

NZIF Forestry Handbook

Editor Mike Colley

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Reviewed by David B. South

New information about forestry is generated every year, both in the laboratory and in the field. In some cases, this information has value which explains why the NZIF Handbook is updated every decade. With each new edition, the Handbook contains more information (112, 143, 240, and 318 A4 pages for editions 1 to 4, respectively). The newest edition contains 13 sections and is about 32% larger than the 1995 Edition. It can be purchased as a spiral-bound copy or as a CD (i.e. a pdf file). The search button (with the CD version) makes locating keywords quick and easy and this eliminates the need for an index (the printed version does not contain an index). Mike and Sue Colley and the editorial committee (Hugh Bigsby and Don Hammond) should be very proud of their efforts. The following provides a brief summary of this excellent reference.

Exotic Plantations (5% of text; 7 subsections) This section contains a history of wood harvesting and tree planting and describes the climate and soils. It also provides a description of the ownership, extent, and make-up of plantations. In the USA, we no longer provide an accounting of the amount of land planted each year. For this reason, I was pleased to see detailed information showing the amount of plantations established (although I am not sure there is a need to present three graphs to illustrate the amount of new land planted).

Indigenous Forests (4% of text; 5 subsections) contains two old subsections (protected areas and forest classification) and three new sections that cover Totara and Kauri plantations and the management and harvesting of native forests. No information is provided on native fauna.

Regulations (5% of text; 5 subsections) This section provides an overview of pertinent statutes and regulations and covers Acts involving Crown Forest Assets, Forests and Rural Fires, Forest Rights Registration, Local Government and Resource Management. It also provides a history and update on three Forestry Accords.

Environment (8% of text; 8 subsections) includes biodiversity, wild animal management, visual impacts, hydrology, carbon sequestration, certification and wastewater treatment. I hope the next edition will contain more comparisons with other land uses (such as how pastureland and row-crops compare with plantations in terms of carbon sequestration and annual nutrient removal).

Plantation Silviculture (18% of text; 18 subsections) is the largest section and deals mostly with conifers (two subsections discuss alternative species). Topics range from nursery production and tree breeding to tree planting, herbicides, fertilization, pruning and thinning. I was particularly pleased to see the new method of planting pines where 15 cm of the stem is buried. This should not only increase initial survival

when droughts follow planting but it should also reduce the amount of toppling to some degree.

Data Collection and Modelling (11% of text; 13 subsections) contains 14 more pages than the 3rd edition. Eight subsections involve data collection and five subsections involve modelling.

Harvesting (7% of text; 8 subsections) This section contains information on planning, roading, methods (including helicopters), transport, costs and environment.

Products and Markets (6% of text; 6 subsections) contains information on log specifications, markets and marketing. Forest certification and chain-of-custody are new topics that were not covered in the 3rd edition.

Utilisation (9% of text; 11 subsections) covers topics involving pulp and paper, sawmilling, panel products, posts and poles, timber preservation and log-product conversion rates. It also covers wood properties, standards, wood energy, and remanufacturing. The information on export logs would also fit in the section on "Forest Products Markets."

Health and Protection (7% of text; 8 subsections) provides information on abiotic factors such as fire, wind, frost as well as biotic pests. Three subsections are devoted to biosecurity which is "now more of an issue than at any other time..." As a result, the annual surveillance costs can amount to about \$1 per ha.

Business and Investment (10% of text; 12 subsections) This section has 6 new subsections (accounting, discount rate, valuation of rural and forest lands, ownership structures, and selling of timber and timberlands). Changing ownership patterns and adopting newer methods of selling stumpage partly explain the need to expand this section.

Personnel (6% of text; 6 subsections) covers education, health and safety, employment, work study, physiological workload and dispute resolution. I was surprised to learn the physiological workload of a tree planter is really less on steep ground than on flat ground.

References (4% of text; 4 subsections) contain a list of species and two NZIF policies. I noticed two typos in the subsection on conversions [one square foot/acre = 0.229568 square metre/ha and one cubic metre/ha = 11.2244 hoppus feet/acre]. I thought there were a few other errors until I remembered that the US is so far behind other countries, we are still using Queen Anne's gallon.

The quality of forestry publications from New Zealand is typically high and the 2005 edition of the NZIF Forestry Handbook is another example of an excellent publication. It is worth the price and would be suitable as a textbook in some introductory forestry courses. Of the forestry handbooks on my desk, it is the only one that is up-to-date and has coloured plates.