



SOUTH WEST
WOODLAND
RENAISSANCE

Resource Assessment for South West England

Jez Ralph

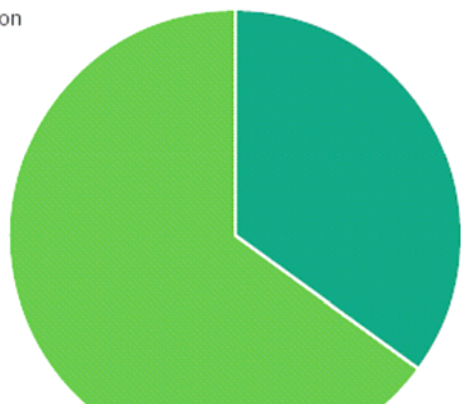


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National Inventory

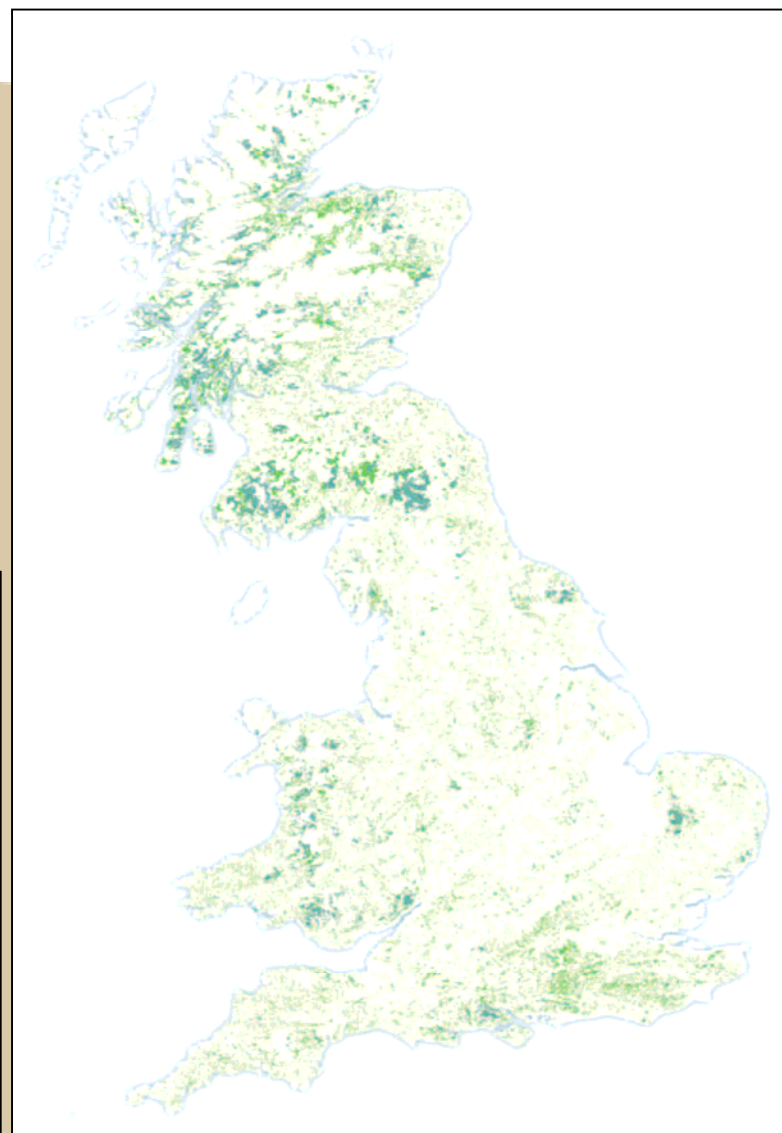
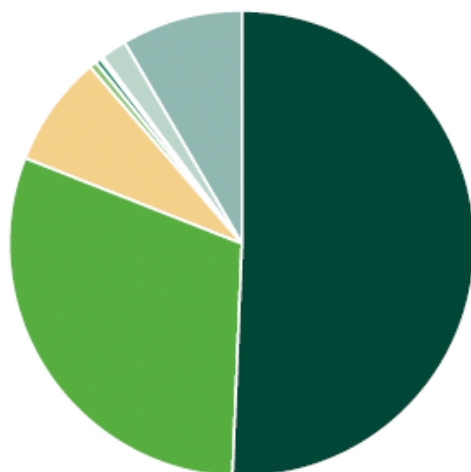
Woodland area by ownership

- Forestry Commission
- Other ownership



Area of woodland by forest type

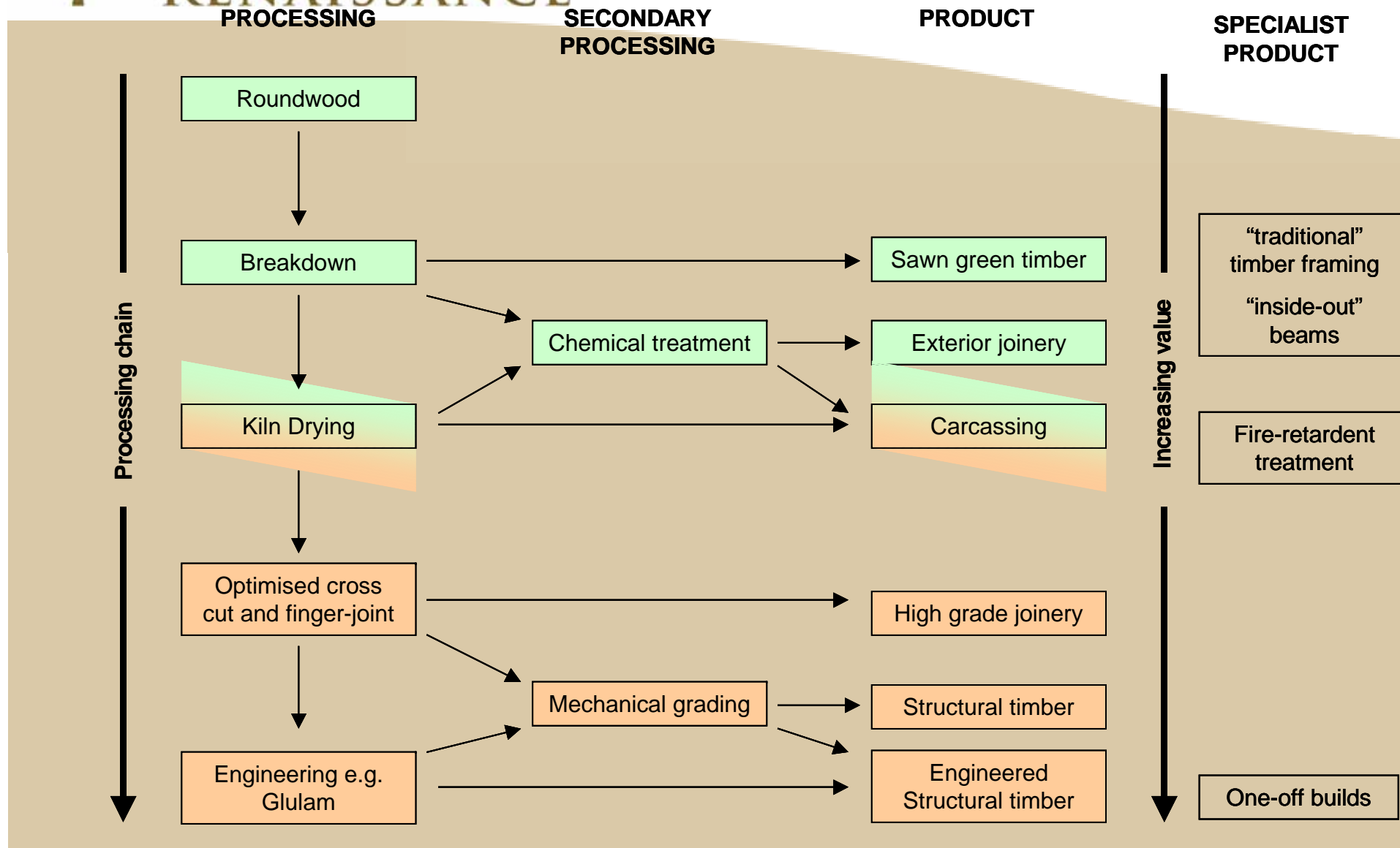
- Conifer
- Broadleaves
- Mixed
- Coppice
- Coppice-w-stds
- Windblow
- Felled
- Open Space





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Timber chain





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What will be achieved

- Research into the current growing stock of commercially grown softwood species
- An estimation of the annual increment of growing stock and forecast possible harvesting volumes.
- Examination and comment on access and extraction issues to complete the picture of resource availability.
- Collaboration with timber properties work
- Analyses of the strengths, weaknesses, opportunities and threats posed by the current and future growing stock in the South West
- Recommendations on forest management based on stocking levels against potential markets, in effect to offer a supply-side perspective on markets for wood products.



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Forestry Commission

Inventory/forecast methodology and 'topping up'

- 'Hybrid' inventory and forecast.
- Existing PS data on species/pyear distribution, accessibility, extractability, yield class, yield models and stocking used.
- Independent survey – validation and scaling-up surveys
- Project survey will increase intensity of plots in species/stand types of key interest to region.
- Preliminary growing stock estimate and forecast delivered in 2008-09.
- SW demonstrates 'best practice' in supporting 2010 forecast.



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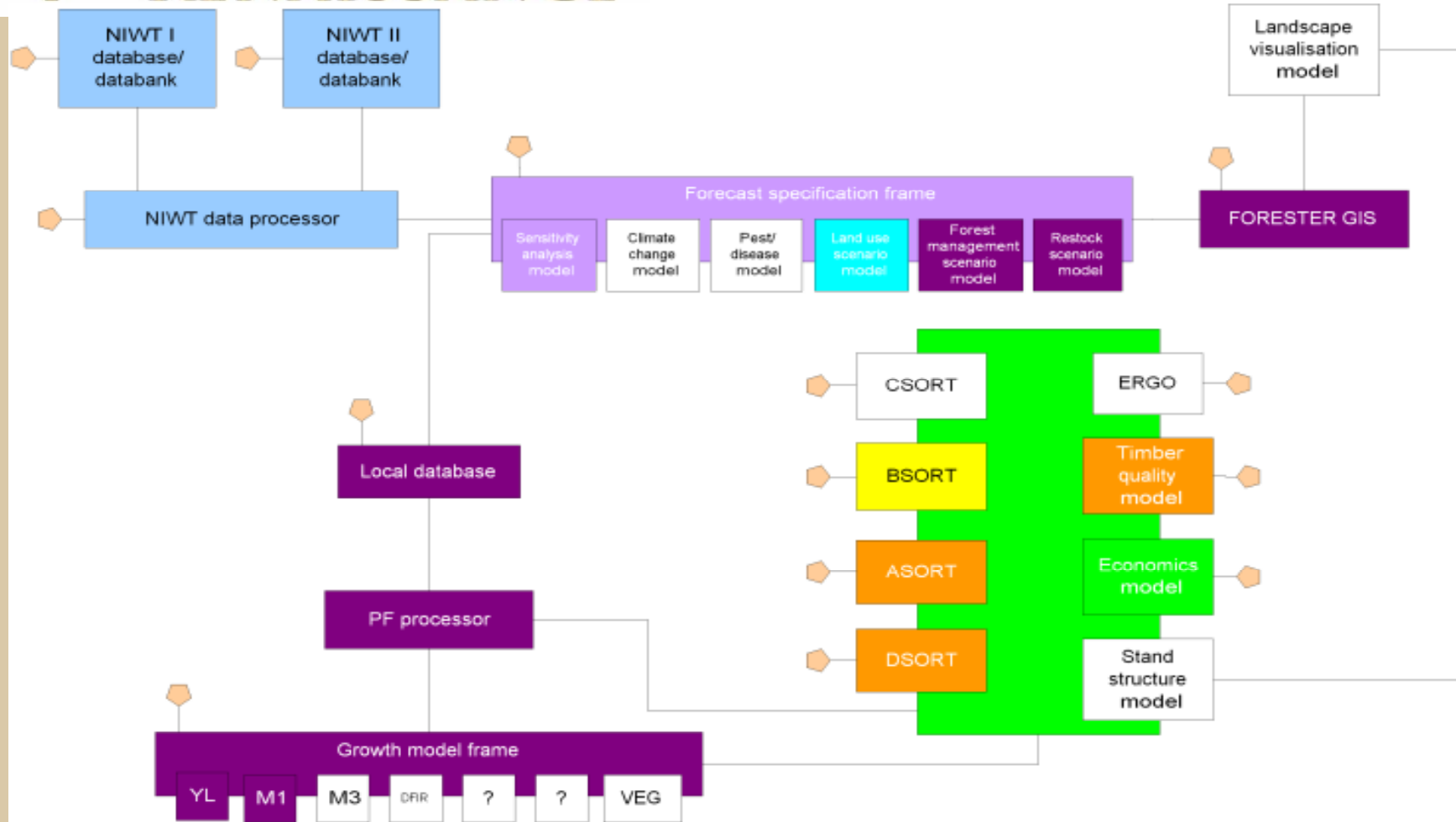
2010 forecast and NIWT2

- Links or exports to:
 - Biomass forecasts
 - Carbon forecasts
 - Growing stock structure forecasts
- Common inputs:
 - Base data model
 - Hierarchical tiers of detail for growing stock and management prescriptions
 - Scenario/option testing
 - Restocking assumptions.



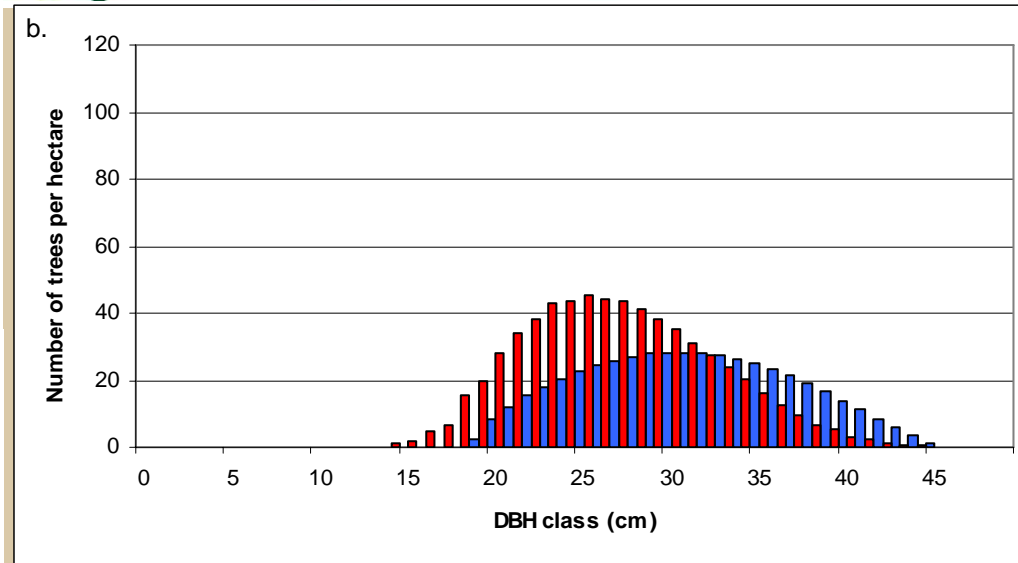
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2010 forecast

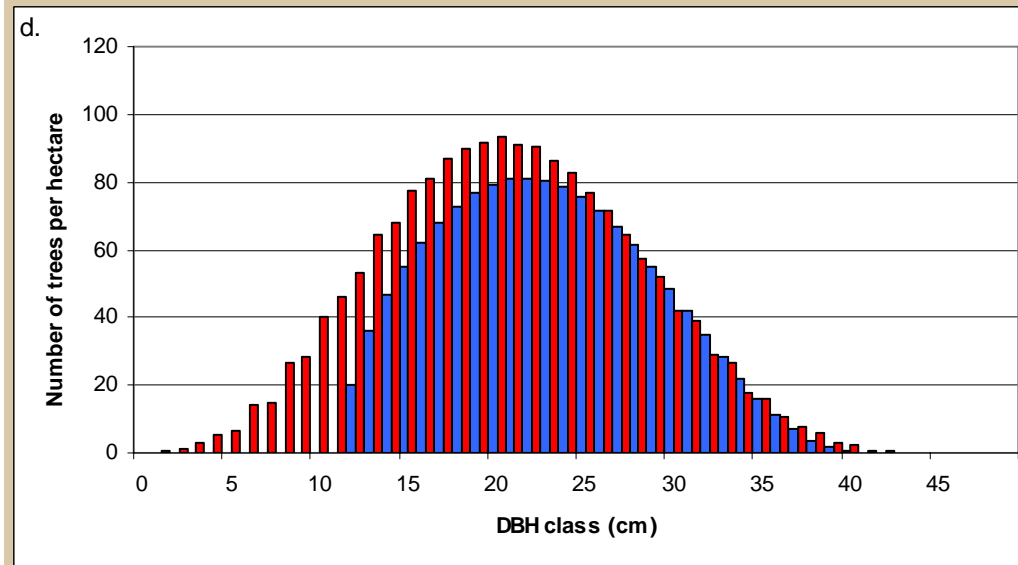


🔗 = Direct Interface

DSORT model: dbh distributions

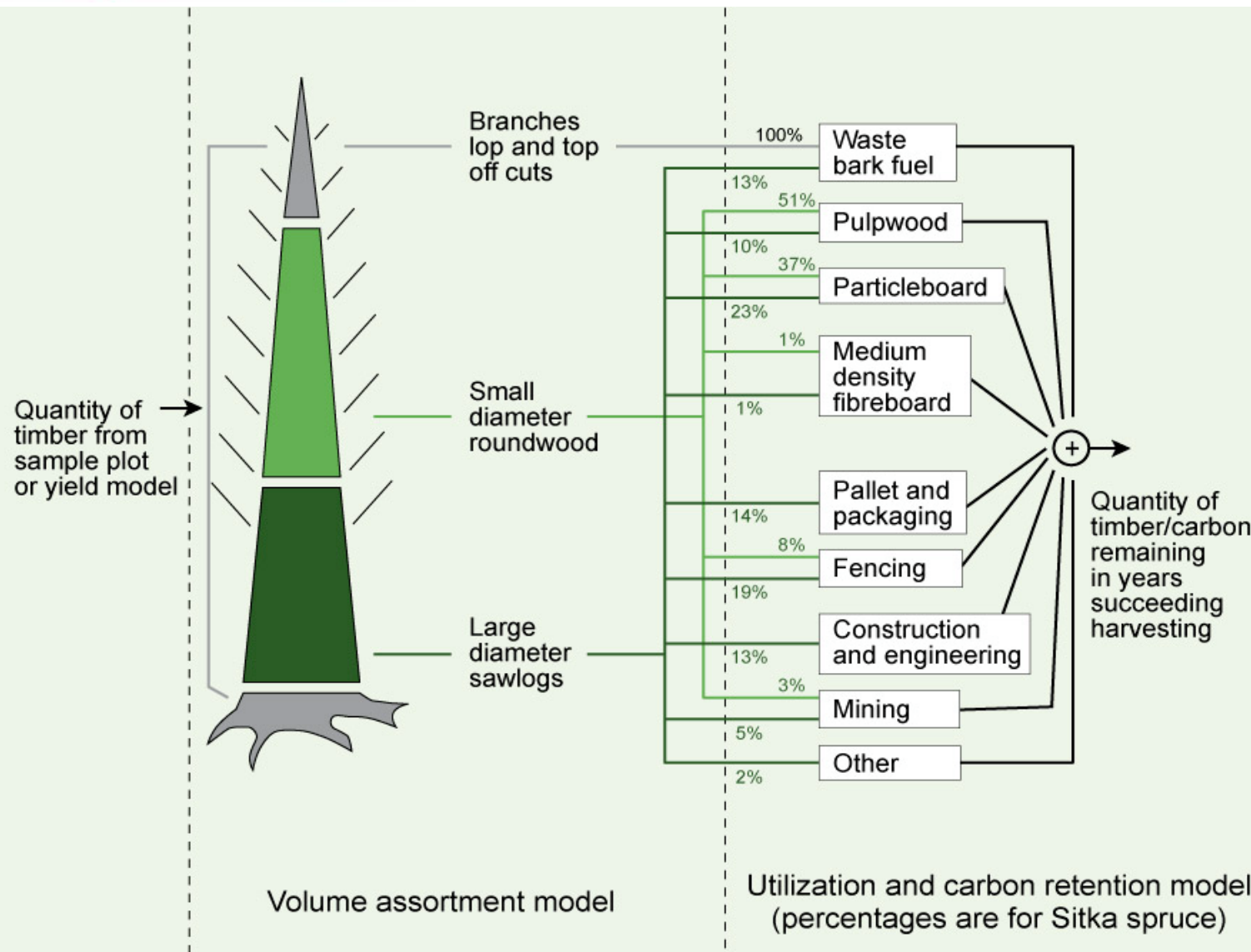


**MT
thin**



**No
thin**

Integrate with timber properties models (QSORT)





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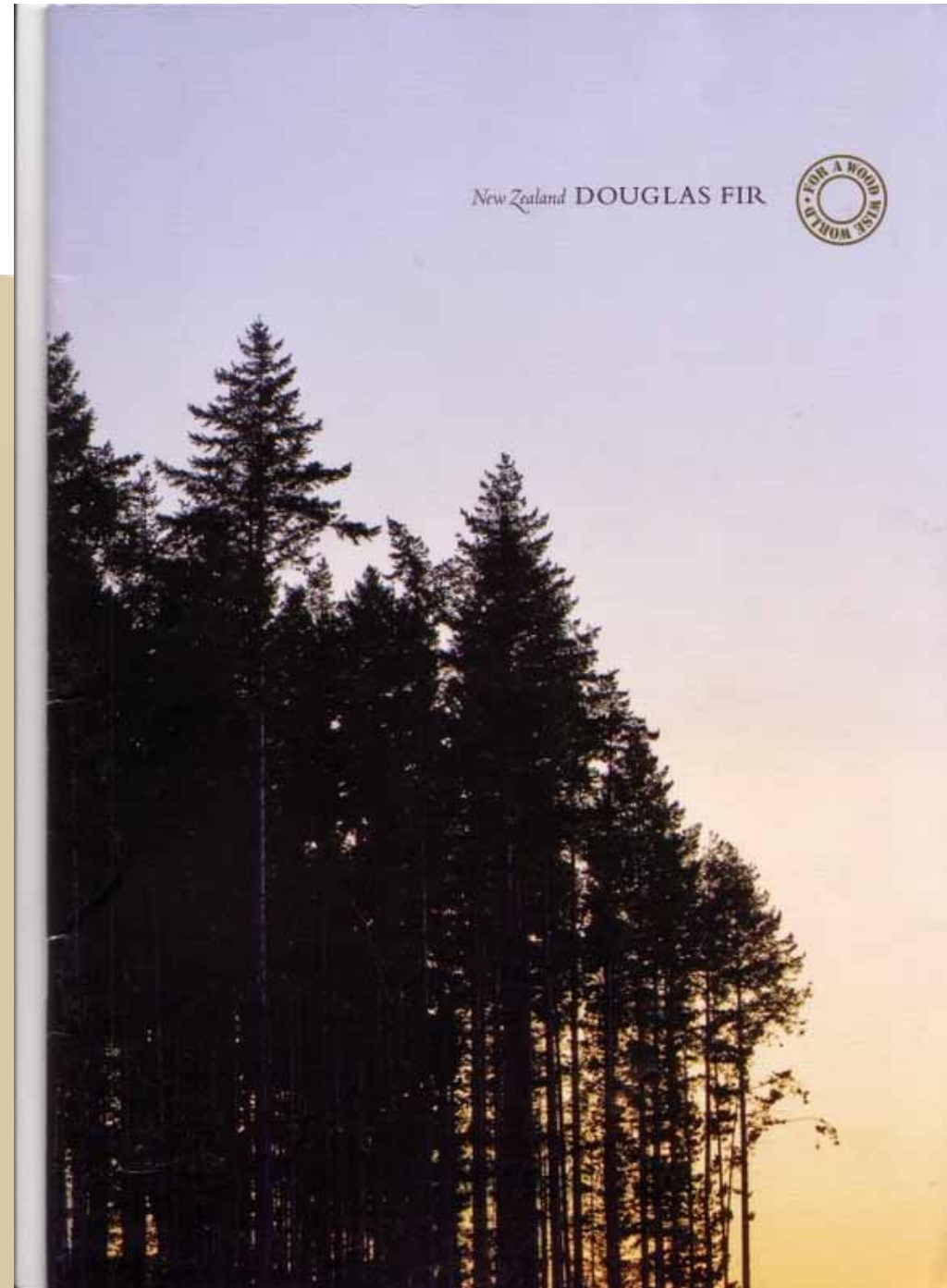
summary

- Growing stock inventory estimate delivered late summer 2008.
- Interim forecast for growing stock delivered within financial year.
- Survey data enhances 2010 forecast for SW region (lower uncertainties, finer resolution).
- Further enhancements with support in kind.



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- **Market based approach to silvicultural prescriptions based on growing the right provenance on the right site to achieve the right properties.**
- **Increased investment in processing through knowledge of expected outturn on known diameters and properties**





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- A more objective assessment of regionally grown timber for use by designers, engineers and end-users
- A knowledge of what timber properties we are likely to be able to produce and what markets to aim our timber at.

If you're looking for proof about the remarkable characteristics of Douglas-fir, here it is. In independent tests, Douglas-fir shows its strength, decay resistance and stability. Simply put, it beats many of your other building options hands down.

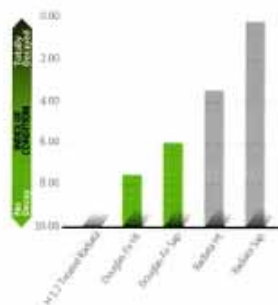
Douglas-fir at a glance

- Douglas-fir is a stable, strong, stiff wood
- Douglas-Fir can be used for framing and engineering purposes where strength and stiffness is particularly important.
- Douglas-fir does not have the low density core characteristics of Radiata Pine
- Douglas-fir does not produce discrete whorls, when branching, which is a huge advantage for structural timber.
- There is a low incidence of spiral grain and compression wood around the pith, which allows the timber to retain its shape and dry better.
- In all regions of New Zealand Douglas-fir easily achieves VSG and MSG 8 and MSG 10 lumber grades including in large end sections for beams and lintels.

Accelerated Decay Trial showing Index of condition and performance under test load after 74 weeks exposure to accelerated decay conditions.

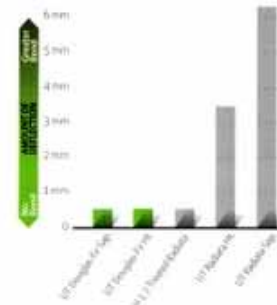
From: *Research on Douglas-fir decay resistance undertaken through funding from the Foundation for Research, Science and Technology (FRST)*

INDEX OF CONDITION



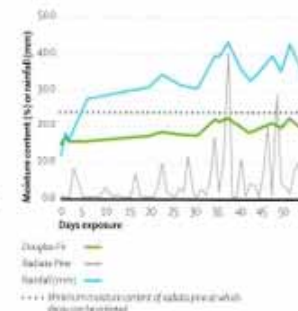
NOTE: The majority of Douglas-fir lumber is harvested while the majority of radiata lumber is squared.

DEFLECTION OF A PLANK UNDER 80KG CENTRAL LOAD OVER 900MM SPAN



NOTE: The majority of Douglas-fir lumber is harvested while the majority of radiata lumber is squared.

MOISTURE CONTENT OF 90x45x2500 RADIATA PINE AND DOUGLAS-FIR EXPOSED TO NATURAL RAIN WETTING AFTER INITIAL ARTIFICIAL ON DAY 0.



Decay Resistance

Because Douglas-fir is a refractory species it resists wetting in these tests. In a research, samples were kept in an artificially high decay environment (Deliberately infected with decay fungi and stored at 95% relative humidity with timber moisture above 30%) in order to 'accelerate' decay, so that results could be established within a reasonable timeframe.

Despite increasing visual signs of fungal growth untreated Douglas-fir performed as well as H1.2 treated radiata pine under a 80kg central load throughout the duration of this trial. The trial is continuing to be measured and updates will be provided at www.douglasfir.co.nz

Untreated Douglas-fir performed as well as H1.2 treated radiata pine under a 80kg central load throughout the duration of this decay resistance test.

Stiffness and Deflection

Whiston branch experience in this test, with alike varieties holding a definite advantage.

Douglas-fir is grown to a much older age than other timber - typically between 40 and 50 years before being harvested. The result is a substantially higher stiffness and stability. Builders know that stiff timber reduces deflection and movement under loading.

Deflection is important because movement under loading can reduce stability. That's why so many people prefer Douglas-fir for beams and joists. It's stiff and strong, and maintains these characteristics under duress.

Moisture Resistance

Separate research trials have shown that Douglas-fir moisture uptake in the open does not approach decay threshold even after 2 months exposure to natural rain wetting.

Resistance to wetting helps Douglas-fir stay straight during construction.