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# In our Contemporaries

## What's new in Forest Research

No. 200 Vapour Boron treatment

No. 201 Waste disposal in the wood preservation and sawmilling industries

No. 202 Reducing nitrogen pollution of lakes and streams

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## FRI Bulletins

No. 124 Introduced forest trees in New Zealand: Recognition, role, and seed sources.

Pt9 The cypresses

Miller J.T., Knowles F.B. (1990)

\$15.00+GST

This booklet, the ninth in the Bulletin No. 124 series, provides a general account of the cypresses in New Zealand, principally *Cupressus macrocarpa*, *C. lusitanica*, and *Chamaecyparis lawsoniana*. It discusses their introduction, history, and role as exotic forest species, their recognition in the field, and the location and quality of current local seed sources.

No. 149 A selective annotated forest energy bibliography

Shula R.G. (1990)

\$24.00+GST

A literature search with the keywords "biomass harvesting" or "chip storage" produces a staggering number of references. The objective of this Bulletin is to provide a selective, annotated, forest energy bibliography (a ready reference) capturing the more relevant, important, worldwide references, while documenting the New Zealand experience.

No. 159 Impact of intensive harvesting on forest site productivity

Dyck W.J., Mees C.A. (1990)

\$45.00+GST

The impact of intensive harvesting on long-term site productivity is not well understood, due both to the complexity of forest ecosystems and to the lack of long-term research in this area. The proceedings of a workshop focusing on these problems include reviews of classification systems and computer models as prediction tools, and discussion key processes and research requirements.

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## NZ Journal of Forestry Science

Keynote Address: Maintaining health in plantation forests

Sweet G.B. Vol. 19(2/3): 143-154 (1989)

This paper suggests that the health of New Zealand's radiata pine forests has declined over the last 30 years and can be expected to continue to decline. There is a need to monitor forest health, largely for the predictive capability this will provide, and to have alternative replacement species.

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## Forest health – An industry perspective of the risks to New Zealand's plantations

New D. Vol. 19(2/3): 155-158 (1989)

New Zealand forest managers are familiar with managing for risks and are anxious to see that the New Zealand forest industries and the Ministry combine their efforts to ensure an objective approach to forest health risk management.

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## Forest health issues in South-east Asian countries

Poole B. Vol. 19(2/3): 159-162 (1989)

Plantations are becoming increasingly important as wood supplies from natural forests are depleted. Pathogens can have severely detrimental effects on tree plantations and foresters have usually responded by changing tree species or siting. Awareness is highest in areas which already have a plantation crop industry, such as rubber or cocoa.

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## Dothistromin risk assessment for forestry workers

Elliott G.S., Mason R.W., Ferry D.G., Edwards I.R. Vol. 19 (2/3): 163-170 (1989)

Environmental contamination with dothistromin has been assessed by sampling forest air, water in the catchment area, and clothing and skin of forestry workers. This work and all the earlier findings with dothistromin have implications for the health and well-being of forestry and other workers.

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Control of Dothistroma needle blight in the *Pinus radiata* stands of Kinleith Forest

Dick A.M.P. Vol. 19(2/3): 171-179 (1989)

Since 1966 copper fungicides have been aerially applied to control Dothistroma needle blight in Kinleith Forest. Current control costs are substantially less than they were when spraying began because of improvements in application techniques and reduction in spray volume. Savings of 56% are estimated if a Dothistroma-resistant breed was established in place of existing breeds.

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## Armillaria root disease in New Zealand forests

Hood I.A. Vol. 19(2/3): 180-197 (1989)

Although the land area being converted from indigenous forest to pine plantation is declining, limited evidence demonstrates that stands already planted on such sites may harbour non-lethal chronic Armillaria infection throughout the rotation, with a consequent reduction in growth yield. Chronic infection may persist in certain second-rotation stands.

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## Forty years of *Sirex noctilio* and *Ips grandicollis* in Australia

Morgan F.D. Vol. 19(2/3): 198-209 (1989)

Both *Sirex noctilio* and *Ips grandicollis* have been involved in serious outbreaks since their respective establishments. Some progress has been made with biological control but success in the long term may depend on attention to key silvicultural aspects of stand management.

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## Decay distribution in relation to pruning and growth stress in plantation-grown *Eucalyptus regnans* in New Zealand

Glass B.P., McKenzie H. Vol. 19(2/3): 210-222 (1989)

Longitudinal movement of decay along the pith was observed in 15 destructively sampled *E. regnans*, as was radial movement towards the pith, but no decay was detected outwards into wood laid down after pruning. Eucalypt pruning guidelines with respect to branch diameter at time of pruning were supported.

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## Paropsine chrysomelid attack on plantations of *Eucalyptus nitens* in Tasmania

de Little D.W. Vol. 19(2/3): 223-227 (1989)

Of the 36 species of paropsine chrysomelids occurring naturally on eucalypts in Tasmania, five species have been observed attacking *E. nitens*, the main eucalypt species used in commercial plantations in Tasmania. Integrated control and resistance breeding programmes are needed to keep these pests in check.

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## Keynote Address: Indigenous forest health in the South Pacific – A plant pathologist's view

Newhook F.J. Vol. 19(2/3): 231-242 (1989)

Canopy dieback, starting with gradual defoliation and twig death, occurs over a wide spectrum of forest types in indigenous forests of the Pacific region. Stress in some form or other is commonly recognised as a contributory factor, e.g., drought, excess water, insect infestation, competition, and combinations of these.

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## Ecological considerations of dieback in New Zealand's indigenous forests

Stewart G.H. Vol. 19(2/3): 243-249 (1989)

Three types of factors influence the dieback of forest stands – factors that predispose stands, trigger factors that initiate dieback, and factors that contribute to further decline. All known examples of dieback in New Zealand *Nothofagus* spp., *Metrosideros* spp., and beech/hardwood forests can be explained using this three-factor framework.

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## Detection of new insects and diseases in indigenous forests in New Zealand

Baddeley C. Vol. 19(2/3): 250-255 (1989)

The prime objective of forest health surveillance is the early detection of introduced insects and pathogens in order to minimise damage, enhance the possibility of eradication, and limit the cost of control. In New Zealand the emphasis has been on protecting plantation forests and little has been done in indigenous forests.

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## *Phytophthora* spp. in indigenous forests in Australia

Davison E.M., Shearer B.L. Vol. 19(2/3): 277-289 (1989)

Indigenous forests in Australia are managed primarily for timber production, water production, and conservation. Soil infestation by *Phytophthora* spp. can affect all of these. Infestation is widespread but affects timber production only in the mixed species eucalypt forests in Victoria and the jarrah forest in Western Australia. It is known to affect water production in Western Australia.

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## Beech forest health – Implications for management

Hosking G.P. Vol. 19(2/3): 290-293 (1989)

Small disturbances in beech forest usually initiate change over much greater areas, especially in mature or overmature stands. Forest managers can take action to reduce the impact of new tracks, camp sites, and picnic areas and retain healthy forest cover. Action to reduce pinhole borer populations and prevent their build-up can be very effective.

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## Identification of Australasian species of wood-decay fungi – A New Zealand perspective

Buchanan P.K. Vol. 19(2/3): 294-305 (1989)

Identification of fruit-bodies of wood-decay fungi (mainly corticioid and polypore fungi) uses both macroscopic and microscopic characters, and the type of associated wood rot. Identification of fungal cultures derived from decayed wood, in the absence of fruit-bodies of the fungus, is hindered by a lack of literature for Australasian species.

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## Recent trends in plant quarantine policy in Australia and New Zealand and their implications for forestry

Wylie F.R. Vol. 19(2/3): 308-317 (1989)

Quarantine policy trends in Australia and New Zealand are similar, being shaped largely by the same pressures and demands, both external (e.g., international moves towards trade liberalisation) and internal (e.g., financial stringencies). A key issue, and the most controversial, is the assessment of "acceptable risk" by means of bio-economic analysis.

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## "User-pays" and the impact on forest produce import and export quarantine in New Zealand.

Cooper A.N. Vol. 19(2/3): 318-329 (1989)

In 1986 the Government brought in its "user-pays" policy, and new fee schedules were introduced in 1987. There was client resistance to paying for regulatory quarantine inspections but some "national good" content was recognised by the Government. The impact of "user-pays" may initially have had some detrimental effect on import inspection effectiveness.

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## Evaluation of the economic impact of newly introduced pests

Baker R., Cowley J. Vol. 19(2/3): 330-334 (1989)

Critical quarantine pests are defined as those which would cause immediate loss of valuable export market access. For quarantine pests (i.e., those which would not necessarily cause loss of export market access) the decision on whether to attempt to eradicate, contain, or accept the pest must be made after establishment.

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## Pine wilt nematode: An example of active risk assessment

Hosking G.P. Vol. 19(2/3): 335-337 (1989)

An investigation of disease impact in the nematode's native range allowed us to avoid unnecessary restrictions on the movement of wood produce. At the same time, it demonstrated willingness to take scientifically well-founded decisions to ensure the best possible use of resources in the protection of our forests from exotic insects and diseases.

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## Quarantine risks imposed by overseas passengers

Sheridan J.E. Vol. 19(2/3): 338-346 (1989)

In the 1980 survey, pathogenic fungi comprised 17% of the total spores collected. Passengers originating from farms carried a significantly greater number of spore types and more rust urediniospores than those from other areas. The likelihood of air passengers introducing new diseases into New Zealand is high.

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## Introduction of poplar and willow pathogens into New Zealand and their effect

**Spiers A.G. Vol. 19(2/3): 347-352 (1989)**

Since 1973, poplars in New Zealand have been attacked by five new pathogens. *Melampsora* rusts and *Marssonina* spp. have defoliated susceptible cultivars and killed mature trees, whereas *Xanthomonas campestris* pv. *populi* has caused little damage. During the same period, tree and shrub willows have been defoliated by two newly introduced rusts.

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## Risk assessment and pest detection surveys for exotic pests and diseases which threaten commercial forestry in New Zealand

**Carter P.C.S. Vol. 19(2/3): 353-374 (1989)**

Regular surveys of port environs and forest areas are justified to detect new introductions of harmful insects or fungi. Early detection allows timely eradication or control action, so minimising losses of forest value. Historical records show an average 4.6 new introductions each year, and timely response to all of these will yield a maximum national benefit of \$8.95 million per annum.

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## History of forest health surveillance in New Zealand

**Kershaw D.J. Vol. 19(2/3): 375-377 (1989)**

Forest health surveillance in New Zealand was initiated in 1956 after insect attack triggered concern about the susceptibility of exotic forests. Surveillance techniques and scientific support developed as the types and areas of greatest risks were identified from operation reviews. Detection of newly established forest insects and fungi has become top priority and surveillance has extended to port environs.

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## Miscellaneous

"ShelterBelts and Woodlots". In "Farmers mid year Diary", July 1990 – June 1991" and "Farmers Diary 1991," Wiljef Publishers, Auckland.

**Sturrock, J.W. : 17 – 20 (1990)**

The advantages and principles of shelter, together with notes on the attri-

butes and uses of some shelter/woodlot species, are outlined in this illustrated article.

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"Towards more efficient shelter" in Xiang, K.; Shi, J.; Baer, N.W.; Sturrock, J.W. (eds) "Protective plantation technology", Publishing House, Northeast Forestry University, Harbin, China.

**Sturrock, J.W. : 46 – 53 (1990)**

This paper outlines factors affecting shelter efficiency, and ways of maintaining and improving this, with emphasis on shelter tree attributes, and the need for continuing development work.

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"New Zealand forest code of practice" New Zealand Logging Industry Research Association

**Vaughan, Lindsay (1990) LIRA member rate \$45.00 LIRA non-member rate \$90.00**

## Environmental aspects of timber construction

The New Zealand Timber Design Society is offering financial support for research into environmental aspects of timber usage as a structural or architectural material.

The President of the Timber Design Society, Dr Andrew Buchanan, said that wood is the only major building material that is a renewable resource.

Wood is an environmentally-friendly material because its production requires much less energy than metals or concrete, resulting in much lower levels of CO<sub>2</sub> emissions.

On the other hand the need to protect important areas of virgin forest is becoming critical in many parts of the world, Dr Buchanan said. Increased use of wood as a building material or feedstock for liquid fuels must be accompanied by establishment of new plantation forests on a massive global scale.

The Timber Design Society has called for research proposals from post-graduate students in engineering, architecture, building science, forestry and resource management, or any other persons.

The Society has allocated up to \$5000 for projects in 1991.

The research topic should include one or more of the following or related areas:

\* Long-term sustainability of timber construction

The aim of this publication is to enable planning and managing of forest operations with regard to their effect on environmental and commercial values.

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## IUFRO World Series

International Union of Forestry Research Organisations is starting a new publication series entitled "IUFRO World Series".

The first two volumes

- "Vocabulary of Forest Management" in English, German, French, Spanish, Italian and Russian.
- "Forest Decimal Classification – Trilingual Short Version" in English, German and French

are already available.

Orders may be addressed to the Secretariat of the International Union of Forestry Research Organisations, Seckendorff – Gudent – Weg 8, A-1131 Vienna – Schoenbrunn, Phone +43-1-820151, Fax +43-1-82955, Tlx. 75312646 iusc a.

- \* CO<sub>2</sub> emissions associated with timber construction
- \* Environmental problems resulting from preservative treatment of timber
- \* Waste and pollution resulting from timber construction
- \* Opportunities for recycling timber as a construction material
- \* Energy aspects of timber buildings
- \* Environmental concerns of owners or designers of timber buildings
- \* Global supply and demand for sustainable sources of timber.

Proposals should be made to New Zealand Timber Design Society, P.O. Box 12-241, Wellington by March 31, 1991.

The New Zealand Timber Design Society is a professional organisation whose members are interested in the design of timber buildings and other uses of wood. Current membership includes architects, designers, engineers and others in the building and timber industries. The Society is a technical group of the Institution of Professional Engineers New Zealand and produces the New Zealand Journal of Timber Construction.

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