A study to determine the effectiveness of private forestry assistance programs in Ontario, Quebec, New Brunswick and Nova Scotia.

1616. 56 IIB3C ROSS ELDON W. "Nonindustrial Forest-land Owners in the Southeast." In, Proceedings from the Eighth Annual Hardwood Symposium, Asheville, NC (1980), pages 32-40. In the Southeast, nonindustrial private forest lands: support 72 percent of the 289 billion board feet of sawtimber; provide 73 percent of the net annual growth of sawtimber, and 68 percent of the removals; contain 77 percent of the 52 million acres of hardwood forest types, and 75 percent of the 140 billion board feet of hardwood sawtimber; and provide 78 percent of both the net annual growth and the removals of hardwood sawtimber.

1617. 56 IIB3C ROYER JACK P., CONVERY FRANK J. Nonindustrial Private Forests: Data and Information Needs, Conference Proceedings. Center for Resource and Environmental Studies, Duke University, Durham, NC 27706, USA. (1981), 130 pages.

1618. 56 IIB3C TANAKA SHIGERU "Forest Cooperatives as a Policy Measure for Small Woodlands." Silva Fennica, Vol. 15, No. 1 (1981), pages 73-78. Organizational structure of forest cooperatives in Japan, characteristics of business, reforestation and logging practices and plans, organization of forest workers.

1619. 56 IIB3C THOMPSON RICHARD P., JONES J. GREG "Classifying Nonindustrial Private Forestland by Tract Size." Journal of Forestry, Vol. 79, No. 3 (1981), pages 288-291. Three groups by tract size: (1) 10 to 50 acres - timberland not managed commercially; (2) 51 to 700 acres - significant amount of commercial management, with size-related problems; (3) 700 or more acres - extensive commercial management. The 51- to 700-acre group seems to be the most receptive to assistance programs aimed at improving management.

1620. 56 IIC3 NIESSLEIN E. - "Forest Preservation and General Forest Planning." Der Forst- und Holzwirt, Hannover, No. 4 (1981) In German. Pages 73-81. Preservation of forests is a main objective

of land use planning, especially in densely populated zones where losses of forest area have the greatest impact. At present forest planning meets this objective only partially. It can be improved by applying problem-oriented indicators for concrete cases, e.g., forest area per capita or losses of forest area per administrative unit. Second, the results of forest planning need greater significance in general land use planning and must be included in the process of political decisions.

1621. 56 IID1 DORAN A. "The Rate of Return to Forestry Investment." Quarterly Journal of Forestry, Vol. 75, No. 2 (1981), pages 83-96.

1622. 56 IID1 EID JOHN "Forest as a Capital Asset." Silva Fennica, Vol. 15, No. 1 (1981), pages 85-91.

1623. 56 IID1 JENNINGS K.S. "The Need for Regulation of Private Forestry Investment in Australia." Australian Forestry, Vol. 43, No. 4 (1980), pages 264-269. Private forestry investment began in Australia in the early 1900's, flourished until the 1930's, stopped, and was renewed in the 1960's and 70's. Activities of smaller and often questionable private companies offering investments in forestry to the public, is considered to be harmful to the forestry industry and profession, and needs to be regulated. Merits of government versus self regulation are discussed with the conclusion that a combination would be best.

1624. 56 IID1 ROW CLARK, KAISER H. FRED, SESSIONS JOHN "Discount Rate for Long-Term Forest Service Investments." Journal of Forestry, Vol. 79, No. 6. (1981), pages 367-369, 376. Authors recommend that the USDA Forest Service use a discount rate of 4 percent for evaluating long-term investments in resource management. This rate approximates the long-term measures of the opportunity cost of capital in the private sector of the U.S. economy.

1625. 56 IIIA1 BINDERNAGEL J.A. Forestry and Forest Industries Development, Mozambique. Rome: FAO, Forestry Dept. (1980), 37 pages. Multiple use of natural resources in the Marrameu complex, Mozambique, with special reference to wildlife.

1626. 56 IIIA1 BLUDOVSKY Z. Multiple Use Management of Forests in the CSSR. Proceedings of the Meeting of Experts on Economic Valuation of Useful Functions of the Forest. Permanent Commission on Agriculture, Comecon, Forest Research Institute, Jiloviste - Strnady, CSSR (1979) In Czech. 9 pages.
Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). The productive functions of the forest and its non-wood benefits cannot be set one against the other. Economic valuation of non-wood benefits must be based on Marx theory of value as social work. Monetary appraisal of social functions of the forest meets so far with numerous obstacles, yet further search for methods and their improvement are necessary.

1627. 56 IIIA1 BOYCE STEPHEN G. Management of Forests for Optimal Benefits (Dynast-0B). - USDA Forest Service Research Paper SE-204 (1980), 92 pages. New process can assist forest management to provide selected optimal forest benefits in perpetuity. A system dynamics technique, DYNAST-0B, is the mechanical method for quantifying and interrelating different kinds of forest benefits. This model has the capacity to integrate management strategy and tactics for a complex forest area divided into types or categories.

1628. 56 IIIA1 CHANG SUN JOSEPH, BUONCIORNO JOSEPH "A Programming Model for Multiple Use Forestry." Journal of Environmental Management, Vol. 13, No. 1 (1981), pages 41-54. A methodology of resource allocation combining goal programming and input-output analysis to provide a solution to the problem of multiple use planning on public forests. The model allows managers to specify the exact goal level for each management activity, to experiment with varying degrees of management intensity, to explore the outcome of different management priority assignments, and to determine the trade-off between management activities.

1629. 56 IIIA1 COLE GENE F., MEGAHAN WALTER F. "South Fork Salmon River - Future Management." In, Symposium on Watershed Management, Vol. I. Am. Soc. Civ. Eng., NY. (1980), pages 396-405. A new Land Management Plan was implemented in 1978 for the South Fork Salmon River Planning Unit in Central Idaho. Watershed management considerations and their integration into management decisions are outlined and a monitoring program described.

1630. 56 IIIA1 DUBOURDIEU J. "The Forest: Its Functions and Management." Comptes Redus des Séances de l'Académie d'Agriculture de France. Vol. 66, No. 6 (1980). In French. Pages 595-613. Cited in Forestry Abstracts, Vol. 42, No. 6. Functions of mountain forests as protection for crops and houses, against avalanches, rainstorms and erosion, as areas of recreation, and as timber producers.

1631. 56 IIIA1 FRIEND GORDON R. "Wildlife Conservation and Softwood Forestry in Australia: Some Considerations." Australian Forestry, Vol. 43, No. 4 (1980), pages 217-224. Conversion of large areas of eucalypt forest to exotic conifer plantations in south-eastern Australia has met with considerable criticism from those concerned with effects on wildlife. Consideration is given to the formulation of management policies for conifer plantations, commensurate with wildlife conservation.

1632. 56 IIIA1 SCHEIRING H., KAMMERLANDER H. "The Project of Neustift in the Stubai Valley - Performance of a Mountain Forest." Allgemeine Forstzeitung, Vienna, No. 6 (1981) In German. Pages 190-216. Special issue describing the results of a research project to scrutinize a mountain forest and possible improvements from political, economic, ecological and silvicultural aspects.

1633. 56 IIIA1 Forest Communities Practicing Shifting Cultivation: the Case Study of Bangladesh. FAO, Rome, Bangladesh Inst. of Development Studies, Dacca (1980), 165 pages.

1634. 56 IIIA2 Growing Christmas Trees in the Pacific Northwest. A Pacific Northwest Extension Publication PNW6 (1981), 23 pages. Topics covered: (1) Judging opportunities for a successful business, (2) Managing natural stands, (3) Managing plantations, (4) Protecting the trees, (5) Harvesting and marketing.

1635. 56 IIIA3 COMTE M.C. "Making Social Forestry Work." Ceres, Vol. 13, No. 2 (1980), pages 41-44. Cited in Forestry Abstracts Vol. 42, No. 5. UNDP/FAO project on the management and improvement of forest grazing ground in Morocco with emphasis on "silvapastoral management and community development."

1636. 56 IIIA3 FAIRFAX SALLY K. "Riding into a Different Sunset: the Sagebrush Rebellion." Journal of Forestry, Vol. 79, No. 8 (1981), pages 516-520, 582. Although the format and vocabulary of the Sagebrush Rebellion are familiar, the stakes include the full spectrum of western resources. Debate is occurring at a time when traditional foundations of conservation and management are seriously eroded.

1637. 56 IIIA3 KOSCO BARBARA H., BARTOLOME JAMES W. "Forest Grazing: Past and Future." Journal of Range Management, Vol. 34, No. 3 (1981), pages 248-251. Livestock have grazed western forests since the 1850's. Policy changes with the inception of government regulation and the end of the free open range brought profound changes in the livestock industry. With increasing demands for timber, recreation and wildlife, grazing began to decline in importance as a use of National Forest ranges. Yet, livestock grazing or forest range is critical to year long operations of the ranchers who use them. With proper management livestock can be increasingly important not only as meat and fiber producers, but as part of all land management on national ranges.

1638. 56 IIIA5A ANGELO M. "The Recreation Opportunity Spectrum - A Challenge to Canadian Foresters." The Forestry Chronicle, Vol. 57, No. 2 (1981), pages 55-56. Recreation managers in many parts of Canada have not provided the diversity people seek in recreational opportunities.

1639. 56 ILIA5A ESKELINEN OSSI "The Natural Enviornmental Welfare Factors of Forested Outdoor Recreation Area Pyynikki." Society of Forestry in Finland, Silva Fennica, Vol. 13, No. 2 (1979) In Finnish. Pages 146-151.
Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). Welfare factors of the natural environment are examined from the viewpoint of the social sciences. The welfare study is intended to bring natural and social sciences closer together.

1640. 56 IIIA5B PAPANEK FRANTISEK Research of the Recreational and Therapeutic Function of the Forest and Derivation of Management Principles for Applying These Functions. Partial Final Report. Forest Research Institute, Zvolen (1979) In Czech. 52 pages.

Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). The concept of opportunity cost, as proposed by Duerr and Vaux of the United States is used for the integration of the recreational function with other functions of the forest.

1641. 56 IIIA5D BUHYOFF GREGORY J., WILLIAMS STEPHEN B., KLEMPFRER W. DAVID "Gravity Model Formulation for an Extensive National Parkway Site." Environmental Management, Vol. 5, No. 3 (1981), pages 253-262. Two recreation use projection/demand models employing three variables (distance, alternative recreation sites, and population density) were developed to predict visitation to different areas of the Blue Ridge Parkway from various local origins. Derived model estimates indicate about one fourth of all Parkway visits in 1978 were one-day visits made by area residents.

1642. 56 IIIA5D LII YUH-MING Forest Recreation Demand: Analysis of Its Elements and Applications. Master's thesis, Dept. of Forestry, National Taiwan Univ. (1981) In Chinese with an English summary. 150 pages. Defines demand and suggests research methods for investigating visitors' behavior; analyzes the factors affecting demand; using questionnaires from several forest recreation areas in Taiwan, analyzes visitor information and tests forecasting methods.

1643. 56 IIIA5E CLARK ROGER N., STANKEY CEORGE H. "Determining the Acceptability of Recreational Impacts: An Application of the Outdoor Recreation Opportunity Spectrum." In, Recreational Impact on Wildlands, Conference Proceedings. Oct. 27-29, 1978, Seattle, WA (1979), pages 32-42. Impacts from recreational activities on wildlands are of increasing concern to resource managers and recreationists. The Outdoor Recreation Opportunity Spectrum is used to describe the role recreation impacts play in defining recreation opportunities. Noise is used as a case example.

1644. 56 IIIA5E CLOKE PAUL J., PARK CHRIS C. "Country Parks in National Parks: A Case Study of Craig-y-Nos in the Brecon Beacons, Wales." Journal of Environmental Management, Vol. 12, No. 2 (1981), pages 173-185. One of the multiple objectives of Craig-y-Nos Country Park is to attract recreational pressure away from an adjacent open moorland area where informal roadside recreation threatens the wilderness value. Results from this study have broad implications for planning and management in National Parks.

1645. 56 IIIA5E CROSSEN T.I. "A New Concept in Park Design and Management." Biological Conservation, Vol. 15, No. 2 (cited in Forestry Abstracts Vol. 42, No. 3). (1979), pages 105-125. A Native Flora Park on the eastern boundary of Adelaide, Australia serves both the state and local urban population. Three main areas: native flower garden with associated nursery, woodland area for general recreation, and wilderness area with restricted public access; includes management methods for each area.

1646. 56 IIIA5E DU SAUSSAY CHRISTIAN. "Transfrontier Parks." Unasylva, Vol. 32, No. 127. (1980), pages 16-22. Many nature parks and reserves, especially in Europe and Africa are in frontier zones. These zones are not only ideal areas for parks but can, by their position, promote international cooperation.

1647. 56 IIIA5E GULDIN RICHARD W. "Predicting Costs of Eastern National Forest Wildernesses." Journal of Leisure Research, Vol. 13, No. 2 (1981), pages 112-128. Method for estimating total direct social costs of proposed wilderness areas. A cost framework is constructed, equations developed for the cost components, and total social costs estimated for a proposed eastern wilderness to illustrate the study's method.

1648. 56 IIIA5E GULDIN RICHARD WILLIAM "An Economic Model of the Costs of Wilderness Management Incurred by the United States Forest Service." Ph.D. dissertation, Yale University. (1979) Available through University Microfilms International.

1649. 56 IIIA5E JENSEN MARVIN O. "Backcountry Managers Need Social Science Information." In, USDA Forest Service General Technical Report NC-63 (1981), pages 52-55. Information from social scientists is critical to setting social capacities for backcountry or wilderness areas of the National Park System so that those areas will provide the opportunity for high quality visitor experience.

1650. 56 IIIA5E MCAVOY LEO H., DUSTIN DANIEL L. "'The Right to Risk in Wilderness' - a Rejoinder." Journal of Forestry, Vol. 79, No. 5 (1981), page 284. Response to comments on their article, "The Right to Risk in Wilderness" Journal of Forestry, Vol. 79, No. 3.

1651. 56 IIIA5E OLTREMARI J., PAREDES G., SCHLEGEL Alternatives for Delimiting the National Puyehue Park. Informe de Convenio No. 27, Facultad de Ingenieria Forestral, Universidad Austral de Chile. (1980) In Spanish. 96 pages.
Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). This study discusses natural resources of the park and land ownership in order to identify criteria for evaluation for different sectors of this study area. Three boundary alternatives are presented based on values obtained for each partial sector. Variables utilized were: ecological diversity, genetic bank, hydrology, possibilities for research interpretation, recreation, and land ownership problems.

1652. 56 IIIA5E SCHREYER RICHARD, ROGGENBUCK JOSEPH W. "Visitor Images of National Parks: The Influence of Social Definitions of Places on Perceptions and Behavior." In, USDA Forest Service General Technical Report NC-63, Some Recent Products of River Recreation Research. (1981), pages 39-44. Recreation participation often depends upon a specific setting, which may represent a key aspect of the recreation experience. Some environments may appear generalized in the mind of the user, others may be strongly imbued with meaning. As images held by participants may affect their behaviors, their satisfaction, and their potential to conflict with others, it is valuable to understand the nature of such images.

1653. 56 IIIA5E STRONG DOUGLAS H. "Preservation Efforts at Lake Tahoe 1880 to 1980." Journal of Forest History, Vol. 25, No. 2 (1981), pages 78-97. While the Lake Tahoe Basin is not a national park, more than 70 percent of the land within the Basin has been preserved in national forests and state parks.

1654. 56 IIIA5G DEARDEN PHILIP. "Landscape Evaluation: the Case for a Multi-Dimensional Approach." Journal of Environmental Management, Vol. 13, No. 1 (1981), pages 95-105. Discusses three major issues within the field of landscape evaluation that have recently been questioned as a basis for advancing a subjective theory of landscape appraisal.

1655. 56 IIIA5G PELT VAN J. "Landscape Analysis and Design for Conifer Plantations." Australian Forestry, Vol. 43, No. 3 (1980), pages 178-188. Plantations can be an asset to the landscape values of a region. Proper landscape planning is an integral part of the plantation planning process.

1656. 56 IIIA5G SCHROEDER HERBERT, DANIEL TERRY C. "Progress in Predicting the Perceived Scenic Beauty of Forest Landscapes." Forest Science, Vol. 27, No. 1 (1981), pages 71-80. Statistical models developed for predicting perceived scenic beauty of ponderosa pine forest landscapes using forest inventory data collected in the field, successfully predicted esthetic preferences for forest landscapes with a variety of different physical characteristics, and are consistent with past research and with intuitive expectations about scenic effects of various forest features.

1657. 56 IIIA5H PARSONS DAVID J., STOHIGREN THOMAS J., FODOR PAUL A. "Establishing Backcountry Use Quotas: An Example from Mineral King, California." Environmental Management, Vol. 5, No. 4 (1981), pages 335-340. Increasing levels of visitor use and consequent resource damage made backcountry use restrictions necessary in the Mineral King area of Sequoia National Park, California. Development of a trailhead quota system is described.

1658. 56 IIIA5H ROGGENBUCK JOSEPH W., BERRIER DEBORAH L. "Communications to Disperse Wilderness Campers." Journal of Forestry, Vol. 79, No. 3 (1981), pages 295-297. In the Shining Rock Wilderness, North Carolina, distributing a brochure from leaflet boxes located at major trailheads and distributing it through personal contact inside the wilderness were effective in moving campers from a congested area to lightly used sites.

1659. 56 IIIA5H SCHLESSMANN H. "Horseback-Riding in Forests - a Difficult Ride." Allgemeine Forstzeitschrift, Munich, No. 25 (1981) In German. Pages 620-622, 630. Compares legal aspects and questions of compensation for damages by horseback-riding in the states of Germany.

1660. 56 IIIA5H SHECHTER MORDECHAI, LUCAS ROBERT C. "Validating a Large Scale Simulation Model of Wilderness Recreational Travel." Interfaces, Vol. 10 No. 5 (1980), pages 11-18. A large-scale

simulation model of the use of outdoor recreation areas, especially ones with dispersed recreation patterns, has been developed that provides a means for experimenting with modifications of use or area conditions to determine effects on use patterns and congestion.

1661. 56 IIIA5I FLIGHT ROGER D. Planners Guide for Estimating Cost Per User-Day of Proposed Recreational Facilities. USDA Forest Service General Technical Report PNW-110 (1980), 10 pages.

1662. 56 IIIA5I KAISER H. FRED, MARCHETTA JOANNE S. Outdoor Recreation Economics: Methods of Valuing Recreation Resources. The George Washington University, Department of Human Kinetics and Leisure Studies. (1981), 151 pages. A bibliography of current research on the economics of outdoor recreation as it relates to forestry. Research from 30 nations has been included.

1663. 56 IIIA7 BOZON M., CHAMBOREDON J.C., FABIANI J.L. "Social Habits in the Natural Environment. Social Elaboration and Conflicting Types of Consumption in the Countryside - The Example of Hunting." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 273-278.

1664. 56 IIIA7 GOULD NORMAN E. "U.S. Timber Needs and Prospects for Bird Habitats." In, Workshop Proceedings: Management of Western Forests and Grasslands for Nongame Birds. USDA Forest Service General Technical Report INT-86. (1980), pages 295-301. Western national forests will be expected to produce about 11 billion board feet of timber annually by the year 2000. Adequate assessment of the impacts of timber harvesting on nongame bird habitats in the West and evaluation of the prospects for those habitats is dependent on establishment of reasonable bird species, population, and distribution objectives supported by benefit/cost analyses, population and habitat inventories, and descriptions of the life-cycle.

1665. 56 IIIA7 SALWASSER HAL, CAPP JOHN C., BLACK HUGH JR., HURLEY JANET F. "The California Wildlife Habitat Relationships Program: An Overview." In, Workshop Proceedings: Management of Western Forests and Grasslands for Nongame Birds. USDA Forest Service General Technical Report INT-86. (1980), pages 369-378. The Calif. Wildlife Habitat Relationship Program is needed to meet the requirements of laws, policies, and regulations and to foster a land ethic in wildland resource management.

1666. 56 IIIA7 STUBBLEFIELD TED C. "Bird Management - Effects on Timber Management." In, Workshop Proceedings: Management of Western Forests and Grasslands for Nongame Birds. USDA Forest Service General Technical Report INT-86. (1980), pages 302-310. Proper analysis of the reciprocal effects of bird management and timber management requires a basic understanding of the individual resource complexities and acknowledgement of individual resource values. Effects should be estimated over time and on a site-specific basis to adequately reflect a most probable measure of their impact. In timber sale project planning, the timeliness of this input to the analysis process is generally critical to the quality of the end product.

1667. 56 IIIA8 AMES R.G. "Urban Tree Planting Programs: a Sociological Perspective." HortScience, Vol. 15, No. 2 (1980), pages 135-137. Cited in Forestry Abstracts Vol. 42, No. 5. Sociological advantages, funding and organization, using an Oakland, California program as example.

1668. 56 IIIA8 BEATTY RUSSELL A. "Planning the Urban Forest." Landscape Architecture, Vol. 71, No. 4 (1981), pages 456-458.

1669. 56 IIIA8 DRIVER B.L., ROSENTHAL DONALD "Social Benefits of Urban Forests and Related Green Spaces in Cities." In, Proceedings of the National Urban Forestry Conference, Vol. 1, No. 1. (Nov. 13-16, 1978), pages 98-113. Results of selected empirical studies of the social benefits of urban forests. Economic, physiological, and perceived benefits are analyzed with respect to their diversity and magnitude. Values of urban forests as a means of coping temporarily with undesirable urban conditions.

1670. 56 IIIA8 KAPLAN RACHEL Evaluation of a Vest-Pocket Park. USDA Forest Service Research Paper NC-195 (1981), 12 pages. Evaluates the effectiveness of a small park in downtown Ann Arbor, Michigan.

1671. 56 IIIB1 CIBULA E.J. "Future Timber Supply and Trade- A Review of Trends." Scottish Forestry, Vol. 35, No. 2 (1981), pages 109-115.

1672. 56 IIIB1 PHELPS ROBERT B. Timber in the United States Economy 1963, 1967, and 1972. USDA Forest Service General Technical Report WO-21 (1980), 90 pages. Timber management, harvesting, primary and secondary manufacturing, construction, transportation and marketing.

1673. 56 IIIB3 BOCHKOV I.M., SOKOLOVA E.G. "Determining the Optimum Amounts of Regeneration Measures in Forest Management Planning." Lesnoe Khozyaistvo, No. 1 (cited in Forestry Abstracts Vol. 42, No. 3). (1980). In Russian, pages 47-51. Mathematical model for determining optimum amounts and combinations of various regeneration measures (plantations, assistance to natural regeneration, natural regeneration, preservation of advance growth, and rehabilitation of stands) throughout a forest enterprise, taking into account both silvicultural and economic constraints.

1674. 56 IIIB3 RYABCHINSKII A.E., POLOZHENTSEV I.P., ZOLOTOV S.A. "Cost Effectiveness in the Utilization and Renewal of Forests." Lesnoe Khozyaistvo No. 4 (1980) In Russian. Pages 29-30. Cited in Forestry Abstracts Vol. 42, No. 5. In order to evaluate the succession of species after felling in the Ufa region of eastern Russia, the coefficient of cost effectiveness was determined. Only spruce/fir stands are profitable with pure stands more cost effective than mixed stands.

1675. 56 IIIB3 WUNSCH JAMES S. "Renewable Resource Management, Decentralization and Localization in the Sahel: the Case of Afforestation." Paper presented at African Studies Association Annual Meeting for Panel on Renewable Natural Resources Management in the Sahel: the Issue of Popular Participation. (1980), 32 pages.

1676. 56 IIIE3 "Establishing Forest Stands in Highlands." Der Forst- und Holzwirt, Hannover, No. 12 (1981) In German. Pages 260-293. Reports from a meeting covering aspects of stand establishment, of soil preparation, tree selection, planting and seeding, and the applied techniques and machinery.

1677. 56 IIIB4 KNIGHT HERB, SHEFFIELD R.M. "Thinning Opportunities in Pine Plantations in the Southeast during the 1980's." In, Thinning Southern Pine Plantations: Integrating Economics and Biology. South. For. Econ. Workshop, Long Beach, Miss. (1980), pages 18-26. Thinnings during the 1980's could produce up to 2.8 million cords/year, 23 percent of the current annual roundwood pulpwood volume. This would represent a significant contribution to pulpwood production.

1678. 56 IIIB4 O'BRIEN D. "Economics of Spacing, Respacing and Thinning." In, Growing Space in Coniferous Crops - Supplement to Irish Forestry, Vol. 37, No. 2. (1980), pages 77-96. For the two prices assumed, lower crop densities than those now practiced lead to greater profitability if wood quality is not drastically reduced. There is a need for detailed examination of the relationship between silvicultural treatment and wood quality.

1679. 56 IIIB4 PHILLIPS J.C.L. "Some Fffects of a No-Thinning Regime on Forest Management." In, Growing Space in Coniferous Crops - Supplement to Irish Forestry, Vol. 37, No. 2 (1980), pages 33-44. The Northern Ireland Forest Service has adopted a no-thinning policy for Sitka spruce on most areas of peat and gley soils due to experience of early windthrow following thinning both in Northern Ireland and elsewhere on such sites. Justification for this decision and its effects on production timing, employment, road construction, recreation, conservation, landscape values and the work of the forester.

1680. 56 IIIB4 VASIEVICH J. MICHAEL "Timber Stand Improvement - A Method for Determining Profitability." In, Proceedings of the Eighth Annual Hardwood Symp., Asheville, NC (1980), pages 100-117.

1681. 56 IIIB5 DAVAR ZAL, RUNYON K.L. Economic Analysis of Three Silvicultural Systems Used in the Management of Tolerant Hardwoods in Nova Scotia. Canadian Forestry Service Dept. of the Environment, Information Report M-X-107. (1980). In English with English and French abstracts. 22 pages. Two variations of clearcutting, strip cutting, and shelterwood cutting are compared. Net present value (NPV) is used to compare results, however, nonfinancial impacts such as wildlife, water, and aesthetics are identified for each system.

1682. 56 IIIB5 SINITSYN S.G. "Economic Achievement of the Principle of Sustained Yield." Lesnoe Khozyaĭstvo, No. 1 (cited in Forestry Abstracts Vol. 42, No. 3). (1980). In Russian. Pages 43-47. Legal basis of the principle of sustained yield in forestry in the USSR and the application of the principle in perpetuity. Changes in utilization in areas with mature stands and in areas with young stands are illustrated with diagrams. Practical conclusions are drawn regarding strategy and tactics of forest management.

1683. 56 IIIB5 VON GADOW K. "The Principle of Sustension in Forestry Planning." South African Forestry Journal, No. 114. (1980), pages 25-28. The principle of sustained yield (sustension) is an essential concept in forestry planning. Traditional "permissible felling volume" is not a very practical criterion for yield planning from plantations. When the result of alternative felling strategies can be predicted, it is more practical to determine a desirable felling volume with the aid of simulation.

1684. 56 IIIC GUNDERMANN E. "The Impact of Forest-Road Construction in High Mountains on Forest Recreation and Landscape Scenery." Forstwissenschaftliches Centralblatt, Vol. 100, No. 2 (1981) In German with an English summary. Pages 65-75. A method is developed to evaluate forest roads, planned or existing, on their cost-benefit aspects as well as their impacts on forest recreation and landscape scenery.

1685. 56 IIID1 PYNE STEPHEN J. "Fire Policy and Fire Research in the U.S. Forest Service." Journal of Forestry, Vol. 25, No. 2 (1981), pages 64-77.

1686. 56 IIID1 TRAIMOND B. "Fire in the Heather, or Burning as a Fact of Sociology." Revue Forestière Française, Special Number 1980, Society and Forests, Vol. 32 (1981). In French, pages 333-343.

1687. 56 IIID3 HERRICK OWEN W. "Forest Pest Management Economics - Application to the Cypsy Moth." Forest Science, Vol. 27, No. 1 (1981), pages 128-138. Management costs should be balanced against the reduction of impact caused by forest pest infestation. An adaptation of least-cost-plus-loss economic theory, using gypsy moth control, illustrates incremental analysis of impacts and costs as one way to pursue maximum effectiveness in forest pest management investment.

1688. 56 IIID3 WEIDHAAS JOHN A. JR. "The Problem with Insects is People." Journal of Arboriculture, Vol. 7, No. 5. (1981), pages 117-122. The public is increasingly involved in more rapid spread of insects, the decision-making process in insect control programs and regulations of pest control activities. Arborists need to be concerned with "people" problems as well as insect problems.

1689. 56 IIID4 JACOBI W.R., COWLING E.B., COST N.D. "Disease Losses in North Carolina Forests: III. Rationale and Recommendations for Future Cooperative Survey Efforts." Plant Disease, Vol. 64, No. 6 (1980), pages 579-581. Cooperative effort by university, state, federal, and Renewable Resources Evaluation (RRE) personnel provided the first objective estimates of damage to North Carolina forests since 1952. Advantages and limitations of using RRE data for estimates of disease losses and recommendations for a regionwide cooperative program to improve disease loss assessments in the southeastern United States.

1690. 56 IIIE BOYER WILLIAM D.; FARRAR ROBERT M. "Thirty Years of Management on a Small Longleaf Pine Forest." Southern Journal of Applied Forestry, Vol. 5, No. 2 (1981), pages 73-77. A management demonstration in an understocked 40-acre tract of

second-growth longleaf pine forest in south Alabama was begun in 1948. Although periodic harvests removed 3,833 board feet per acre, standing volume after 30 years of management has increased to 5,408 board feet per acre. Management costs have been minor.

1691. 56 IIIE DENIZET A. "The Need for a More Efficient Reorganization of Forest Management." Revue Forestière Française, Vol. 32, No. 5 (1980) In French, pages 467-471.

1692. 56 IIIE. GUNDERMANN E. "Selected Methods of Identifying and Evaluating Goals and Their Application in Forestry." Forstarchiv Hannover, No. 2 (1981) In German with an English abstract. Pages 51-57. Methods like brainstorming, Delphi-technique, utility analysis, and others are not very common in forestry but an increased application of these methods is to be expected in future.

1693. 56 IIIE HANN DAVID W. Development and Evaluation of an Even- and Uneven-Aged Ponderosa Pine/Arizona Fescue Stand Simulator. USDA Forest Service Research Paper INT-267 (1980), 95 pages. Construction and validation of a simulator for predicting even-aged and uneven-aged stand development for the ponderosa pine/Arizona fescue habitat type of the Southwest. Resulting simulator characterizes the stand by the number of trees in one inch diameter classes for two vigor components of the stand. Stand dynamics are represented by models for predicting upgrowth, mortality, vigor class conversion, and ingrowth.

1694. 56 IIIE HELLMAN O. "A Special Problem of Large Scale Forest Management." European Journal of Operational Research, Vol. 4, No. 1 (1980), pages 16-18. Cited in Forestry Abstracts Vol. 42, No. 5. Theoretical model for managing a large forest, based on the assumption that a group of pulp mills would be built and the forest managed solely to supply them through a single log depot, under a system of mechanical harvesting followed by immediate replanting.

1695. 56 IIIE RIVAILLON P. "Simple Management Plans in Private Forestry." Revue Forestière Française, Vol. 32, No. 4 (1980). In French, pages 385-388.

1696. 56 IIIE ROSE DIETMAR, FERGUSON KAREN, IOTHNER DAVID C., ZAVITKOVSKI J. An Economic and Energy Analysis of Poplar Intensive Cultures in the Lake States. USDA Forest Service Research Paper NC-196 (1981), 44 pages. Short- (5 to 10 years) and long- (15 years) rotation, irrigated and nonirrigated intensive cultures of hybrid poplar were analyzed economically via cash flow analysis. Energy balances were also calculated for each alternative.

1697. 56 IIIE SOARES BARRETO L. "Natural Resources Management Decision Methods for Multiple Use Objective Problems." Centro de Estudos Florestais, Lisboa (1979) In Portuguese. 25 pages. Taken from: Outdoor Recreation Economics: Methods of Valuing Recreation Resources. Bibliography on recreation economics, sponsored by IUFRO and George Washington Univ., Dept. of Human Kinetics and Leisure Studies (1981). Emphasis of growing importance in local and national forest planning of correct selection between different management alternatives. Multiple use

objective is equally as, or more important than the wood production objective in forest management decisions. Multi-criteria analysis, goal programming, utility functions, and interactive multi-objective linear programming approaches are used.

1698. 56 IVA1A FAO Commodity Review and Outlook, 1980-1981. Rome: FAO Economic and Social Development Series. (1980), pages 98-104. Level of production of roundwood, sawnwood and panel products increased slightly in 1979. Growth in pulp and paper production was stronger. Trade in all products expanded more than production. Outlook for 1981 is for recovery in the United States' housing sector but uncertain economic growth prospects in other major importing countries do not encourage the expectation of expansion in production and trade.

1699. 56 IVA1A Yearbook of Forest Products, 1979. Rome: FAO (1981). In English, French and Spanish. 430 pages.

1700. 56 IVA1B BERTELSON DANIEL F. Arkansas Forest Industries, 1977. USDA Forest Service Resource Bulletin SO-75. (1980), 18 pages. Analysis of total production of softwood and hardwood output by county in Arkansas during 1977.

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1723. 56 IVC3A BOOTH HARRY "Asia's Wood-Based Panels Industry and Trade." Unasylva, Vol. 32, No. 127. (1980), pages 2-7. Current situation and what should be done in view of raw material constraints, costlier energy and shipping and the implications of new technologies.

1724. 56 IVC3A STONE ROBERT N., MCSWAIN GEORGE A. "Wood-Based Panel Products, A Changing Industry in the United States." Unasylva, Vol. 32, No. 127. (1980), pages 8-15.

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1726. 56 IVC8 BURLEY JEFFERY "Obstacles to Tree Planting for Wood Fuel in Arid and Semi-Arid Lands with Particular Reference to India and Kenya." The International Tree Crops Journal, Vol. 1, No. 2/3 (1980). In English with French and Spanish abstracts, pages 147-161. Major constraints to tree planting in arid and semi-arid lands are: land use and tenure problems, community organization, lack of monetarized economy, poor transport and marketing systems, and poor understanding of long-term cost-benefit appraisal.

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1737. 56 VB1 BYRON R.N. "Trans-Tasman Trade in Forest Products - Past and Future." Australian Forestry, Vol. 43, No. 3 (1980), pages 195-202. Australia's export prospects are not independent of developments in the production and marketing of forest products in New Zealand. Over the longer term relative changes in economic variables such as exchange rates, wage levels and rates of inflation are also likely to influence Australia's export prospects. Ideas are presented on the impacts of moves towards closer economic cooperation between New Zealand and Australia and on the potential for rationalized developments in certain forest commodities.

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1741. 56 VB3 JACKSON BEN DOUGLAS "An Economic Analysis of the Long-Run Timber Market in East Texas." Ph.D. dissertation, Texas A&M University (1980) Available through University Microfilms International.

1742. 56 VB3 WISEMAN A. CLARK, SEDJO ROGER A. "Effects of an Export Embargo on Related Goods: Logs and Lumber." American Journal of Agricultural Economics, Vol. 63, No. 3 (1981), pages 423-429. A model is utilized to derive estimates of the market-equilibrium, net welfare, and welfare incidence effects of a hypothetical embargo of softwood log exports from the Pacific Coast region of the United States. The approach is potentially applicable to the analysis of various restrictions on primary products exports which may be instituted to maintain the viability of domestic processing industries.

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1746. 56 VB5A OLIVER PETER "Bleached Kraft Pulp Market Forecast to Continue Strong through 1985." Pulp and Paper, Vol. 55, No. 5 (1981), pages 167-171. Evaluation of major factors affecting bleached pulp supply and demand to 1985 indicates prices should reflect fuel cost pass-through.

1747. 56 VB5B GUSTAFSSON KARL-FREDRIK "Market Pulp Supply from Sweden Will Remain Steady through the 1980s." Pulp and Paper, Vol. 55, No. 8 (1981), pages 147-149. With higher efficiencies and lower shipping costs than North American mills, Sweden is expected to remain competitive in the European market.

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1750. 56 VC2 HERRICK OWEN W., GANSNER DAVID A. Timber Prices in the Northern United States, 1978. USDA Forest Service Research Note NE-300 (1980), 8 pages. Sawtimber and cordwood prices (1978) and the range in price per unit from sales on nonindustrial private woodlands are reported for the Northern U.S.

1751. 56 VC2 HUTCHINS CECIL C. JR. Pulpwood Prices in the Southeast, 1979. USDA Forest Service Research Note SE-306 (1981), 3 pages. Expenditures for wood fiber in the Southeast during 1979 were $960.8 million, an increase of 8.7 percent over 1978. Prices per standard cord of roundwood pulpwood was $40.65 for softwood, a 12.1 percent increase, and $30.40 for hardwood, an increase of 8 percent. Green chip prices per ton averaged $17.15 for softwood and $13.05 for hardwood; they increased 7.9 and 8.8 percent, respectively. Softwood sawdust prices were up 22.8 percent, while hardwood prices were unchanged.

1752. 56 VC2 PELCNER JÚLIUS "Economic Analysis of the Rentability of Hardwood Timber and the Possibility of Improving the Formation of Timber." Lesnícky Časopis, Vol. 27, No. 2 (1981). In Czech with an English summary, pages 143-156.

SUBJECT INDEX

This index is best used in conjunction with the Subject-matter Classification Scheme at the front of this issue. For example, if the user enters the index at Administration, forest, he is referred to Section III of the bibliography, because to be more specific would require subdividing the topic essentially as the Classification Scheme does. The user's next step is to turn to the Scheme, where he finds that forest administration in general is IIIA1, administration pertaining to forest roads is IIIC, and so on.

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