



RESOURCE PRACTICES BRANCH

RESULTS Monitoring Report

Reforestation Trends by some of the Major Licensees over 10 years (2002-2011)

September 2013



Synopsis

Resource Practices Branch is monitoring trends in reforestation practices amongst 6 major operators in British Columbia. The objective is to illustrate different management strategies with regards to reforestation and demonstrate the resulting outcome associated with those varying practices.

We can conclude from these preliminary illustrations that the licensees are managing to target stocking even though there is an overall pattern of reduced planting densities; we are not seeing industry managing for minimum stocking levels at establishment. Most licensees, with the exception of Tolko, are still primarily relying on artificial regeneration but if reliance on natural regeneration gains in popularity we may need to focus on the potential impacts on timber supply in the years to come. A second trend worth monitoring is the reliance on pine in some areas and the risks associated with reduced planting densities.

When companies are planting their harvested areas, 60-70% of the planted cutblocks are planted with 2 or more species. This is an important practice to help manage risks associated with climate change.

Overall, we are not seeing alarming results; however, the trends are worth monitoring overtime as FRPA blocks start reaching the free growing stage.

Planting Densities

- Over the last 10 years, there has been an average decrease in planting densities of approximately 5% when the largest forest companies in BC are viewed as a group. Between 2002 and 2011, CANFOR has decreased its planting density levels by ~300 sph, while West Fraser Mills Ltd. has increased its planting density levels by ~300 sph.

Types of Species Harvested from Stands

- Over the past 10 years, pine has been the most harvested species by the largest companies in BC.

Amount of Trees planted by species

- Over the past 10 years, pine and spruce have been the most planted species by the largest companies in BC.

Planted trees genetic class deployed

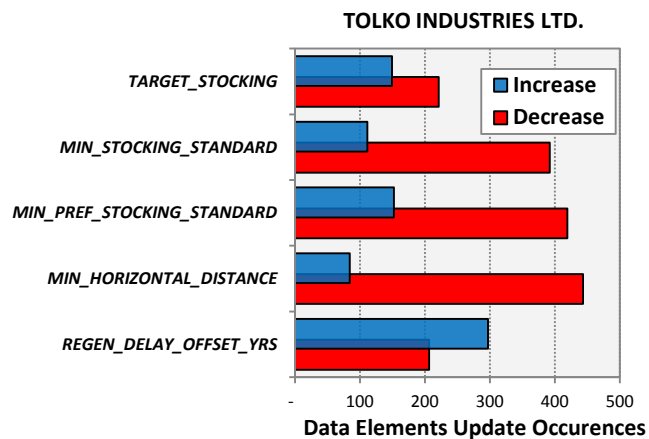
- About 43% of the seedlings deployed in BC have been 'A' class.

Proportion of area planted Vs. natural regeneration

- The five major companies in BC planted ~83% of the area they harvested. Tolko planted ~60% of the area the harvested, relying more heavily on natural regeneration.

Changes to Stocking Standards

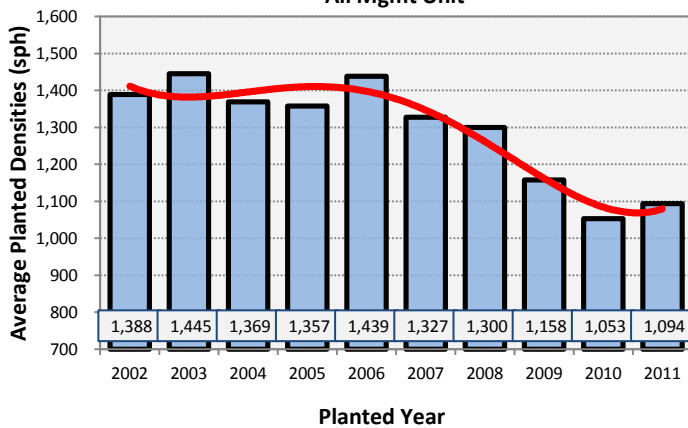
- In aggregate, Tolko has had the most changes to: 1- Reduce target stocking standards, 2- Minimum stocking standards, 3- Minimum preferred species, 4- Minimum inter-tree distance, and 5- Regeneration delay. By lowering the stocking standards the stands can be more easily classified as 'stocked'. These changes are quite significant considering also that TOLKO has been managing the largest amount of naturally regenerated areas.¹



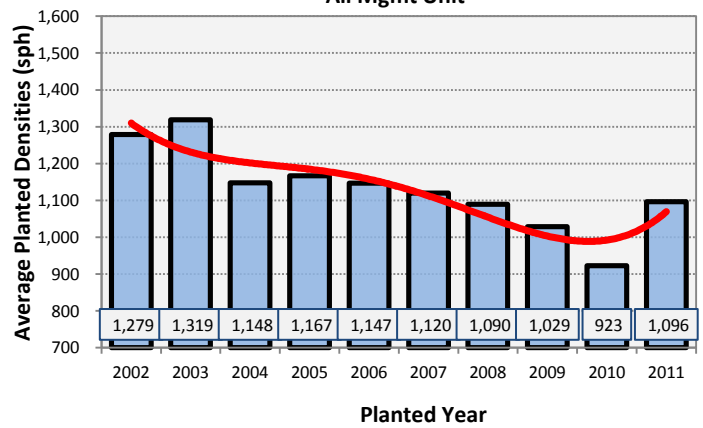
¹ Increase is the number of times the value of a given standard (e.g. target stocking) was increased. Decrease is the number of times a given standard was decreased.

AVERAGE PLANTED DENSITY BETWEEN 2002 AND 2011

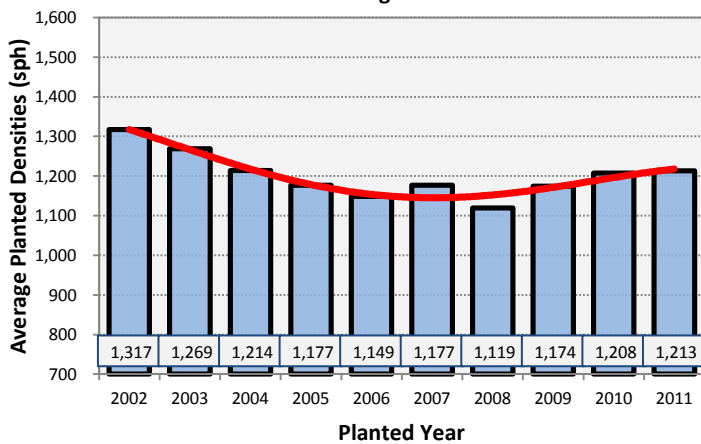
CANADIAN FOREST PRODUCTS LTD.¹
All Mgmt Unit



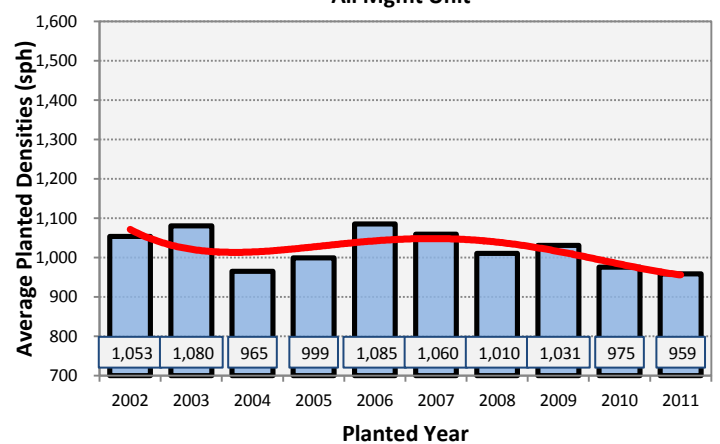
INTERNATIONAL FOREST PRODUCTS LIMITED³
All Mgmt Unit



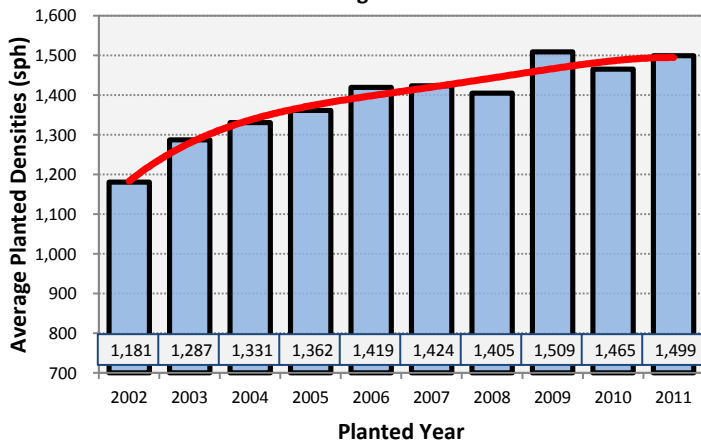
TOLKO INDUSTRIES LTD.¹
All Mgmt Unit



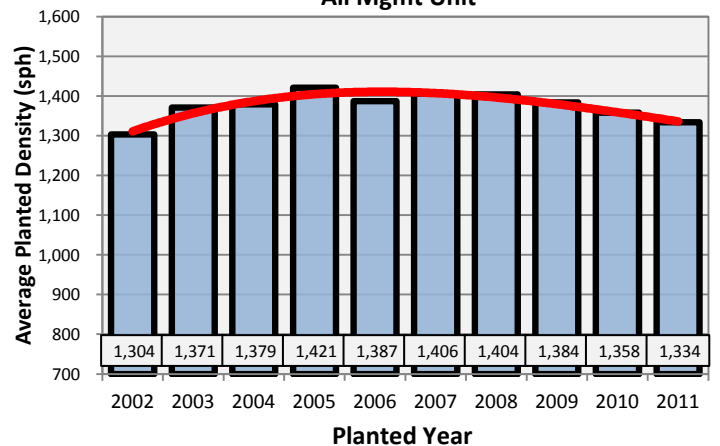
WESTERN FOREST PRODUCTS INC.²
All Mgmt Unit



WEST FRASER MILLS LTD.¹
All Mgmt Unit



BCTS³
All Mgmt Unit



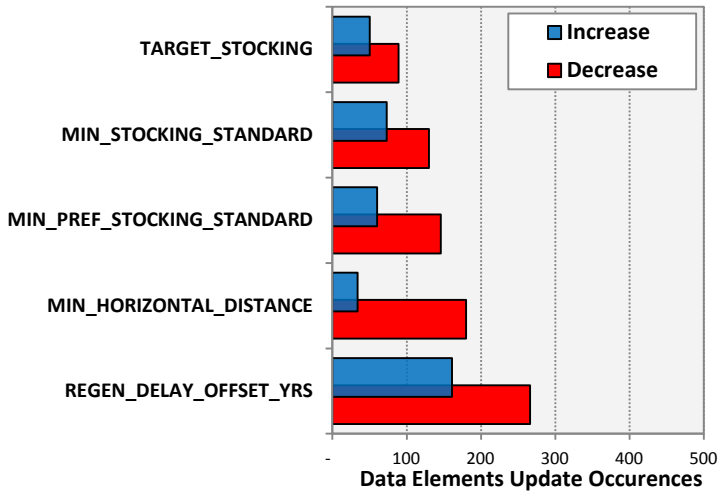
¹ Interior Operation – Generally Target Stocking Standard ~ 1200 sph; Minimum Stocking Standard ~ 700 sph

² Coastal Operation – Generally Target Stocking Standard ~ 900 sph; Minimum Stocking Standard ~ 500 sph

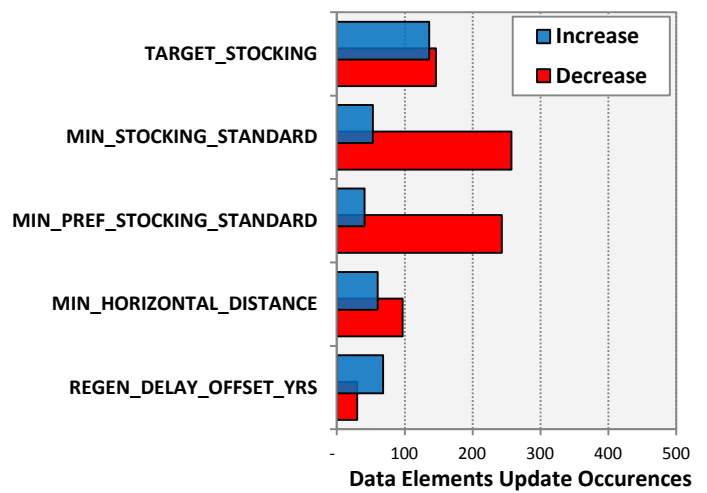
³ Blended Coastal and Interior Operations

CHANGES MADE TO SELECTED STOCKING STANDARD ELEMENTS AMENDMENT ACTIONS TRACKED (data source – Sept. 2012)

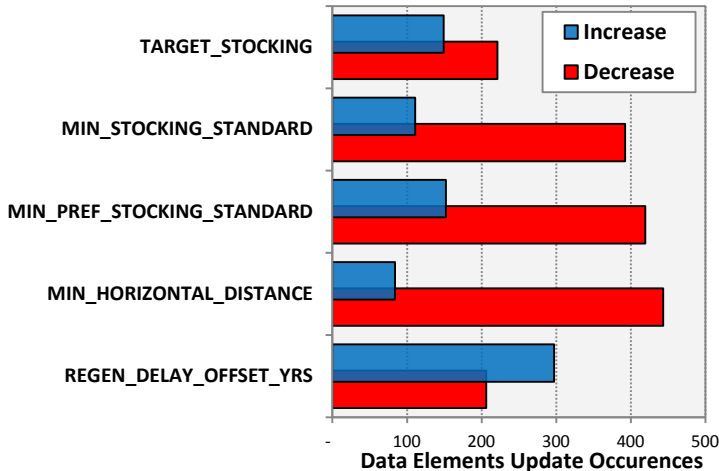
CANADIAN FOREST PRODUCTS LTD.
All Mgmt Unit



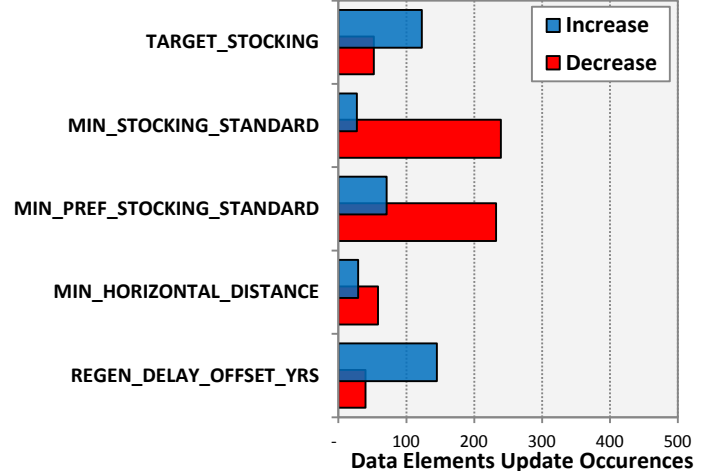
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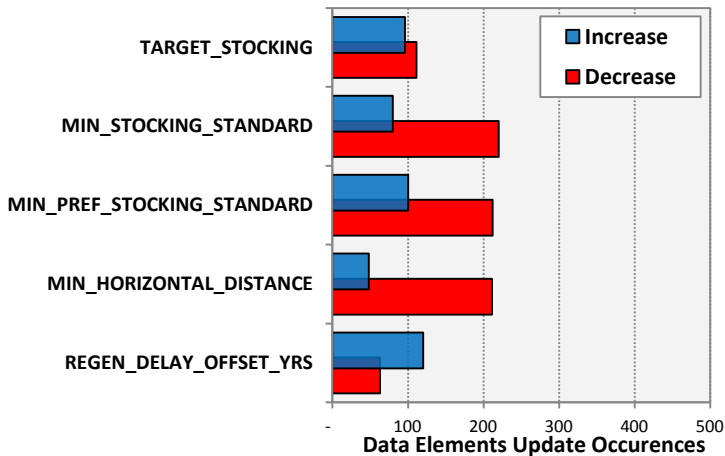
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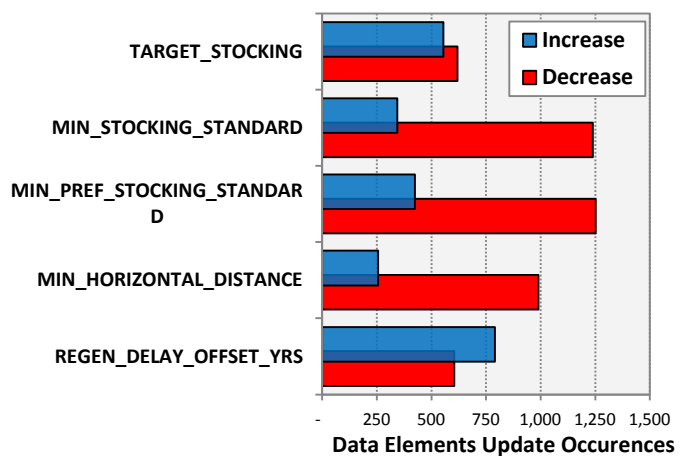
WESTERN FOREST PRODUCTS INC.
All Mgmt Unit



WEST FRASER MILLS LTD.
All Mgmt Unit

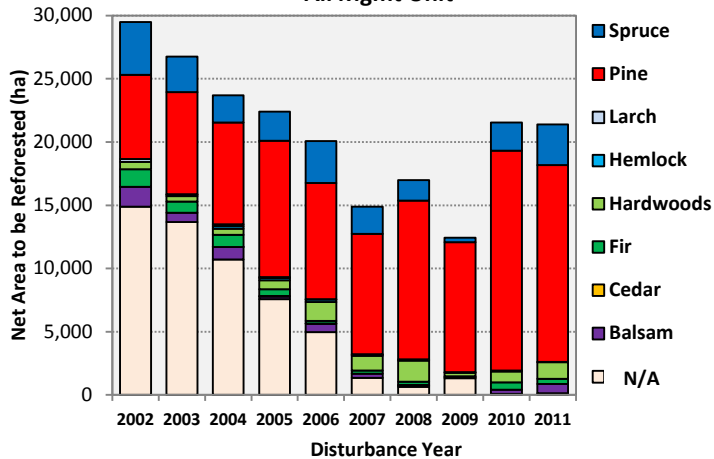


5 Companies Combined
All Mgmt Unit

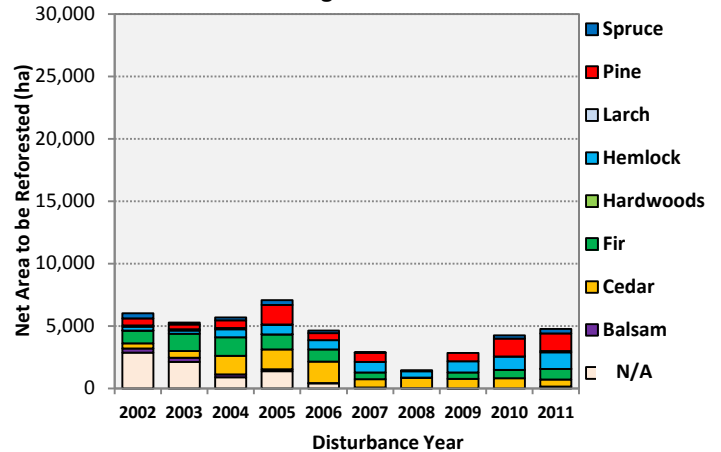


LEADING SPECIES PREVIOUS STAND BY NET AREA OF REFORESTATION (NAR) BETWEEN 2002 AND 2011

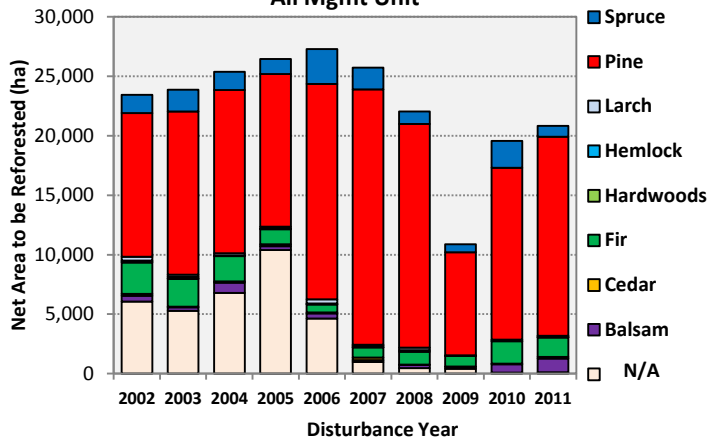
**CANADIAN FOREST PRODUCTS LTD.
All Mgmt Unit**



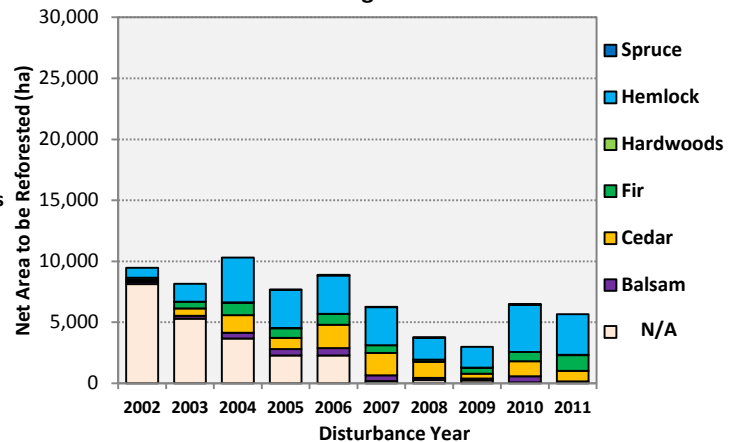
**INTERNATIONAL FOREST PRODUCTS LIMITED
All Mgmt Unit**



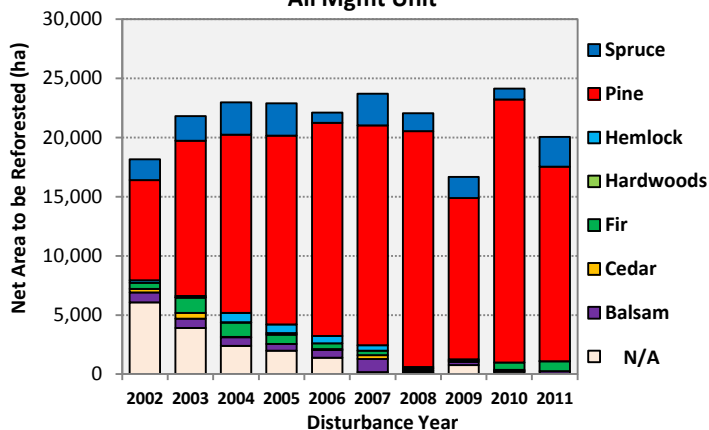
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All Mgmt Unit**



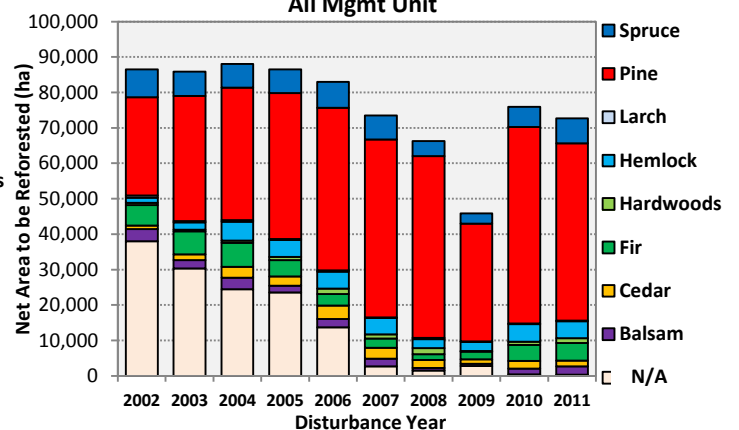
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All Mgmt Unit**



**WEST FRASER MILLS LTD.
All Mgmt Unit**

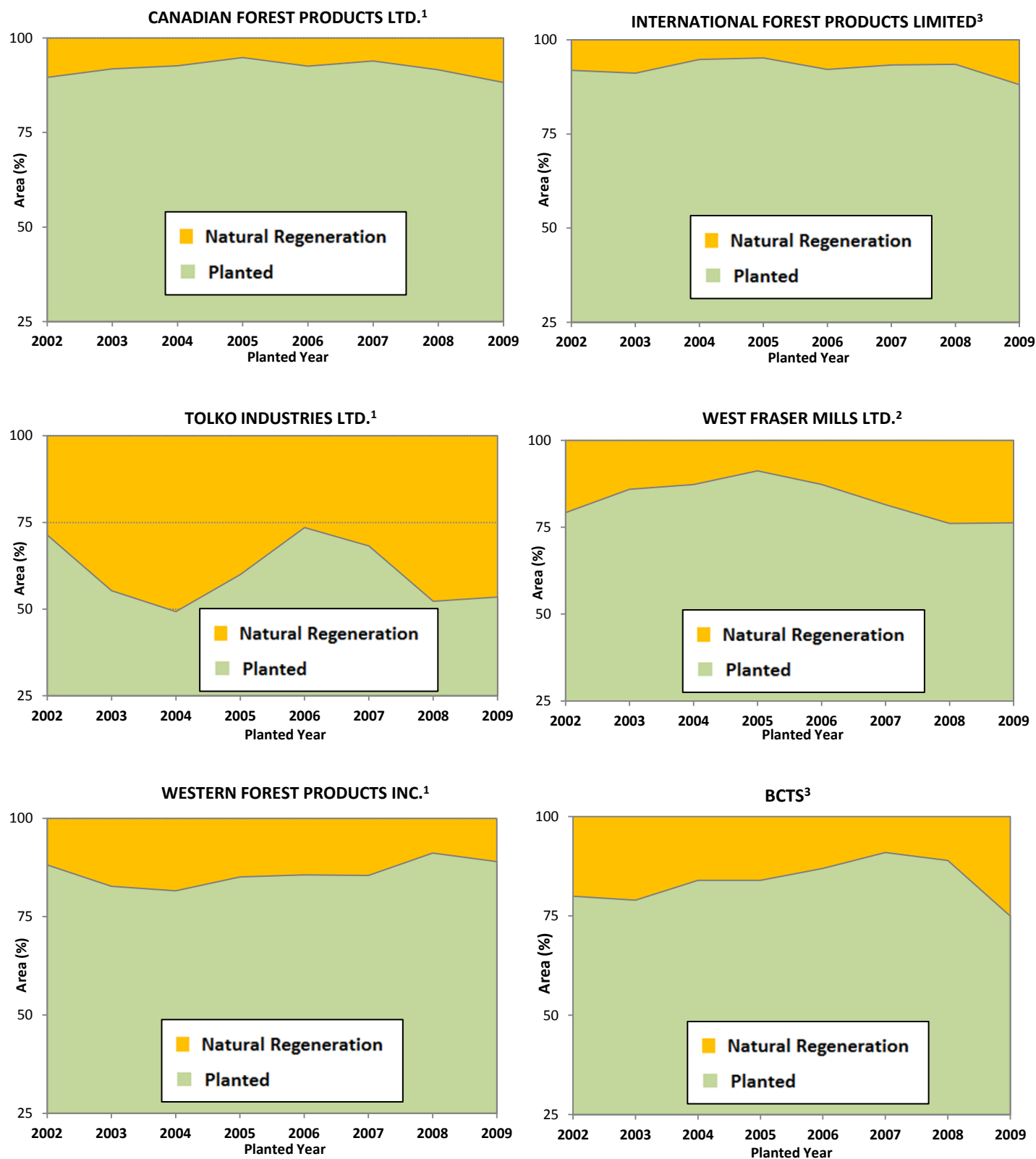


**5 Companies Combined
All Mgmt Unit**

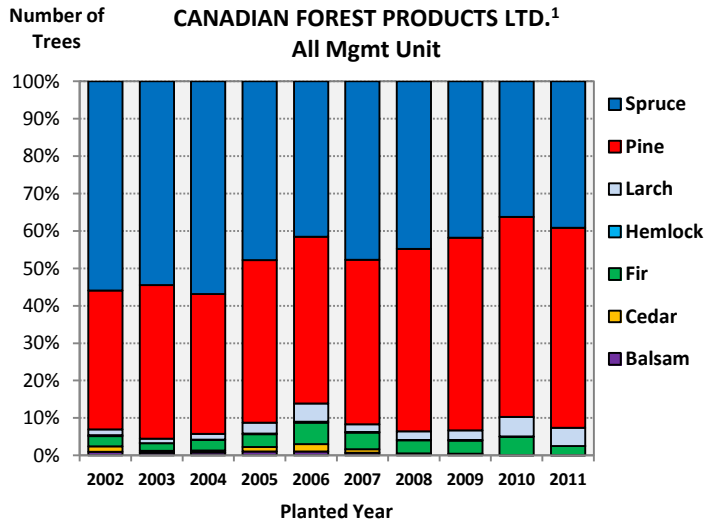
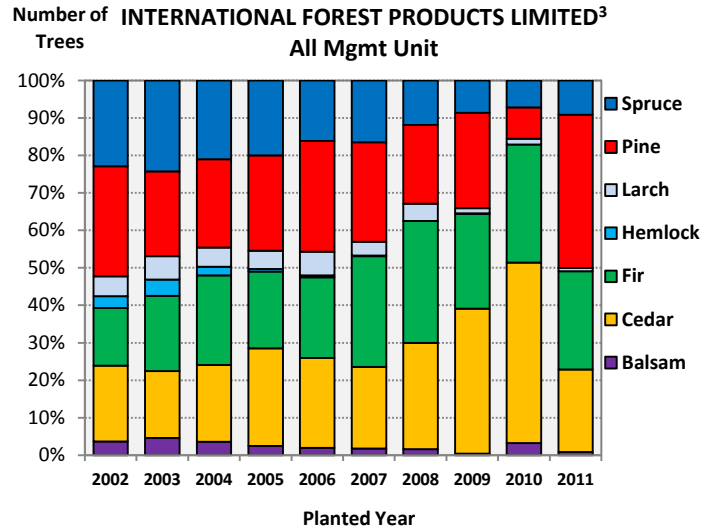
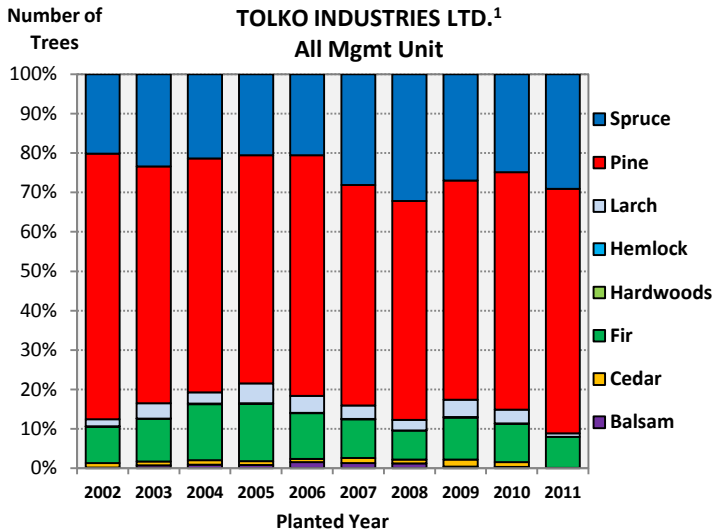
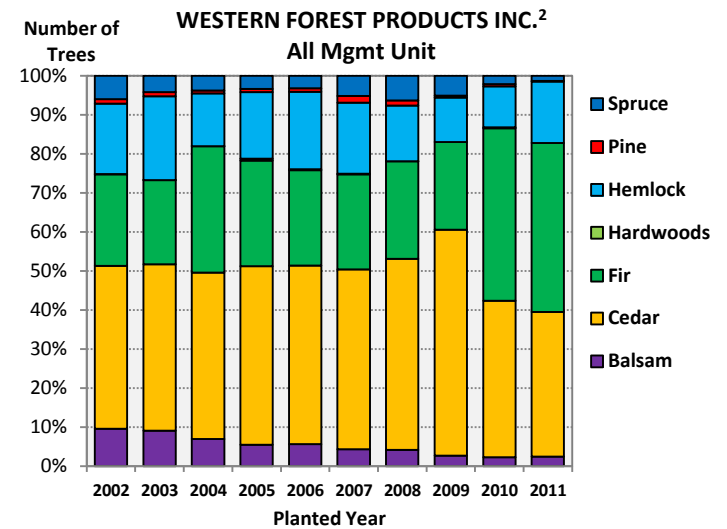
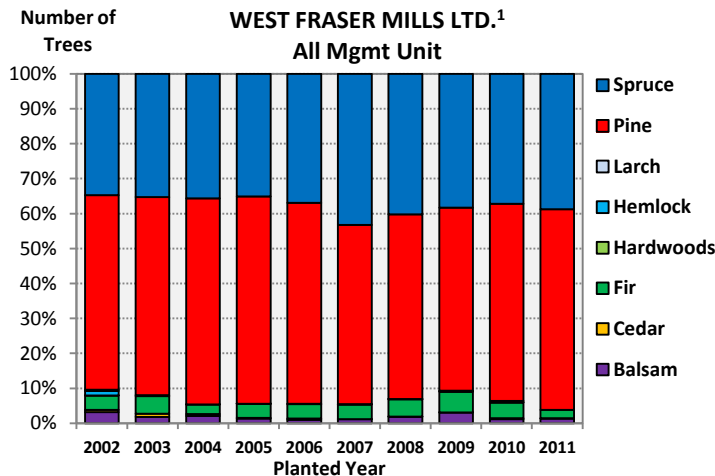
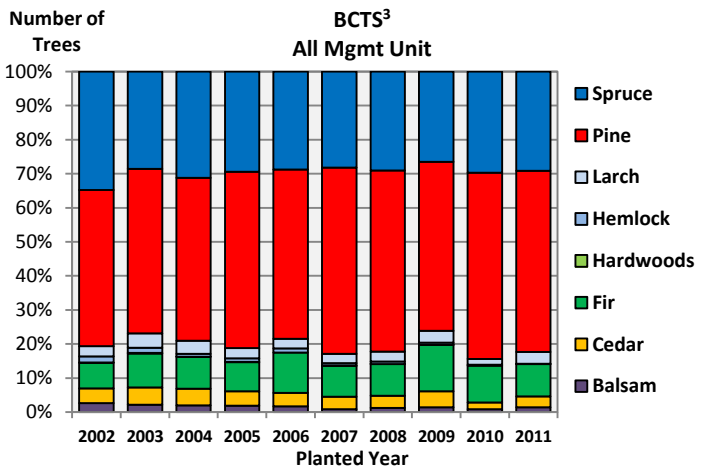


PLANTED AREA PRORATED¹ BY NUMBER OF TREES BY SPECIES BETWEEN 2002 AN

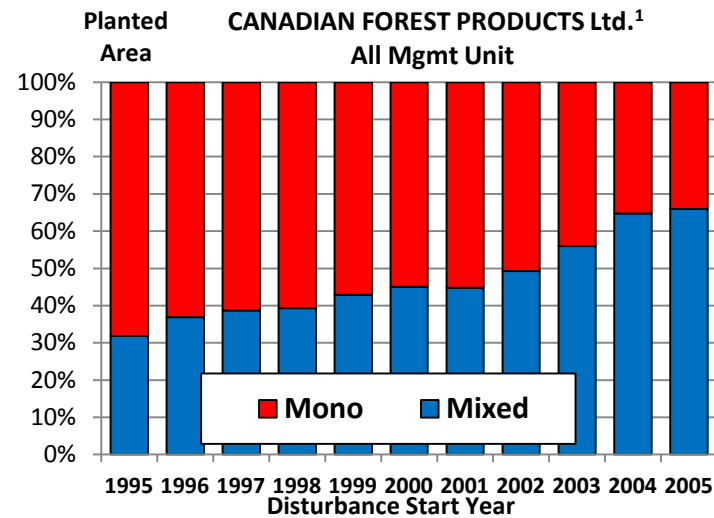
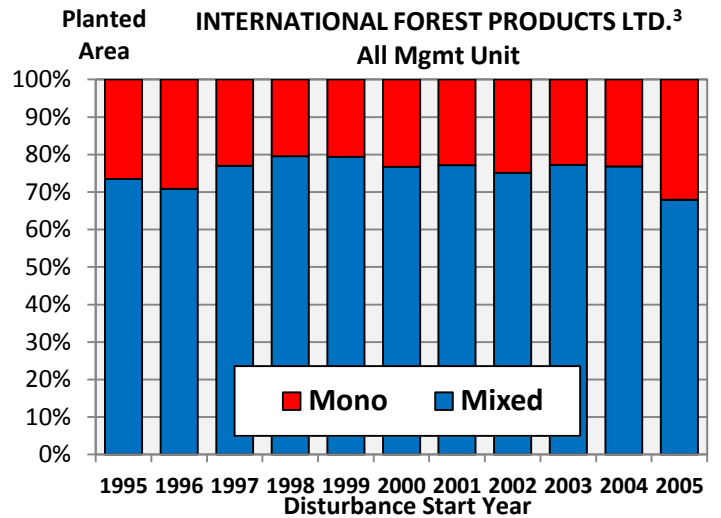
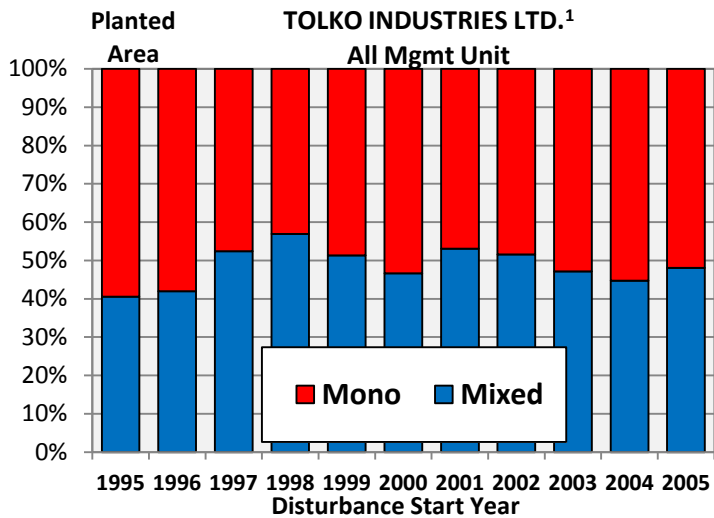
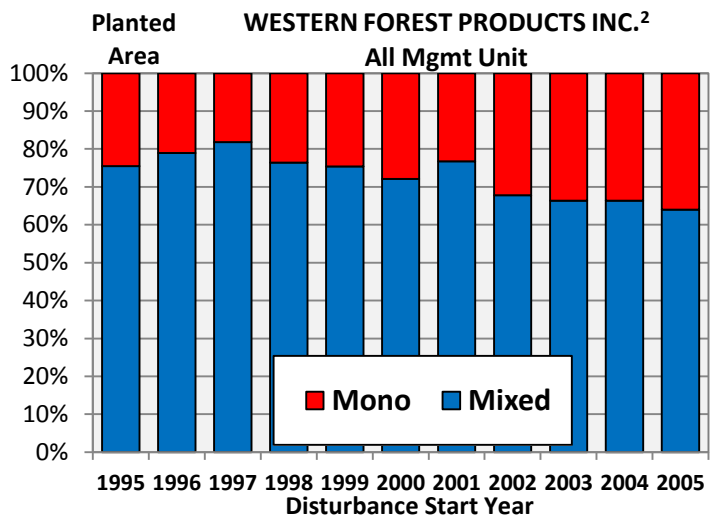
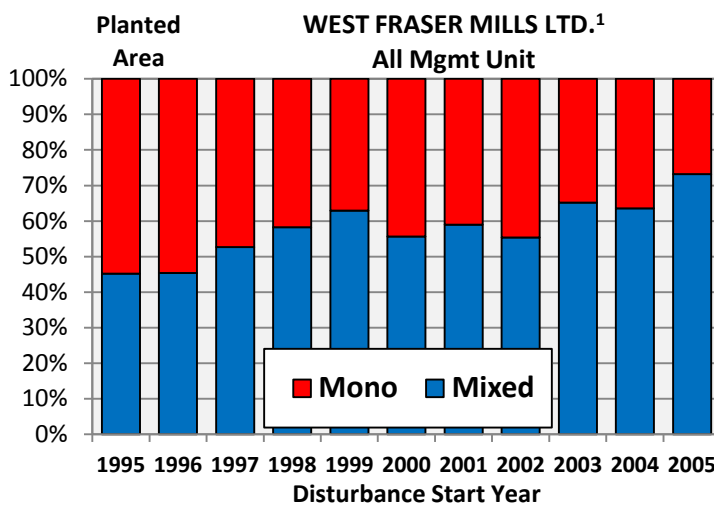
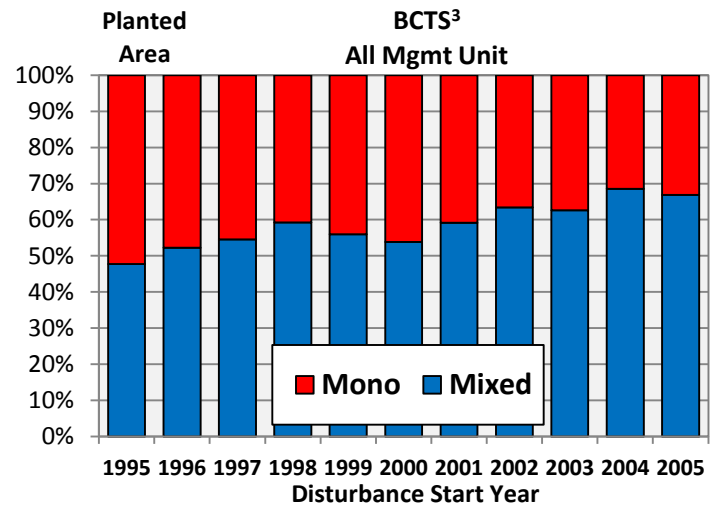
PLANTED AREA (%) ON ALL MANAGEMENT UNITS BETWEEN 2002 AND 2009



PLANTED TREES BY SPECIES BETWEEN 2002 AND 2011



PERCENTAGE OF MIXED SPECIES PLANTING ON HARVESTED AREAS (1995- 2005)



MONO = one species planted on the cutblock that was disturbed or harvested

MIXED = two or more species planted on the cutblock