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REPORT OF THE

**Victoria, British Columbia
16-19 February 1982**

**ELEVENTH SESSION
OF THE NORTH AMERICAN
FORESTRY COMMISSION**



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

PREVIOUS SESSIONS OF THE COMMISSION

First Session	Mexico, D.F., Mexico	24-29 July 1961
Second Session	Ottawa, Canada	17-22 June 1963
Third Session	Washington, D.C., U.S.A.	18-22 October 1965
Fourth Session	Mexico, D.F., Mexico	2-7 October 1967
Fifth Session	Ottawa, Canada	15-20 September 1969
Sixth Session	Washington, D.C., U.S.A.	27-31 March 1972
Seventh Session	Mexico, D.F., Mexico	4-8 February 1974
Eighth Session	Ottawa, Canada	23-27 February 1976
Ninth Session	San Juan, Puerto Rico, U.S.A.	13-17 February 1978
Tenth Session	Pátzcuaro, Mich., Mexico	18-22 February 1980

R E P O R T
of the
ELEVENTH SESSION
of the
NORTH AMERICAN FORESTRY COMMISSION

held in Victoria, British Columbia, Canada

16-19 February 1982

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 1982

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SUMMARY OF RECOMMENDATIONS

A. ADDRESSED TO MEMBER GOVERNMENTS

The Commission:

1. Recognizing the potential air pollution problems posed by the large-scale burning of wood for energy, stressed the need for appropriate government control; (para.50)
2. Stressed the importance of Mexico being represented at the proposed workshop on biological control of forest insects and diseases, sponsored by the Study Group on Forest Insects and Diseases, to be held at Sault Ste. Marie, Ontario (Canada); (para.60)
3. Agreed that funding for research on techniques for measuring forest biomass in tropical Mexico be sought from Member Governments of the Commission; (para.68)
4. Agreed that Mexico draw up the terms of reference of the Study Group on Multiple-Use Forestry; (para.71)
5. Supported the proposal that a seminar on the social and economic aspects of forestry be organized by Canada in 1983, if possible with FAO co-sponsorship (para.88).

B. ADDRESSED TO FAO

The Commission:

1. In order to promote better cooperation between the North American and the Latin American Forestry Commissions in the fields of forest management and fire control, recommended that informal contacts be established during the Sixth Session of the Committee on Forestry in May 1982; (para.56)
2. Recognizing the importance of the problems of acid rain and of small woodlot owners, and considering the need for a trilingual forestry vocabulary, endorsed the recommendation of the Committee of Alternates that appropriate items on these topics be included on the agenda of its future sessions; (para.79)
3. Supported the emphasis given by FAO in its forestry programme to the development of tropical and subtropical forest and related resources, the establishment of appropriate forest industries, and the strengthening of forestry research and institutions; and, recognizing the value of wildlife as a source of protein and as a viable non-wood forest product, stressed the need for increased emphasis on wildlife management; (paras 73 and 85)
4. Supported the publication and distribution, in cooperation with the FAO Forestry Department, of those technical papers produced by its study groups which are of particular relevance to the needs of developing countries; (para.87)
5. Supported the proposal that a seminar on the social and economic aspects of forestry be organized by Canada in 1983, if possible with FAO co-sponsorship (para.88).

C. ADDRESSED TO NAFC SUBSIDIARY BODIES

The Commission:

1. Decided that energy use, production and conservation be included in the activities of its study groups; (para.50)
2. Urged its study groups to invite experts from member countries of the Latin American Forestry Commission to participate in specific aspects of their work within the spirit of the decision of the two Commissions to strengthen their cooperation; (paras 53, 56, 66 and 80)
3. Agreed that the Study Group on Forest Tree Improvement compile a list of source references of forest species used for food production and other special purposes; (para.52)
4. Endorsed the proposal that the Study Group on Forest Insects and Diseases prepare a book entitled "Cone and Seed Disease of North American Conifers" (as a companion publication to "Cone and Seed Insects of North American Conifers" printed in 1980). Stressed the importance of Mexico being represented at the proposed workshop on biological control of forest insects and diseases, sponsored by the Study Group, to be held at Sault Ste. Marie, Ontario (Canada); (paras 58 and 60)
5. Agreed that the Study Group on Remote Sensing should act independently and that Mexico would participate more actively in its work; endorsed the recommendation of the Committee of Alternates that the chairmanship of the Study Group should now pass to Canada; (paras 64-65)
6. Endorsed the recommendations of the Committee of Alternates that (i) only one Study Group on Silviculture be maintained giving emphasis to tropical silviculture; (ii) that a future meeting of the Group take place in Canada in order to give an opportunity to also consider silvicultural developments in the temperate zone; (iii) the Study Group submit proposals and budgets for publishing a Directory of Tropical Silviculturists of North America and a Manual of Silvics for the North American Tropics, and (iv) funding for research on techniques for measuring forest biomass in tropical Mexico be sought from Member Governments of the Commission; (para.68)
7. Agreed that Mexico draw up the terms of reference of the Study Group on Multiple-Use Forestry; (para.71)
8. Noting the new proposal from the Study Group on Wildlife concerning the need to develop criteria for faunal habitat classification, decided that the target audience should be land managers rather than researchers, and that the Land Classification and that of Wildlife should be conducted in parallel; endorsed the recommendation of the Committee of Alternates that the Study Group on Wildlife should be maintained as a separate entity; (paras 73-74)
9. Agreed to the proposals made by the Study Group on Forest Engineering concerning its future activities and in particular (i) the supplement to the handbook on "Basic Technology in Forest Operations" and (ii) the directory of expertise and organizations studying harvesting technology; (para.77)
10. Agreed that the next meeting of the Committee of Alternates be held during the Sixth Session of the Committee on Forestry in May 1982; (para.81)
11. Supported the publication and distribution, in cooperation with the FAO Forestry Department, of those technical papers produced by its study groups which are of particular relevance to the needs of developing countries (para.87).

I. INTRODUCTION (Item 1 of the Agenda)

1. The Eleventh Session of the North American Forestry Commission was held in Victoria, British Columbia, Canada, from 16 to 19 February 1982, at the kind invitation of the Government of Canada.

2. The session was opened by Mr. F.L.C. Reed, Assistant Deputy Minister of Forestry, Canadian Forestry Service, Ottawa, who chaired the session as provided by Rule II.3 of the Rules of Procedure of the Commission.

3. Mr. T.M. Apsey, Deputy Minister of Forestry for the Province of British Columbia, addressed the Commission and stressed the changing role of forests in the economic development of the Province of British Columbia which were now called upon to meet all future demands for industry and economic development in the face of competing interests for land use.

4. Dr. M.A. Flores Rodas, Assistant Director-General, Forestry Department, FAO, expressed thanks on behalf of the Director-General of FAO, Mr. Edouard Saouma, to the Government of Canada for hosting the Eleventh Session of the North American Forestry Commission. During the short period of two years which had elapsed since the Tenth Session held in Mexico, several developments of relevance to the forestry sector had taken place, amongst which a general downturn in forest production during 1980-81 and the fuelwood crisis upon which the United Nations Conference on New and Renewable Sources of Energy held in Nairobi had focussed its attention. He stressed the fact that the perpetuation of the tropical forests was not a silvicultural but a social problem and informed the Commission that the development strategy adopted by the Committee on Forestry in May 1980 had gained wider acceptance in many international fora. In concluding, he drew attention to the fact that the rapid development of forestry and forest industries was creating pressure for change and expressed the hope that the foresters of the North American Region would support FAO in assisting forest services in developing countries to respond to these new pressures.

5. The Commission designated the following as members of the Drafting Committee: R. Buckman (USA), J.M. de la Puente E. (Mexico) and D.V. Myles (Canada). R. Levingston (FAO) acted as Secretary. The list of participants is given in Appendix B.

II. ADOPTION OF THE AGENDA (Item 2 of the Agenda)

6. The Commission approved the Provisional Agenda (Appendix A) with the clarification that in reviewing study group activities under Item 7, the question of creating new or abolishing existing study groups should also be considered. The list of documents considered by the Commission appears in Appendix C.

III. THE STATE OF FORESTRY IN NORTH AMERICA (Item 3 of the Agenda)

7. Statements on progress, problems and policies in forestry were given by the heads of delegations.

8. Mexico: Dr. Avelino B. Villa Salas, Under-Secretary for Forestry and Wildlife, Mexico, highlighted the efforts made toward multiple-purpose forestry, namely the integration of water regime regulation, soil protection, provision of wildlife habitat and amelioration of the environment with wood production.

9. A forest policy and planning paper had been prepared and the restructuring of the Forestry and Wildlife Under-Secretariat completed during 1981.

10. With the support of new Agriculture and Forest Development legislation, new production units were being established resulting in production which had exceeded the 1980 level and reached 9.1 million cubic metres of roundwood during 1981, with a value equivalent to 17 thousand million pesos. Forest investment in 1981 had amounted to 37 thousand million pesos. The sawmilling industry, comprising 1,396 sawmills of various capacities, had generated 83,023 jobs in 1980, the pulp industry 30,225 and the wood panel industry 30,345.

11. New developments included the establishment of plantations of rubber (Hevea brasiliensis) and Guayule (Parthenium argentatum); decentralization of the national forest research effort into 7 regional field stations and 26 experimental areas; reduction in the incidence of forest fire by 44 percent; production of 34 million tree seedlings and planting of 25 million trees for land rehabilitation; treatment of 10,000 ha against the bark beetle (Dendroctonus spp.); the promotion of awareness through the implementation of "The Day of the Tree" and the "Festival of Forestry", involving local inhabitants in forest management through a mixed enterprise approach; and technical and scientific agreements concluded with more than 30 countries. Government expenditure on forestry in 1981 had increased more than any other item in the national budget.

12. United States of America: Mr. R. Max Peterson, Chief of the U.S. Forest Service, reported general interest in developing energy sources on all lands. Although wood had re-emerged as a popular energy source, the overall timber market was significantly depressed.

13. Recent forestry development in the USA included a national assessment of the Nation's forests and rangelands leading to the formulation of a programme of Forest Service activities; the involvement of the public in reviewing national forestry goals and objectives; the draft EIS (Environmental Impact Statement) and programme and the soliciting of public opinion on regional and individual forest planning. Meanwhile regulations were being streamlined and costs reduced.

14. The 18 May 1980 eruption of the Mount St. Helen's volcano had severely damaged 61,200 acres of National Forest and 89,400 acres of State and privately-owned land and given rise to the creation of the first "National Volcanic Area".

15. Development in wood use included a tenfold increase in the fuelwood harvest, the move toward wood-derived energy by forest industries and the realization that the present fuelwood resources could supply up to 10 percent of the Nation's energy needs. About 60 percent of this resource was located on Federal land and 25 percent within the National Forest System. Meanwhile the decline in short-term interest rates would lead to the establishment of about 1.29 million units in 1982, but real improvement could not be expected until 1983.

16. Significant breakthroughs in forest research included: the development of a forest fuel appraisal process; criteria for prescribed burning of logging slash; fire ignition from helicopters; production by seed orchards of seed of rust-resistant southern pines, sufficient for the propagation of 15-20 million seedlings per year; development of ecological criteria for the revegetation of mined areas, and improved techniques for testing pollen viability after storage.

17. Extension of research results to private enterprise and state forest services had led to the improvement of wood utilization, reforestation and urban forestry extending to 164,000 woodland owners in 1981; the reforestation of 497,000 acres of non-industrial private land and the development of the truss-framed construction system. Forest fire-fighting in Southern California had been improved through the FIRESCOPE research programme and the joint CANUSA spruce budworm programme tackled the spread of this pest which had defoliated 4.3 million acres in the western USA and 3.5 million acres in the East of the country. At the same time research was being conducted to control the gypsy moth and mountain pine beetle which had seriously affected 12 million and 4.1 million acres of forest respectively.

18. Activities of the National Forest System included the sale of 11.4 billion board feet of timber and the harvesting of 8.0 billion board feet; the formulation of specific National Forest management plans which permitted a departure from the "non-declining even flow" policy when consistent with multiple-use objectives; and the addition of 60.7 million acres to the National Wilderness Preservation System.

19. The Commission discussed such points as the harvesting of residues for energy production; the introduction of socio-economic studies into current professional curricula; the need to modify the policy of non-declining even flow where possible; the possibility of controlled grazing on forest lands; the extension of research results to private enterprise and land-owners and the impact of the present recession on the sales of building materials. It also recognized the effective efforts of the USA to reduce costs of forestry administration.

20. Canada: Mr. F.L.C. Reed, Assistant Deputy Minister, Canadian Forestry Service, presented the report of his country, indicating that the recognition of the need for more intensive forest management in Canada's forests had been given further impetus through the Canadian Forest Congress (September 1980) and the adoption of the "Forestry Imperatives" report.

21. Canada had recognized the importance of forestry through the elevation of the post of Director-General of the Canadian Forest Service to that of Assistant Deputy Minister. Other developments in the policy/legislation field included the approval of a forest sector strategy by Cabinet; changes in provincial legislation reflecting the need for more intensive resource utilization and management; and the need to increase annual reforestation from 200,000 ha to 700,000 ha to reflect the increase in annual allowable cut from the present 160 million m³ to 200 million m³ by the year 2000. At the same time, net foreign exchange earnings of US\$11.8 billion had been realized from forest industry exports, which constituted 11 percent of the total exports from the country.

22. In the field of forestry research and development, Canada's ENFOR (Energy from the Forest) Programme had achieved advances in forest biomass inventory, techniques for harvesting and processing logging residues and processes for the production of liquid fuels; the acid rain problem was being studied; the collection and presentation of forestry statistics had been accelerated through the creation in 1980 of the Canadian Forest Resource Data Programme; work on the spruce budworm (Choristoneuro fumiferana) programme was continued under the auspices of CANUSA; research continued on the control of the mountain pine bark beetle (Dendroctonus ponderosa) which had infested 160,000 ha and caused a 10 percent reduction of the annual allowable cut in British Columbia; the expansion of fire research and the establishment of a federal/provincial fire information centre following the loss of 5.2 million ha by forest fire in 1981 were proposed.

23. A Memorandum of Understanding, aimed at promoting technical cooperation in forestry, had been signed with the People's Republic of China.

IV. REPORT OF THE SEVENTH SESSION OF THE COMMITTEE OF ALTERNATES (Item 4 of the Agenda)

24. Mr. G.A. Stenecker, Head, International Forestry Relations, Canadian Forestry Service, reported that the Seventh Session of the NAFC Committee of Alternates had been held in Washington, D.C. on 19 May 1980.

25. Recommendations had been made for the establishment of closer links between the North American and the Latin American Forestry Commission study groups.

26. The activities of the Study Groups on Forest Tree Improvement, Fire Management, Remote Sensing, Forest Insects and Diseases, Silviculture, Outdoor Recreation, Wildlife, Small Woodland Owners, and Forest Engineering had also been reported on and were presented in detail in the report of the Committee. Moreover, it had been recommended that (1) the Study Group on Small Woodland Owners be dissolved, and (2) the Eleventh Session of the NAFC be held in Victoria, British Columbia, Canada.

27. Comments from the Commission on the report included:

- the need to elect the next chairman for the NAFC (the chairmanship will now move to the USA for the next biennium);
- the need to decide on the lieu of the next meeting;
- the need to decide on the theme of the next meeting;
- the need for the formal report of the meetings of the Committee of Alternates to be forwarded to the Chairman of the NAFC, to all members of the COA and to FAO.

V. FAO FORESTRY ACTIVITIES (Item 5 of the Agenda)

28. Dr. Flores Rodas, Assistant Director-General, referred to document FO:NAFC/82/4 summarizing the recent developments and evolution of the forestry programmes of FAO, including a review of the 1980-81 biennium and the Programme of Work and Budget for 1982-83.

29. The current Programme of Work of FAO in Forestry reflected the need to plan and implement forestry programmes/projects bearing in mind that people were the beneficiaries and the protagonists of development. It focussed on the problems of poverty, rural employment, the fuelwood crisis, and environmental degradation.

30. Dr. Flores Rodas reported that forestry development had been slowest and had little impact on rural dwellers in those countries where it was most needed. At the same time the pressure on forests to supply energy needs had become a serious problem due, amongst other things, to the breakdown of traditional land-use systems because of population pressure and "development" interventions.

31. FAO stressed the need to assist developing countries to achieve self-reliance in forest management and forestry development based on a strategy which harmonized forest production, protection and the social benefits derived from the forest resource. This strategy emphasized the role of forestry in rural development, the eradication of rural poverty and the integration of forestry with other forms of land use.

32. Massive investment in human and physical resources and technical and institutional innovations were required in forestry in order to achieve integrated and balanced development. This was reflected in the FAO Regular Programme of technical activities for the 1982-83 biennium which comprised the following Programmes:

- 2.3.1 Forest Resources and Environment: concerned with problems of low intensity of forest management, its attendant problems and the need for improved knowledge and research.
- 2.3.2 Forest Industries and Trade: dealing with viable alternatives to the wasteful utilization of forest resources through the establishment of appropriate forest industries, improvement of knowledge on resources, the development potential of forest-based industries and correction of imbalances of trained manpower and markets.
- 2.3.3: Forest Investment and Institutions: working toward greater investment in forestry, strengthening of forestry institutions, clarification of forest policies and legislation, improved administration and the furnishing of statistics and information for decision-making.
- 2.3.4: Forestry for Rural Development: aimed at making forestry an effective instrument of rural development through community forestry, agro-sylvo-pastoral systems and fuelwood as indicated in the "Declaration of Principles and Plan of Action of the World Conference on Agrarian Reform and Rural Development".

Within the above Programmes flexible sub-programmes provided adequate cover of the need to promote integrated management of forest resources.

33. FAO Regular Programme resources for the 1982-83 biennium amounted to US\$14.7 million. About US\$66 million would be available from other sources for field projects, as well as some US\$200 million in food aid for forestry development from the World Food Programme.

34. UNDP still provided about 80 percent of the finance for FAO's technical assistance programme in Forestry but the share of the Government Cooperative Programme was steadily growing under which two programmes were of particular importance:

- "Forestry for Local Community Development" supported by SIDA (Swedish International Development Authority);
- "Forestry for Rural Energy" supported by the Governments of Finland and the Netherlands.

35. The FAO programme in Forestry as approved by the Twenty-first Session of the FAO Conference in November 1981 aimed at stimulating technical cooperation between regions and member countries and particularly action at country level. The NAFC's assistance in this would be welcome.

36. Despite impending financial constraints, the Commission suggested that FAO:

- improve its information system covering forecasts in both developed and developing countries;
- improve the quality of financial statistics;
- cooperate with the NAFC and IUFRO, if possible, in the preparation of publications.

VI. ENERGY, WOODY BIOMASS AND FORESTRY (Item 6 of the Agenda)

37. Reports on the situation on Energy, Woody Biomass and Forestry were presented by representatives of the three delegations under the chairmanship of Mr. F.L.C. Reed (Canada).

38. Mexico: The report was presented by Ing. José M. de la Puente, Director-General, Unidad de Apoyo Técnico, who stated that, as in other countries, the management of energy-producing materials, as well as the production of food, were basic aspects of national development policies. Mexico depended to a large degree on the forest biomass as a source of energy for rural areas.

39. Sr. de la Puente drew attention to the fact that Mexico's population is expected to be 30 million by the year 2000 and stressed the need to develop all possible alternative sources of energy including that of wood, particularly in rural areas.

40. The total demand for wood was about 28 million cubic metres of which 50 percent was used for industry and the rest for rural needs, which amounted to about 8 cubic metres per dwelling per year.

41. Three programmes had been devised to cater to the above needs:

- Energy Production: natural forest management, government and domestic energy plantations and use of industrial wood residues;
- Energy Saving: improvement of wood-burning stoves consistent with local cultural needs;
- Energy Substitution: development of alternative sources of energy such as solar power, natural gas and oil, without jeopardizing the contribution of wood and charcoal but rationalizing their use.

These measures would save time and effort in the production of fuelwood, reduce its cost, increase forest yield, ensure adequate supplies to industry and make use of industrial wood residues. It would also improve the wellbeing of rural dwellers and assist in promoting education in villages while assisting in balancing the supply and demand for energy.

42. United States of America: The report was presented by Mr. J.R. Erickson, who stated that wood supplied a little less than 2 exajoules of the energy needs in the United States but its use for this purpose was growing.

43. The energy equivalent of the annual 544 metric tons of unused forest biomass was 10.8 exajoules, or 255 million metric tons of oil. If only 50 percent of the 544 million dry metric tons could be recovered, an additional 5.4 exajoules of energy could be provided each year from wood.

44. Schemes had been developed for internal energy programme planning and included biomass assessment, improved silvicultural practice, recovery of biomass, substitution of biomass for petrochemical and gaseous fuels, energy conservation, use of forests to provide wood for energy and environmental protection. Biomass volume and weight tables and regional biomass estimates, including regional biomass supply and demand models, would have to be developed. In addition, knowledge would have to be improved on forest management alternatives for biomass production, short-rotation silviculture, harvesting of biomass, substitution of biomass for fossil fuels, integration of the conversion of wood to energy with its conversion for industrial purposes, and the conservation of energy through various means including the improvement of energy efficiency in manufacturing processes.

45. Progress had been made in using wood for energy: residential heating with wood was expanding; research was being carried out on the most efficient means of converting wood to energy. Meanwhile, the use of wood for energy products and resource assessment and management guidelines were being refined while the United States were fostering international cooperation on the use of woody biomass for energy.

46. Canada: The report was presented by Dr. R.C. Dobbs, Coordinator of the ENFOR (Energy from the Forest) Programme for Canada who indicated that, although Canada was rich in energy, domestic oil reserves were not adequate to sustain current consumption. The National Energy Programme (NEP) was aiming at reducing oil consumption by 20 percent by 1990 through an increase in the energy contribution from forest biomass from 3.1 percent to 6 percent.

47. The forest industry, Canada's foremost industrial user of energy, generated over 40 percent of its own requirements by burning spent pulping liquor and hog fuel. This energy represented most of the 3.1 percent coming from forest biomass. Remaining mill residues, and a large proportion of logging residues and non-commercial trees would have to be used to achieve the NEP target of 6 percent.

48. The Federal Government had initiated a number of programmes to promote the use of biomass and these were:

- (a) ENFOR (Energy from the Forest), a contract R & D programme administered by the Canadian Forest Service which had two sub-programmes, Biomass Production and Biomass Conversion;
- (b) environmental impacts of accelerated biomass removal.

49. In commenting on the three papers, the Commission noted the use of improved wood stoves in Mexico. It recognized the validity of energy from biomass as a true forest product and the constraint to development its deficit posed.

50. The Commission decided that energy use, production and conservation be included in the activities of its study groups. It recognized the potential air pollution problems posed by the large-scale burning of wood for energy and stressed the need for appropriate government control.

VII. REVIEW OF STUDY GROUP ACTIVITIES (Item 7 of the Agenda)

(a) Study Group on Forest Tree Improvement

51. The Chairman of the Study Group on Forest Tree Improvement, Mr. D.P. Fowler (Canada), reviewed the activities of the last two years and advised that the Thirteenth Session of the Study Group had been held at San Cristobal de las Casas, Mexico, 24-28 November 1980, during which three national reports had been presented.

52. The work of the Study Group had originally covered 25 tasks, of which 7 remained to be completed. Two had been completed in 1980: Task 24, a manual on "Cone and Seed Insects of North American Conifers", prepared jointly with the Study Group on Forest Insects and Diseases, distributed in English and nearing completion in Spanish, and Task 25, a glossary of terms commonly used in forest genetics and tree improvement in three languages, which was in the final editing stage. A new task, N^o 26, was to: "compile a list of source references of forest species used for food production and other special purposes and to determine the need for additional information". The Commission agreed.

53. The Fourteenth Session of the Study Group was scheduled for Fredericton, New Brunswick, Canada for the first week of October. Meanwhile the Committee of Alternates was requested to establish contact with LAFC tree breeders to promote collaboration in this field.

(b) Study Group on Fire Management

54. The Chairman of the Study Group, Mr. D.E. Williams (Canada), reported that the 1980 meeting of the Study Group had been held in Oaxaca, Mexico, 20-24 October. Following presentation of reports from the three participating countries, members had been divided into three ad hoc working groups for further discussion and to prepare recommendations for consideration by the Study Group in plenary session.

55. The Forest Fire Control working group had drafted five recommendations dealing with cooperative training between Mexico and the USA and the Technology Group four recommendations concerning means of technology transfer among the three countries.

56. The Commission recommended that informal contacts be established during the COFO session in Rome in May 1982 between the North American and the Latin American Forestry Commissions.

(c) Study Group on Forest Insects and Diseases

57. In the absence of the Chairman of the Study Group, the report was delivered by Mr. D.R. Macdonald (Canada) who stated that the Study Group on Forest Insects and Diseases had met in Pingree Park, Colorado, USA, 16-18 September 1980, and in Acapulco, Guerrero, Mexico, 13-15 October 1981.

58. The group had published "Cone and Seed Insects of North American Conifers" in 1980 and had agreed to publish its companion "Cone and Seed Diseases of North American Conifers" by December 1984. The Commission endorsed this proposal. It was also planned to sponsor a workshop on the biological control of forest insects and diseases at Sault Ste Marie, Ontario, Canada.

59. A paper on "Quarantine Requirements and Procedures to Prevent the Introduction and Spread of Exotic Pests of Mutual Concern to Member Countries of the North American Forestry Commission", published in 1972, was now under revision and would be available in 1982. The next meeting of the Study Group was to be held jointly or concurrently with the Study Group on Forest Tree Improvement in Fredericton, New Brunswick, Canada. The new chairman was Thomas E. Steiner of the Canadian Forest Service.

60. The Commission stressed the importance of Mexico participating in the proposed workshop on biological control of forest insects and diseases in Ontario, to which the Mexican delegation agreed.

(d) Study Group on Remote Sensing

61. In the absence of the Chairman, the report was delivered by Mr. J.R. Erickson (USA) who stated that as of 1 November 1981 the Study Group on Remote Sensing was fully complemented with the nomination of the Mexican representatives.

62. Mr. Harold L. Strickland had served as Interim Chairman, and Mr. Karl Hegg as Executive Secretary until the February 1982 COA meeting, when it was expected that Mexican members would assume these posts.

63. The Study Group had developed standards to evaluate centres of remote sensing expertise and were in the process of drawing up a list. An annotated bibliography on short remote sensing courses was being updated and extended to include Canadian and Mexican training sources. In addition, in collaboration with the Study Group on Wildlife, a habitat map for North America had been developed.

64. The Commission recognized the potential benefits to be derived from remote sensing techniques. It was agreed that the Study Group should act independently rather than merely in support of the activities of other study groups and it was further agreed that Mexico would more actively participate in the work conducted by the USA and Canada.

65. The Commission endorsed the recommendation of the Committee of Alternates that the chairmanship of the Study Group on Remote Sensing should now pass to Canada.

(e) Study Group on Silviculture

66. The report of the Study Group was presented by Mr. J. Arnott (Canada), who indicated that during the Tenth Session of the Commission a number of recommendations had been made that had influenced the work of the Study Group as follows:

- to continue emphasis on tropical rather than temperate-zone silviculture;
- to coordinate the approach to the use of forest biomass for energy;
- to develop a workshop on research in tropical silviculture;
- to organize jointly with LAFC a technical meeting on agro-forestry;
- to make results available to forestry colleagues in Latin America.

67. Since the Tenth Session, the Group had met twice (most recently in November 1981) and the status of its project work was as follows:

- Directory of Tropical Silviculturists of North America - in preparation;
- Manual of Silvics for Forestry in the North American Tropics - in preparation;
- Tropical forest biomass energy inventorying techniques - prepared;
- Insular/continental tropical forest productivity research - being promoted;
- Species and provenance screening research techniques - in use in tropical North America;
- Agroforestry silviculture - proposal for a compendium of silvical information for trees which are of special value for this purpose;
- Workshop on Research in Tropical Silviculture - endorsed by the Commission and re-scheduled for Mexico in November 1981;
- Workshop on Agroforestry - abandoned.

68. The Commission endorsed the recommendations of the Committee of Alternates in that:

- (i) only one Study Group on Silviculture be maintained giving emphasis to tropical silviculture;
- (ii) the future meeting of the Group should take place in Canada in order to give an opportunity to also consider silvicultural developments in the temperate zone;
- (iii) the Study Group should submit proposals and budgets for publishing a "Directory of Tropical Silviculturists of North America" and a "Manual of Silvics for the North American Tropics";
- (iv) funding for research on techniques for measuring forest biomass in tropical Mexico be sought from Member Governments of the Commission.

The Commission recognized the importance of the work carried out by the Study Group and its wide application to both temperate and tropical forests.

(f) Study Group on Multiple-Use Forestry

69. The report on the activities of this Study Group was presented by the Group Chairman, Ing. Juan José A. Reyes Rodriguez, who had been designated chairman from 20 November 1981 (although the Group had not yet been formally constituted).

70. It was proposed to undertake the following activities:

- definition of criteria for activities related to wildlife, habitat, conservation of the environment, soil and water;
- continuation of work by Study Groups on Wildlife and Outdoor Recreation;
- formulation of a programme of work;
- formal election of a chairman.

71. The Commission expressed its appreciation of the report but pointed out that the Committee on Outdoor Recreation had been dissolved. It endorsed the recommendation of the Committee of Alternates that membership in the Study Group on Multiple-Use Forestry be based on the initial objectives of the Group and that specific terms of reference be drawn up by Mexico. The Commission considered that operation by sub-groups would detract from the work output of study groups and that an alternative means of operating the Study Group on Multiple-Use Forestry would have to be found, possibly also involving a change in title.

(g) Study Group on Wildlife

72. In the absence of the Chairman, the report was presented by Mr. E.S. Telfer (Canada). The Study Group on Wildlife submitted to the Commission for its consideration and approval the following proposal:

The Wildlife project to be undertaken in the next two years should be the development of a North American Faunal Habitat Classification. Experience in Canada and the USA concerning hierarchical classification of land as ecosystems was proposed as the starting point. The objective would be to develop faunal habitat classification criteria within the framework of a general purpose ecosystem classification, comparable to classification criteria for landform, soil, water, potential, and current vegetation.

73. The Commission acknowledged the feasibility of the proposal, decided that the target audience should be land managers rather than researchers, and that the Land Classification and that of Wildlife should be conducted in parallel. Furthermore, recognizing the value of wildlife as a source of protein and as a viable non-wood forest product, the Commission stressed the need for increased emphasis on wildlife management in FAO's programmes.

74. The Commission endorsed the recommendation of the Committee of Alternates that the activities of the Study Group on Wildlife should be kept separate from those of the Study Group on Multiple-Use Forestry and that it should be maintained as a separate entity.

(h) Study Group on Forest Engineering

75. The report of this Study Group was presented by Mr. J.R. Erickson, U.S. Forest Service. The Study Group had concentrated on harvesting technology and biomass energy and had received support from FAO/SIDA to publish a handbook on "Basic Technology in Forest Operations". Recommendations from reviews were being incorporated and final publication was envisaged. In addition, a two-week tour of wood energy projects in the USA had been arranged for engineers from Mexico, and the Mexican Forest Service had sponsored and held an International Symposium on Forest Biomass for Energy in 1979.

76. The Study Group had met on 15 February 1982 and submitted a number of activities for Commission approval, comprising preparation of a supplement to the handbook on "Basic Technology in Forest Operations"; scheduling a seminar on species selection; harvesting and conversion for short-rotation production; developing a directory of expertise and organizations studying harvesting technologies; improving information exchange on biomass energy and continuing work on "organization of forest owners".

77. The Commission agreed to these proposals, in particular those regarding the handbook on "Basic Technology in Forest Operations" and the directory of expertise and organizations.

(i) General

78. Mr. G. Steneker reported on the meeting of the Committee of Alternates, convened on 17 February 1982 to discuss the role and objectives of various study groups and to make recommendations as reported above.

79. The Commission, recognizing the importance of the problems of acid rain and of small woodlot owners, and considering the need for a trilingual forestry vocabulary, endorsed the recommendation of COA that appropriate items on these topics be included on the agenda of its future sessions.

80. The Commission urged its study groups to invite experts from LAFC (Latin American Forestry Commission) member countries to participate in specific aspects of their work within the spirit of the decision of the two Commissions to strengthen their cooperation.

81. The Commission agreed that the next meeting of the Committee of Alternates be held during the Sixth Session of the Committee on Forestry, Rome, 3-7 May 1982.

VIII. TECHNICAL ITEMS (Item 8 of the Agenda)

Spruce Budworm Control

82. The subject was presented jointly by Mr. R.W. Stark (USA), Programme Manager, CANUSA (West), and Mr. B. Taylor, Assistant Programme Leader, CANUSA (East).

83. The speakers described the "Decision Support System" where models were being developed for use in forest and forest pest management as well as providing a basis for economic analyses by computer programmes such as MUSYC, TIMBER RAM MODEL II and/or FORPLAN. The combined models comprise PROGNOSIS (Stand Prognosis), BWMOD (Spruce Budworm Development) and BWFLY (Western Spruce Budworm Dispersal). The most recent version of PROGNOSIS was being used by private companies in the USA and Canada and was being calibrated for eastern Oregon, Washington, western Canada, and in the future for California and Utah.

84. The Commission, in considering aspects of biological control, noted that the widespread use of insecticides was deleterious to insect predators, ants in particular, which are considered more effective in the short-term than birds. The effect of spruce budworm in eastern Canada/USA was more severe than in the West and serious thought had to be given to the possibility of continuing the programme beyond 1985.

IX. MATTERS REFERRED TO THE ATTENTION OF THE COMMITTEE ON FORESTRY (Item 9 of the Agenda)

85. The North American Forestry Commission supported the emphasis given by FAO in its forestry programme to:

- (a) the development of tropical and subtropical forest and related resources such as wildlife;
- (b) the establishment of appropriate forest industries, and
- (c) the strengthening of forestry research and institutions

and noted with satisfaction that these issues were to be examined by COFO at its forthcoming Sixth Session.

86. The Eleventh Session of the North American Forestry Commission transmitted to COFO the unanimous support of the delegations present to the hosting by Mexico of the Ninth World Forestry Congress and suggested that close consideration be given by COFO, in collaboration with members of the North American Forestry Commission, to the determination of an appropriate theme for the above Congress along the lines of "The management of forests as a legacy from the past and a challenge for the future".

87. The Commission supported close cooperation of the North American Forestry Commission with the FAO Forestry Department in the publication and distribution of those technical papers produced by its study groups which are of particular relevance to the needs of developing countries.

X. BUSINESS OF THE COMMISSION (Item 10 of the Agenda)

(a) Other Business

88. The Commission supported the proposal that a seminar on the social and economic aspects of forestry be organized by Canada in 1983, if possible with FAO co-sponsorship. Suggestions for specific topics were invited.

(b) Election of Officers

89. The following officers were elected by the Commission to hold office during the forthcoming biennium, the Vice-Chairmen being nominated in accordance with Rule II.1 of the Commission's Rules of Procedure:

Chairman:	R. Max Peterson (USA)
First Vice-Chairman:	A.B. Villa Salas (Mexico)
Second Vice-Chairman:	F.L.C. Reed (Canada)

90. The election of the Chairman of the new Committee of Alternates was deferred to the next meeting of that Committee in Rome, May 1982, together with the nominations of the Alternate Delegates from Mexico and Canada.

(c) Date and Place of Next Session

91. Mr. Peterson invited the Commission to hold its next session in the United States of America, at a time and place to be determined in consultation with the Director-General, but bearing in mind the suggestions from the floor that the next meeting be located in an arid or semi-arid zone.

(d) Adoption of the Report

92. The draft report of the session was adopted by the Commission (but would be) subject to later minor amendments by members of delegations and study groups.

XI. CLOSING OF SESSION (Item 11 of the Agenda)

93. Considerable satisfaction was expressed by the heads of delegations as to the work of the Commission over the past biennium.

94. Dr. Flores Rodas expressed thanks on behalf of the Director-General of FAO to the North American Forestry Commission for its effective, cooperative and pragmatic efforts for forestry development and thanked the Canadian Government for its hospitality during the Eleventh Session of the Commission.

AGENDA

1. Opening of the Session
2. Adoption of the Agenda
3. The state of forestry in North America:
 - (a) Mexico
 - (b) United States of America
 - (c) Canada
4. Report of the Seventh Session of the Committee of Alternates
5. FAO forestry activities: Review biennium 1980-81 and Programme of Work and Budget for 1982-83
6. Energy, woody biomass and forestry. Theme papers on the national programmes:
 - (a) Mexico
 - (b) United States of America
 - (c) Canada
7. Review of Study Group activities:
 - (a) Study Group on Forest Tree Improvement
 - (b) Study Group on Fire Management
 - (c) Study Group on Forest Insects and Diseases
 - (d) Study Group on Remote Sensing
 - (e) Study Group on Silviculture
 - (f) Study Group on Multiple-Use Forestry
 - (g) Study Group on Wildlife
 - (h) Study Group on Forest Engineering
8. Technical items:
 - (a) Spruce budworm control - An exposition of the CANUSA programme by the United States of America and Canada
 - (b) Other
9. Matters to be referred to the attention of the Committee on Forestry
10. Business of the Commission:
 - (a) Other business
 - (b) Election of Officers
 - (c) Date and place of next Session
 - (d) Adoption of the report
11. Closing of Session

LIST OF DELEGATES AND OBSERVERS
LISTA DE DELEGADOS Y OBSERVADORES

Chairman
Presidente

F.L.C. REED
(Canada/Canadá)

Vice-Chairmen
Vicepresidentes

R.M. PETERSON
(United States of America/Estados Unidos
de América)

A.B. VILLA SALAS
(Mexico/México)

Secretary
Secretario

R. LEVINGSTON
(FAO)

MEMBERS OF THE COMMISSION
MIEMBROS DE LA COMISION

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<p>Delegate T.M. APSEY Deputy Minister B.C. Ministry of Forests</p>	Victoria	<p>Adviser D. MYLES Research and Technical Services Directorate, Canadian Forestry Service, Department of the Environment</p>	Ottawa
<p>Alternate J.H. CAYFORD Director General Research and Technical Services Directorate, Canadian Forestry Service, Department of the Environment</p>	Ottawa	<p>Adviser R.W. ROBERTS Chief, Forest Resources Branch Canadian International Development Agency (CIDA), Resources Branch</p>	Hull
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<p>Adviser R.C. DOBBS Research and Technical Services Directorate, Canadian Forestry Service, Department of the Environment</p>	Ottawa	<p>Adviser W. YOUNG Chief Forester B.C. Ministry of Forests</p>	Victoria
<p>Adviser D.P. FOWLER Research Scientist Maritime Forest Research Centre Canadian Forestry Service Department of the Environment</p>	Fredericton	<p>Observer J. DOBIE Consultant Reid, Collins and Associates Ltd.</p>	Vancouver
		<p>Observer A. HOPWOOD Consultant T.M. Thomson and Associates Ltd.</p>	Brentwood Bay

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Observer J. NEMETH Remote Sensing Officer B.C. Ministry of Forests	Victoria	Observador M. LUNA VERDUZCO Director General del Organismo Productos Forestales de la Tarahumara	Chihuahua
Observer R.A. SHEBBEARE Vice President, Forest and Environment, Council of Forest Industries of B.C.	Vancouver	Observador J.G. RAMIREZ MALDONADO Subdirector Forestal del Organismo Productos Forestales de la Tarahumara	Chihuahua
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<u>MEXICO</u>			
Delegado A.B. VILLA SALAS Subsecretario Forestal y de la Fauna Subsecretaría Forestal y de la Fauna S.A.R.H.	México	Observador A. VARGAS GUTIERREZ Secretario Técnico de la Dirección General para el Desarrollo Forestal Subsecretaría Forestal y de la Fauna, S.A.R.H.	México
Suplente J.M. DE LA PUENTE E. Director General de la Unidad de Apoyo Técnico, Subsecretaría Forestal y de la Fauna, S.A.R.H.	México		
Asesor J.J. REYES-RODRIGUEZ Director General de la Fauna Silvestre, Subsecretaría Forestal y de la Fauna, S.A.R.H.	México		
<u>UNITED STATES OF AMERICA - ESTADOS UNIDOS DE AMERICA</u>			
		Delegate R.M. PETERSON Chief, U.S. Forest Service Department of Agriculture	Washington

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Adviser
T.A. WALBRIDGE Jr. Blacksburg
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Virginia Polytechnic Institute
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OBSERVERS FROM NON-GOVERNMENTAL ORGANIZATIONS
OBSERVADORES DE LAS ORGANIZACIONES NO GUBERNAMENTALES

International Union for the Conservation of Nature and Natural Resources
Unión Internacional para la Conservación de la Naturaleza y sus Recursos

P.M. PETERSON Washington
Chief, U.S. Forest Service
Department of Agriculture

APPENDIX C

LIST OF DOCUMENTS

<u>Agenda Item</u>	<u>Code</u>	<u>Title</u>
2	FO:NAFC/82/1	Provisional Agenda and Timetable
3	FO:NAFC/82/2(a)	Report on Forestry Activities in Mexico, 1980-81
3	FO:NAFC/82/2(b)	Forestry in the United States, 1980-81
3	FO:NAFC/82/2(c)	State of Forestry in Canada
4	FO:NAFC/82/3	Report of the Seventh Session of the Committee of Alternates
5	FO:NAFC/82/4	FAO Forestry Activities: Review Biennium 1980-81 and Programme of Work and Budget for 1982-83
6	FO:NAFC/82/5(a)	Wood, Source of Energy in Rural Communities in Mexico
6	FO:NAFC/82/5(b)	Energy, Woody Biomass and Forestry in the United States
6	FO:NAFC/82/5(c)	Energy from the Forests of Canada
7	FO:NAFC/82/6(a)	Report by Study Group on Forest Tree Improvement
7	FO:NAFC/82/6(b)	Report by Study Group on Fire Management
7	FO:NAFC/82/6(c)	Report by Study Group on Forest Insects and Diseases
7	FO:NAFC/82/6(d) and Annex	Report by Study Group on Remote Sensing
7	FO:NAFC/82/6(e) and Annex	Report by Study Group on Silviculture
7	FO:NAFC/82/6(f)	Report by Study Group on Multiple-Use Forestry
7	FO:NAFC/82/6(g)	Report by Study Group on Wildlife
7	FO:NAFC/82/6(h)	Report by Study Group on Forest Engineering
8	FO:NAFC/82/7	The CANUSA Spruce Budworm Project

MIEMBROS DE LA COMISION

Canadá
Estados Unidos de América
México