RESOURCES PRACTICES BRANCH

Silviculture Facts

Summary Charts and Graphs

March 2016

BRITISH COLUMBIA

Data Sources

This publication's sourced data is based on primarily Reporting Silviculture Updates and Land Status Tracking System (RESULTS) database for all graphs and charts, except for the Silviculture Systems charts – which are based on a combination of RESULTS data and Forest Tenures Administration (FTA) data base.

All charts and graphs represent Silviculture activities reported into the databases on Crown land only and are derived from all funding sources (public and private).

Times for charts and graphs vary due to data availability and compatibility. Generally, most visuals are targeted to illustrate the time frame between the fiscal years of 1981/1982 to 2014/2015.

Acknowledgements

The majority of the database queries, chart and graph production provided by Mei-Ching Tsoi. Final compilation and production of the visuals provided by Dave Weaver of the Resource Practices Branch. Special thanks to Francesco Cortini for his excellent Excel assistance.

Publication dates

This publication is dated March 12, 2016. Data presented in this publication was based on RESULTS / FTA database queries up to September 18th, 2015.

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Silviculture Activity Descriptions

Harvesting and Silvicultural Systems

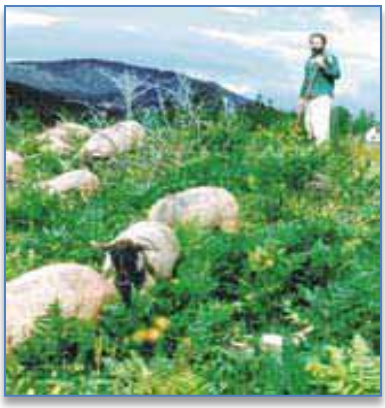
Harvesting removes the forest cover from an area to varying degrees, depending on the silvicultural system being used. The conventional clearcutting silvicultural system removes all the trees, while partial cutting silviculture systems (seed tree, shelterwood, selection, variable retention and clearcutting with reserves) leave residual trees behind. Harvesting also initiates the process of silviculture activities and responsibilities. Partial cutting can often aid in preserving scenic values and maintain water quality in sensitive areas.

Site Preparation

The goal of preparing a harvested area for planting or natural regeneration through ground scarification, disc trenching, mounding, or burning, is to provide new seedlings with more suitable sites on which to grow. Site preparation techniques, such as burning, can also mimic natural disturbance processes.

Planting

Planting after harvesting establishes a new forest sooner than relying on natural regeneration. It also allows for the use of genetically improved tree seedlings and a broader mix of tree and plant species. Up to 16 conifer and 3 broadleaf species of trees are planted across the province annually, ranging in many different sizes and ages at the time of planting.



Brushing

Vegetation management treatments used to brush reforested areas removes competing vegetation from the immediate vicinity of young trees, usually early in a stand development. Brushing frees up nutrients, water and sunlight to increase survival and growth of the new seedlings established.

Surveys

Silvicultural surveys are preformed on all reforested areas throughout the age of a stand. Assessment objectives range from planting and regeneration surveys, to free growing status surveys, to pre-stand tending surveys for treatments like spacing and pruning. Surveys aim to assess the current status and performance of the established new forest. Data collected is used to formulate prescriptions for the next silviculture treatment and to provide stand attribute data for inventory updates.

Spacing

Spacing removes selected trees from young stands (usually post free growing stands > 15 years of age) to reduce overall stand density and to subsequently reduce light competition primarily. Spacing promotes faster growth, and larger trees of uniform size and shape, which can reduce harvesting and milling costs at the next crop rotation. Spacing can also help produce healthier stands by removing diseased and damaged trees.

Pruning

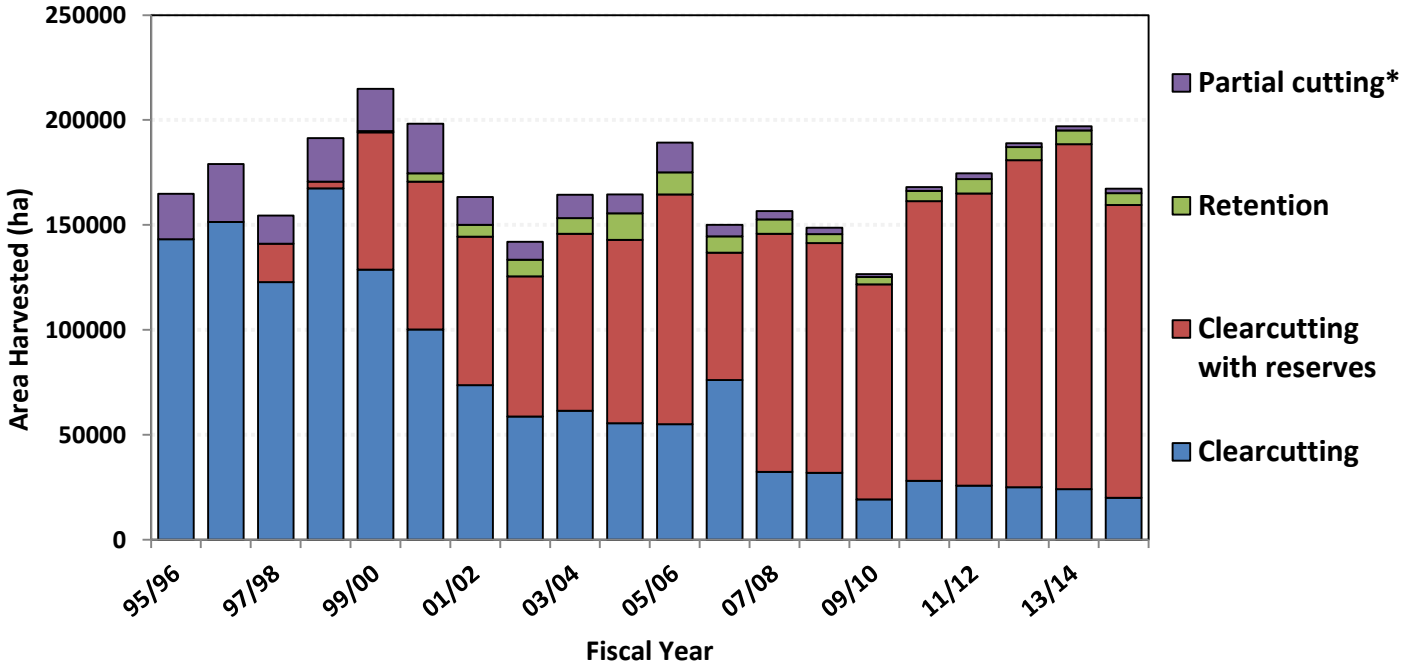
Pruning involves the removal of live or dead branches from the stems of trees. Pruning promotes the production of high quality, clear (knot-free) wood. Pruning is performed usually on post free growing stands and usually after a spacing treatment. Uniform spacing is required in order to have uniform inter tree density for good tree crown expansion and rapid healing over cut branch sites. Pruning is also performed in minor cases, to remove diseased lower branches and produce healthier stands.

Fertilizing

Fertilizers are used to promote tree growth on sites deficient in one or more nutrients. It can help increase the rate of growth and produce larger trees. Broadcast fertilization (either by aerial or manual methods) is usually applied on post free growing stands. Fertilization at the time of planting is a minor treatment utilized to assist with successful seedling establishment.

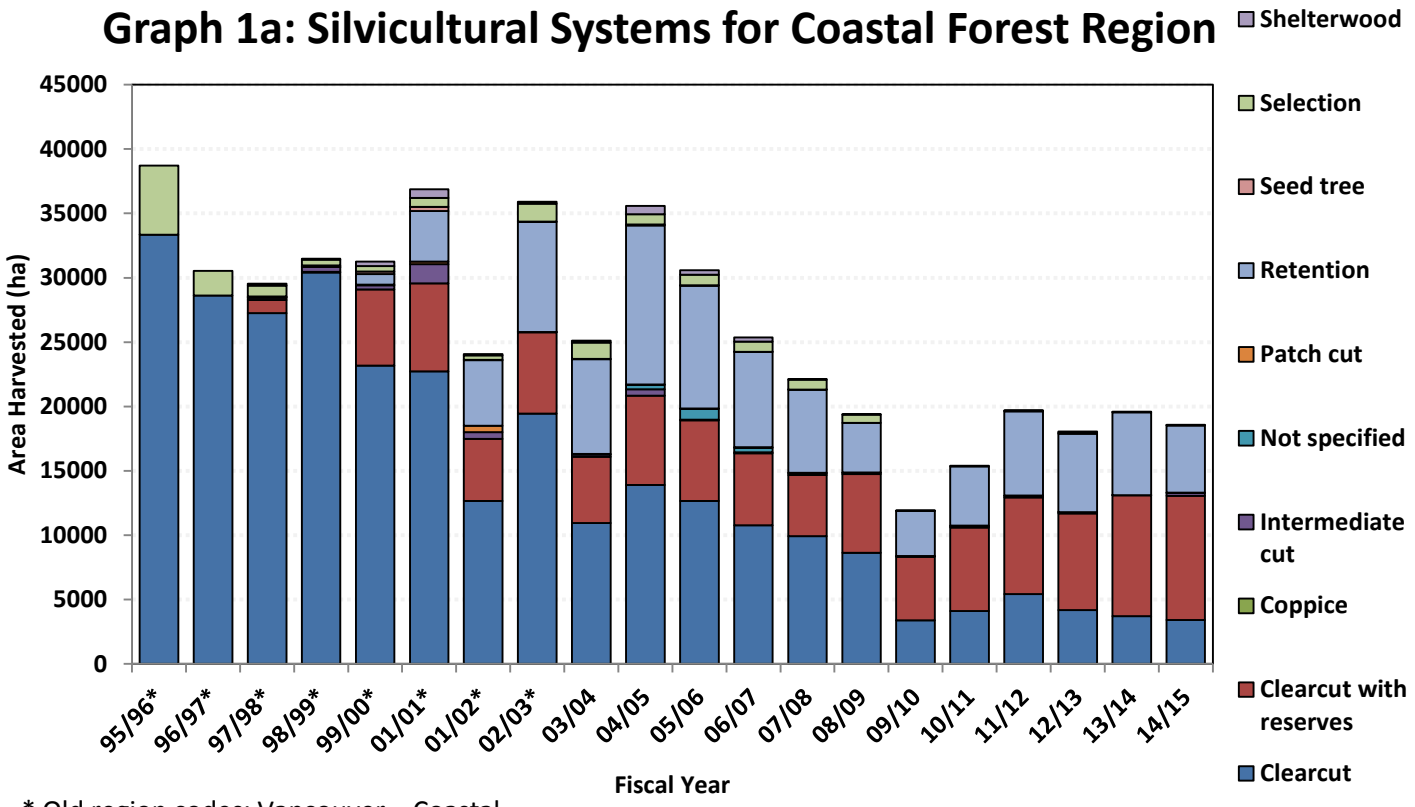
Provincial Silviculture Summary Charts and Graphs

Graph 1: Silvicultural Systems on all Crown Land



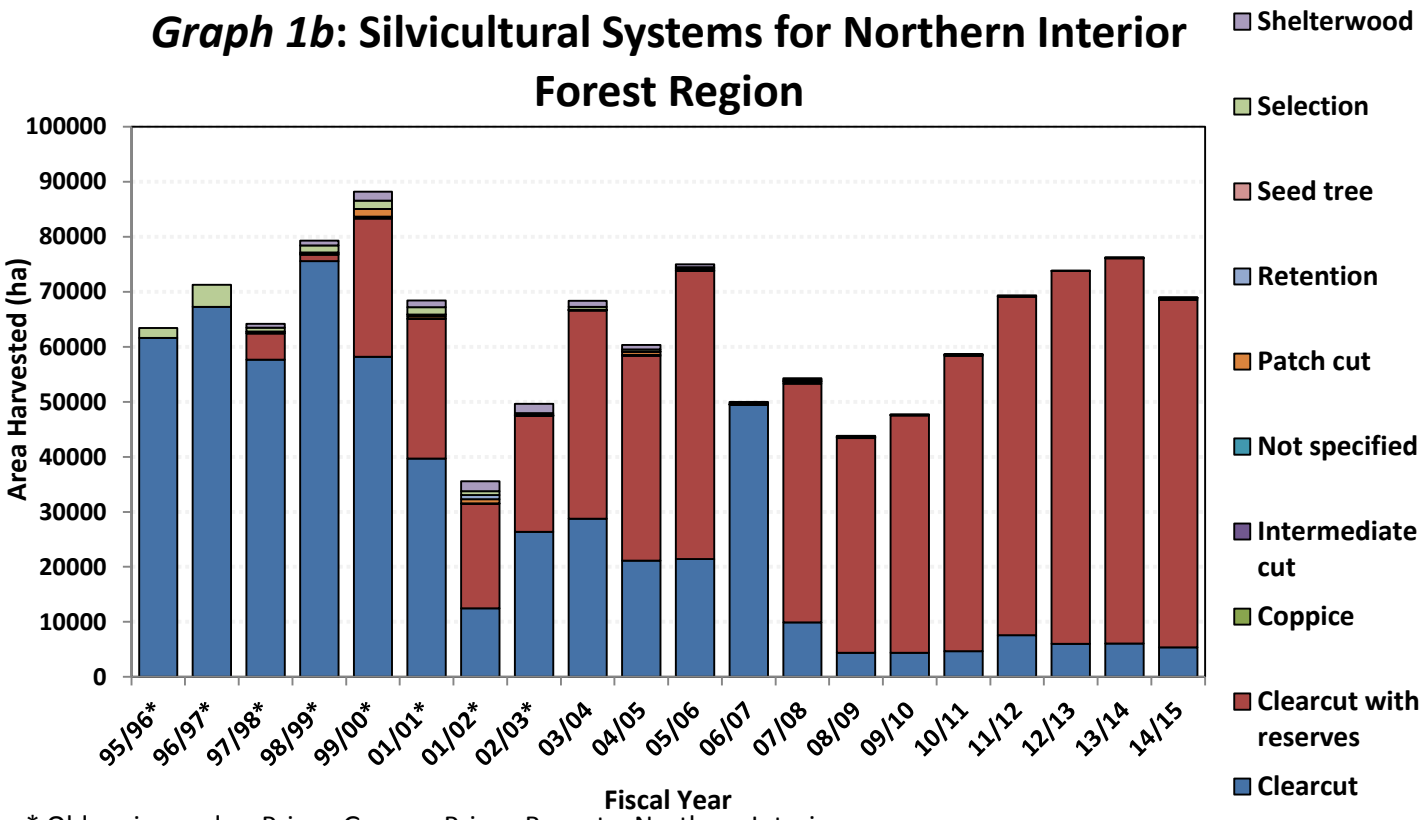
* Partial Cutting includes: Shelterwood, Selection, Seed Tree, Patch cut, Intermediate Cut and Coppice

Graph 1a: Silvicultural Systems for Coastal Forest Region



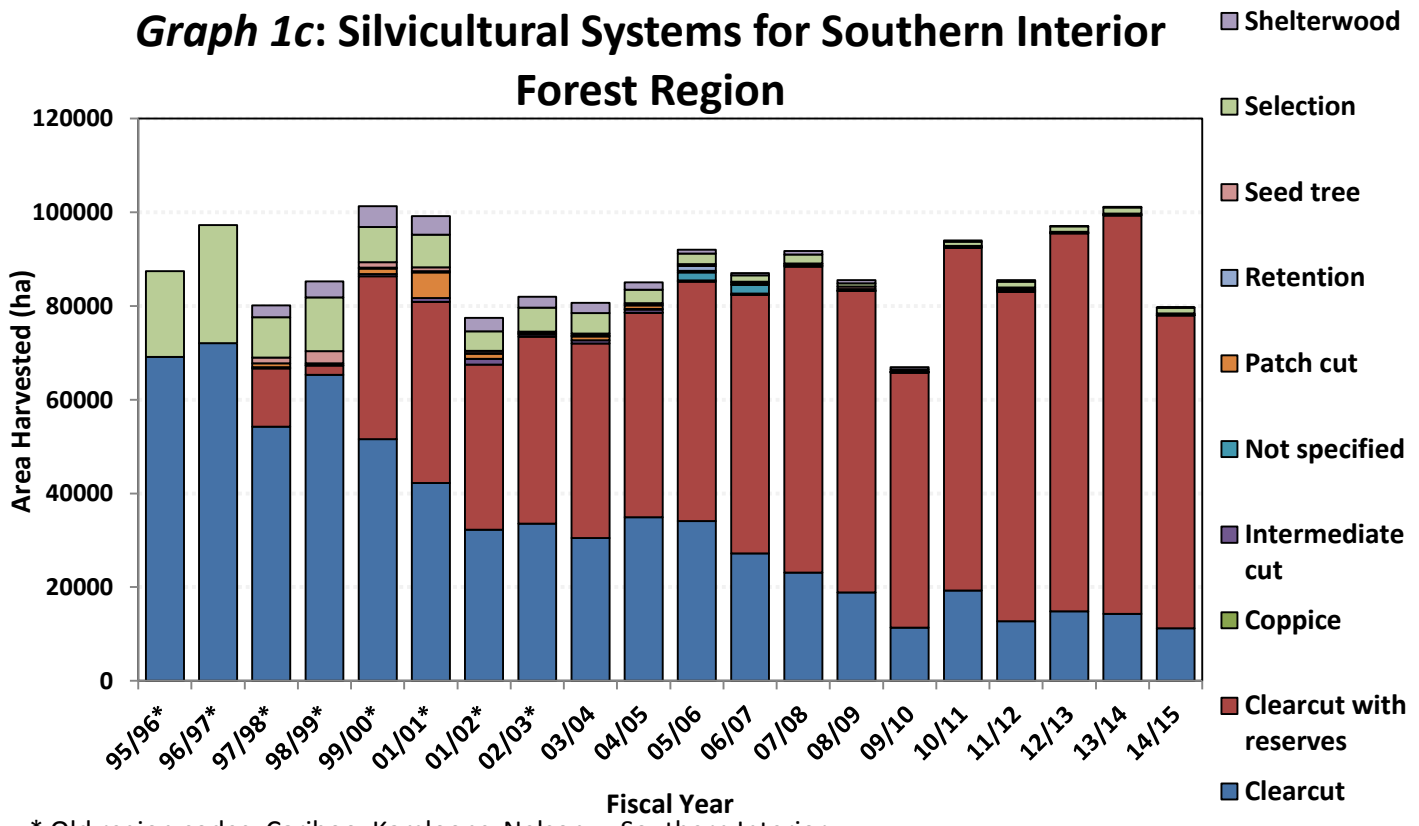
* Old region codes: Vancouver = Coastal

Graph 1b: Silvicultural Systems for Northern Interior Forest Region



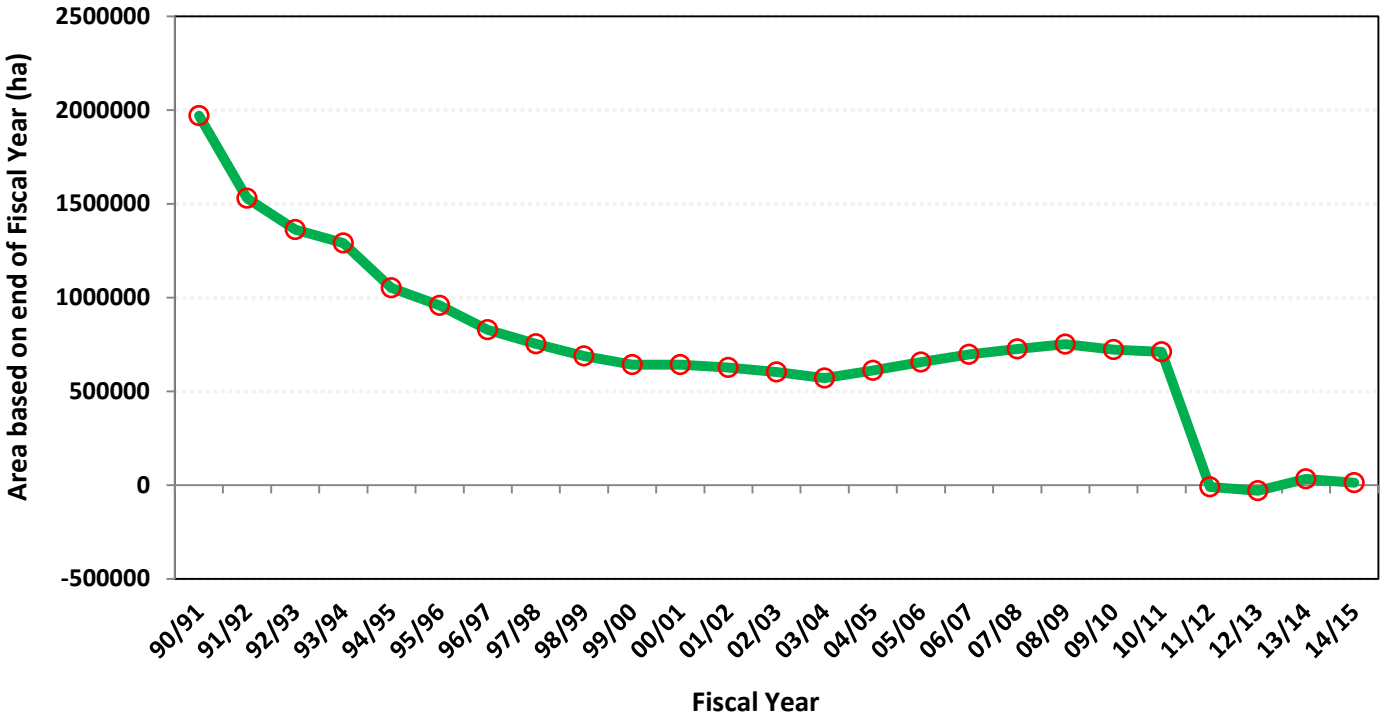
* Old region codes: Prince George, Prince Rupert = Northern Interior

Graph 1c: Silvicultural Systems for Southern Interior Forest Region

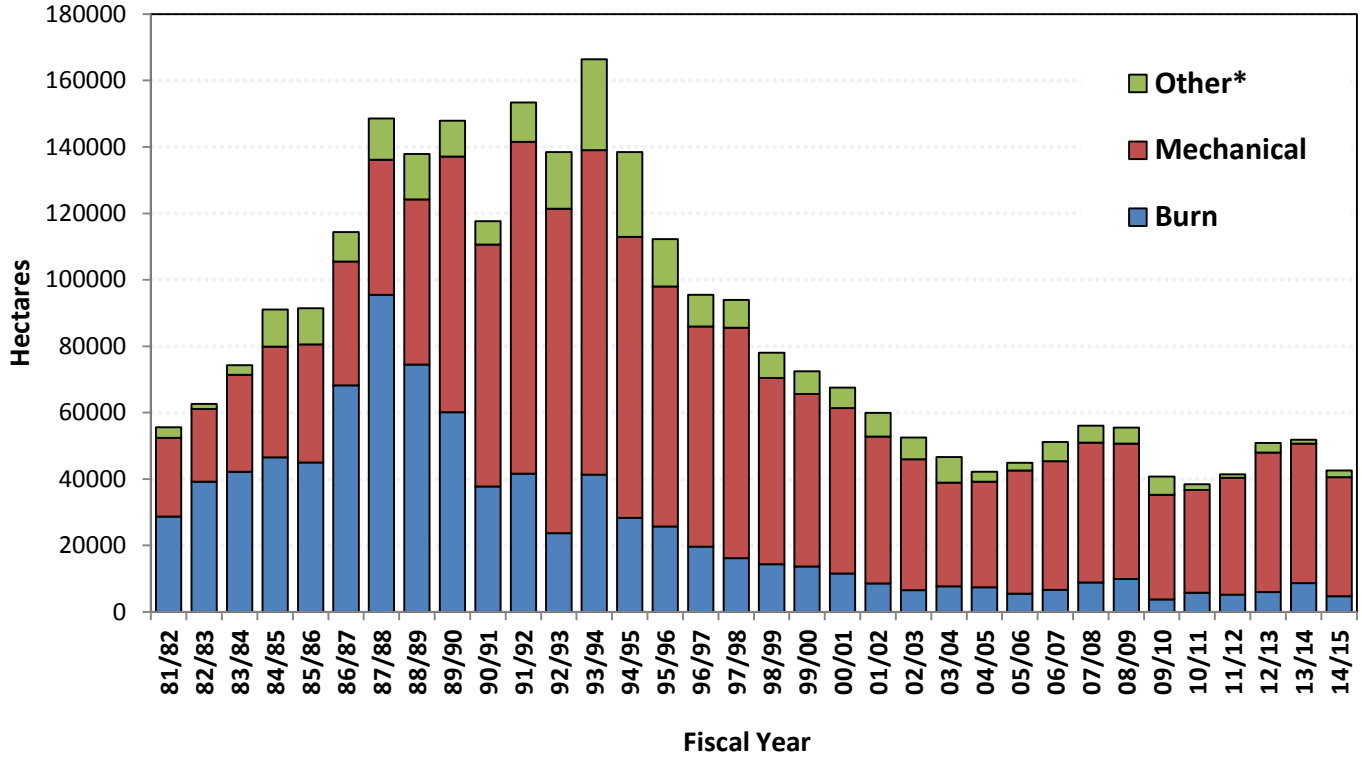


* Old region codes: Cariboo, Kamloops, Nelson = Southern Interior

Graph 2: Changes in the Not Satisfactorily Restocked Land (NSR) on All Crown Land

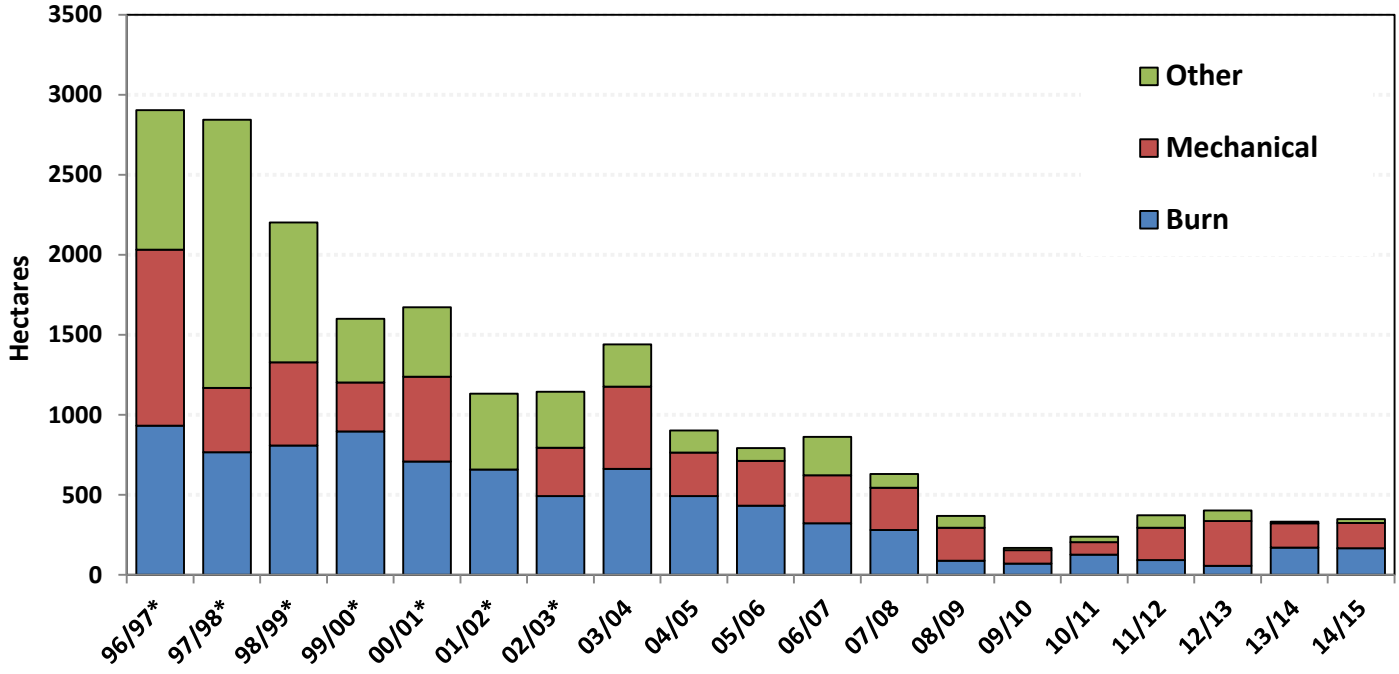


Graph 3: Site Preparation on all Crown Land



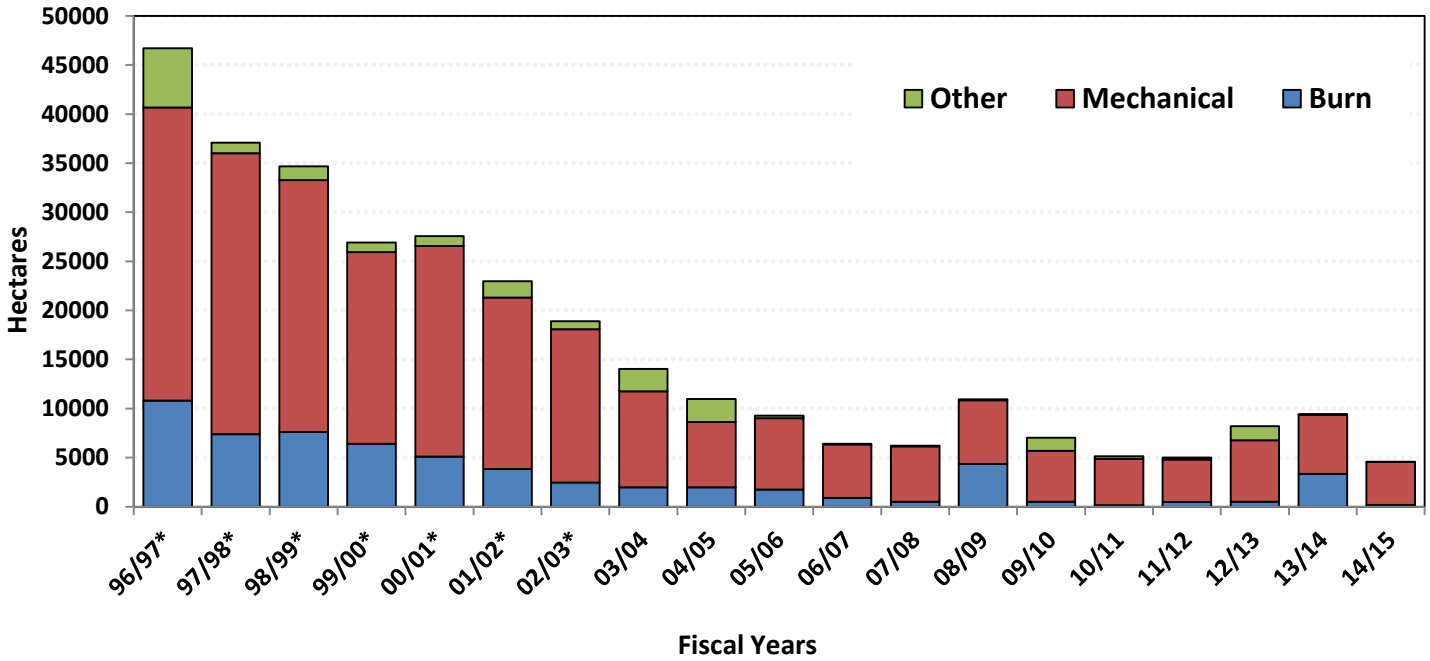
* Other includes: Manual, Chemical and Grass seeding

Graph 3a: Site Preparation on Crown Land
Coastal Forest Region



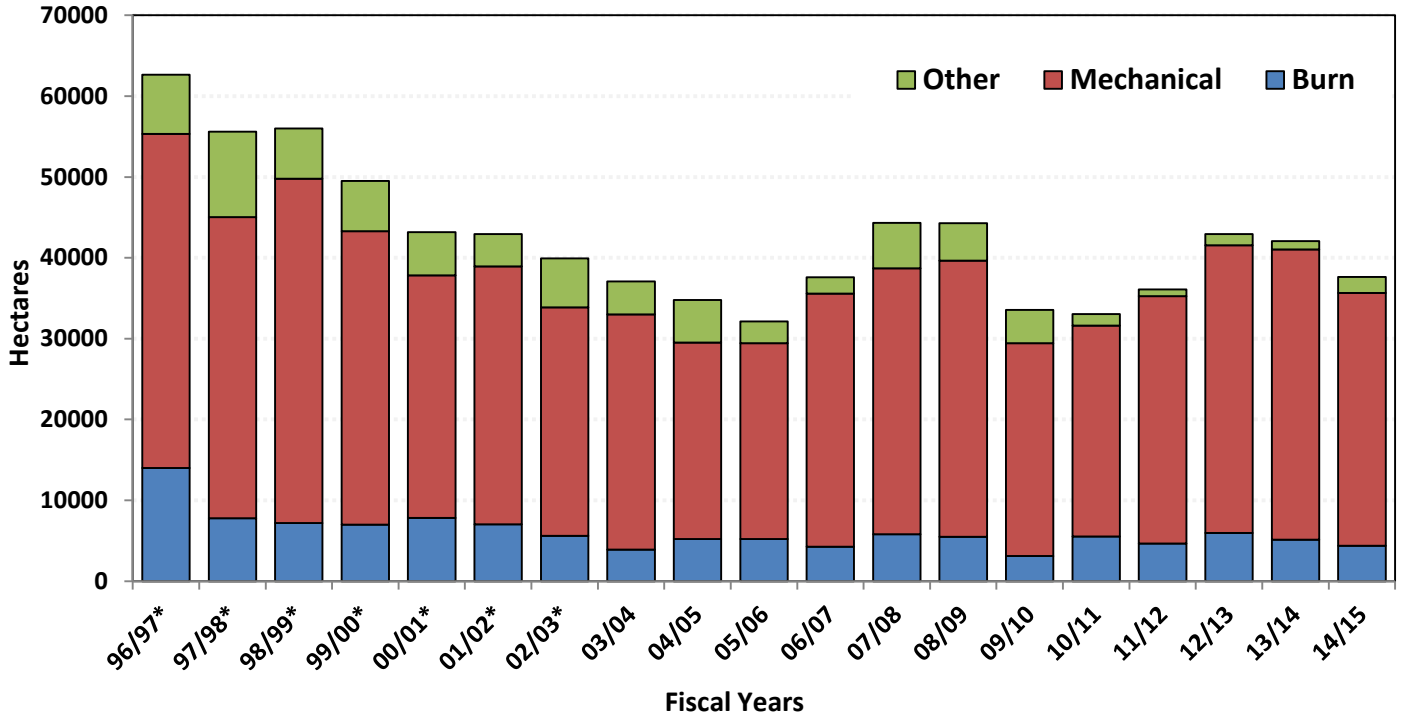
* Old region codes Vancouver = Coastal

Graph 3b: Site Preparation on Crown Land
Northern Interior Forest Region



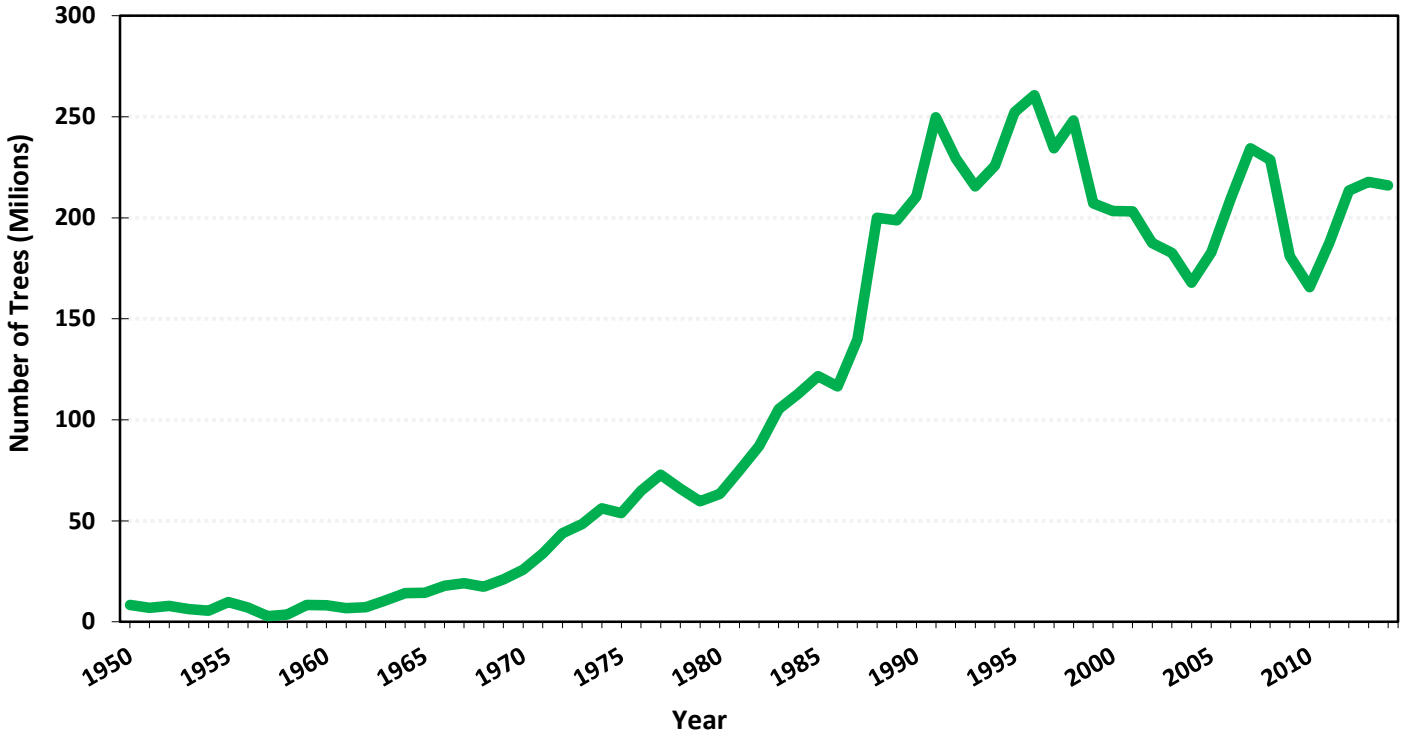
* Old region codes Prince George, Prince Rupert = Northern Interior

Graph 3c: Site Preparation on Crown Land
Southern Interior Forest Region

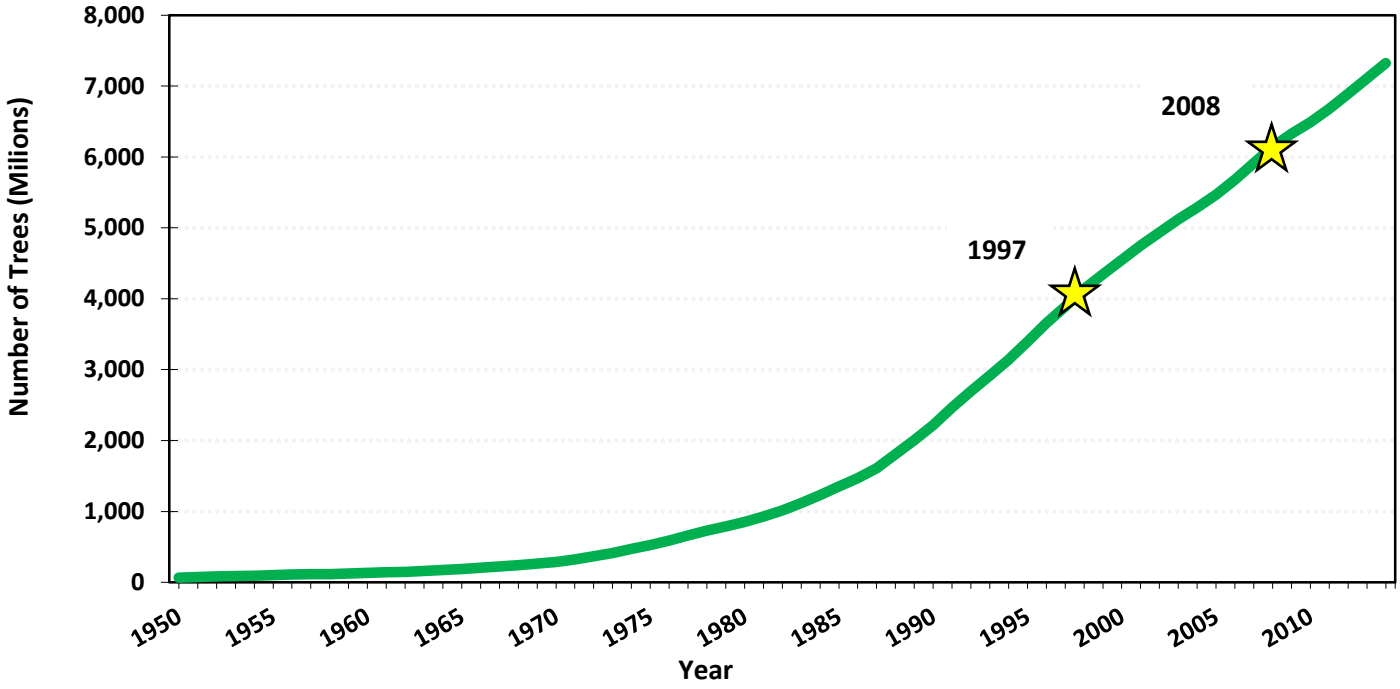


* Old region codes Cariboo, Kamloops, Nelson = Southern Interior

Graph 4: Number of Trees Planted Each Year 1950 - 2014

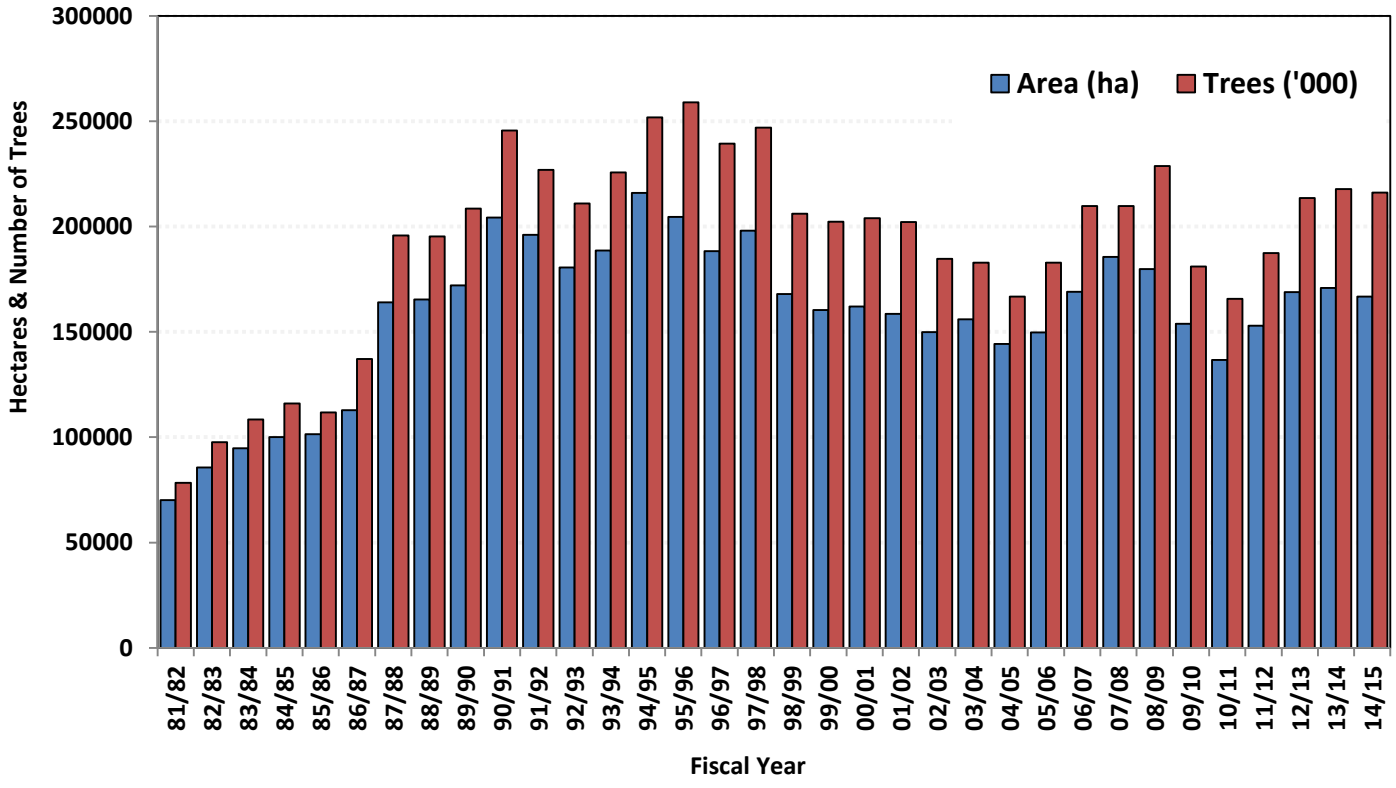


Graph 5: Cumulative Total of Trees Planted between 1950 - 2014

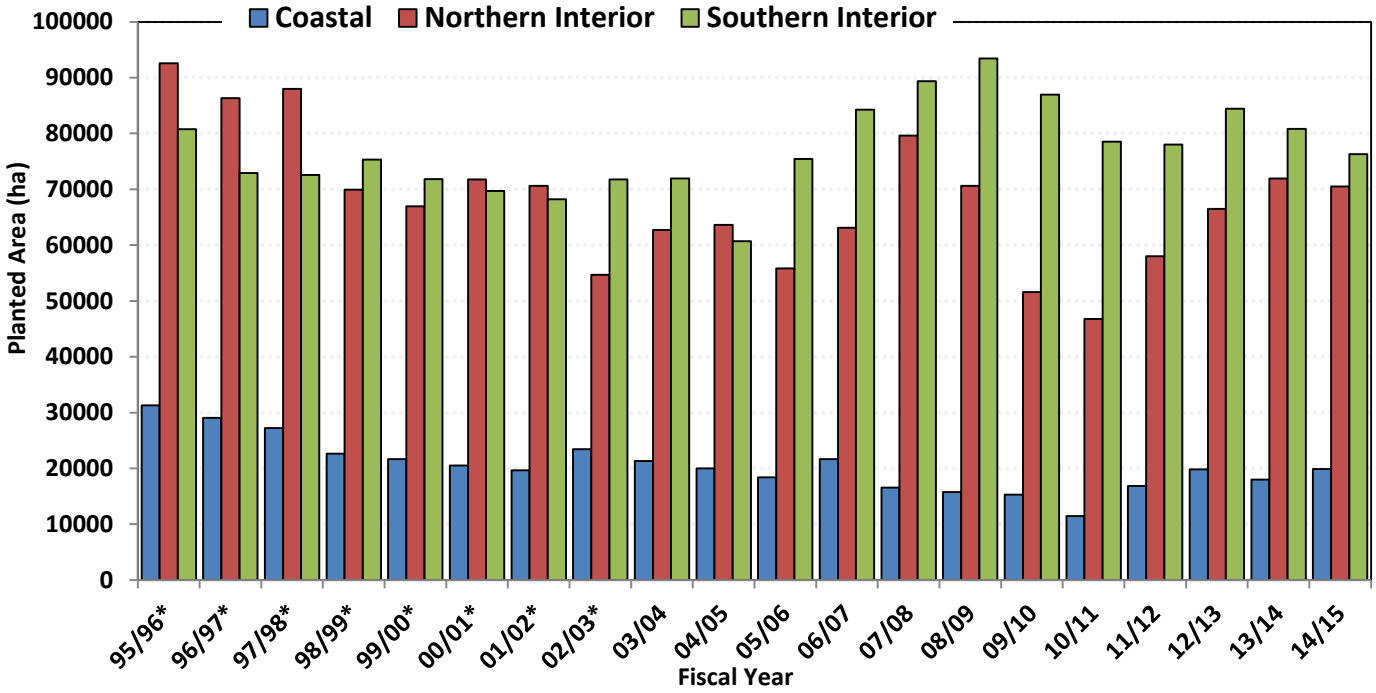


The four-billionth tree was planted in 1997 and the six-billionth tree in 2008

Graph 6: Planting on all Crown Land

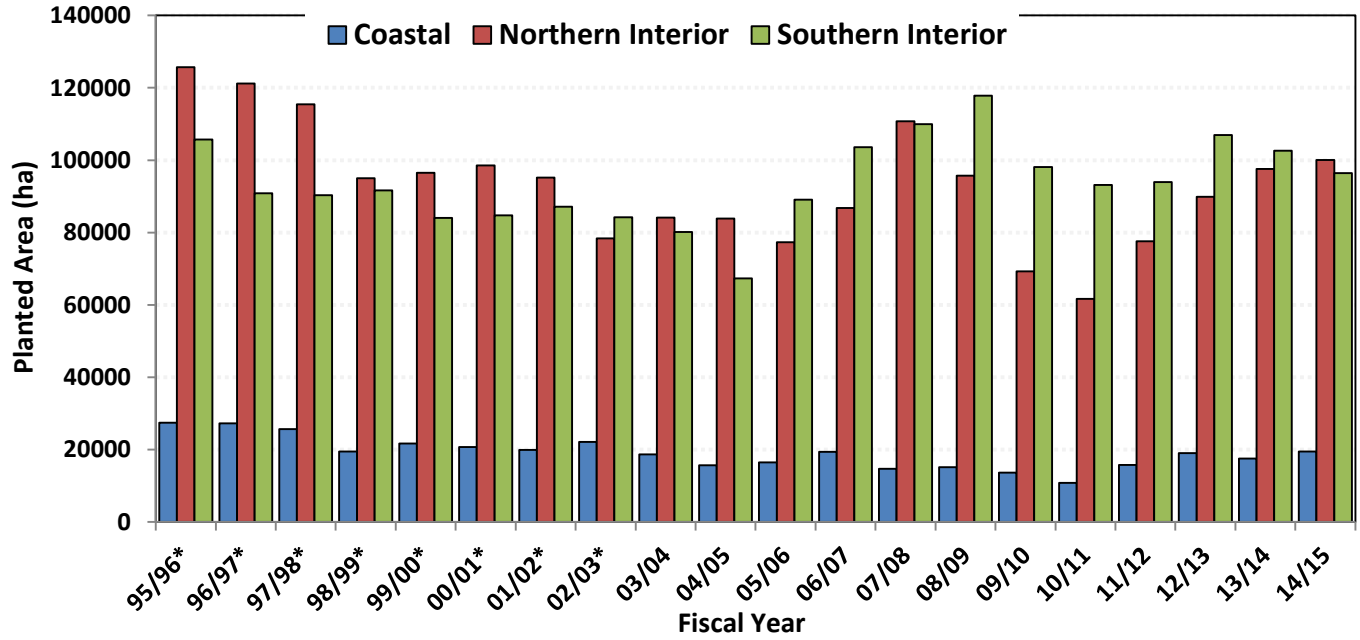


Graph 6a: Planted Area on Crown Land by Forest Region



*Old region codes: Cariboo, Kamloops, Nelson = Southern Interior; Prince George, Prince Rupert = Northern Interior; Vancouver = Coastal

Graph 6b: Trees Planted on Crown Land by Forest Region



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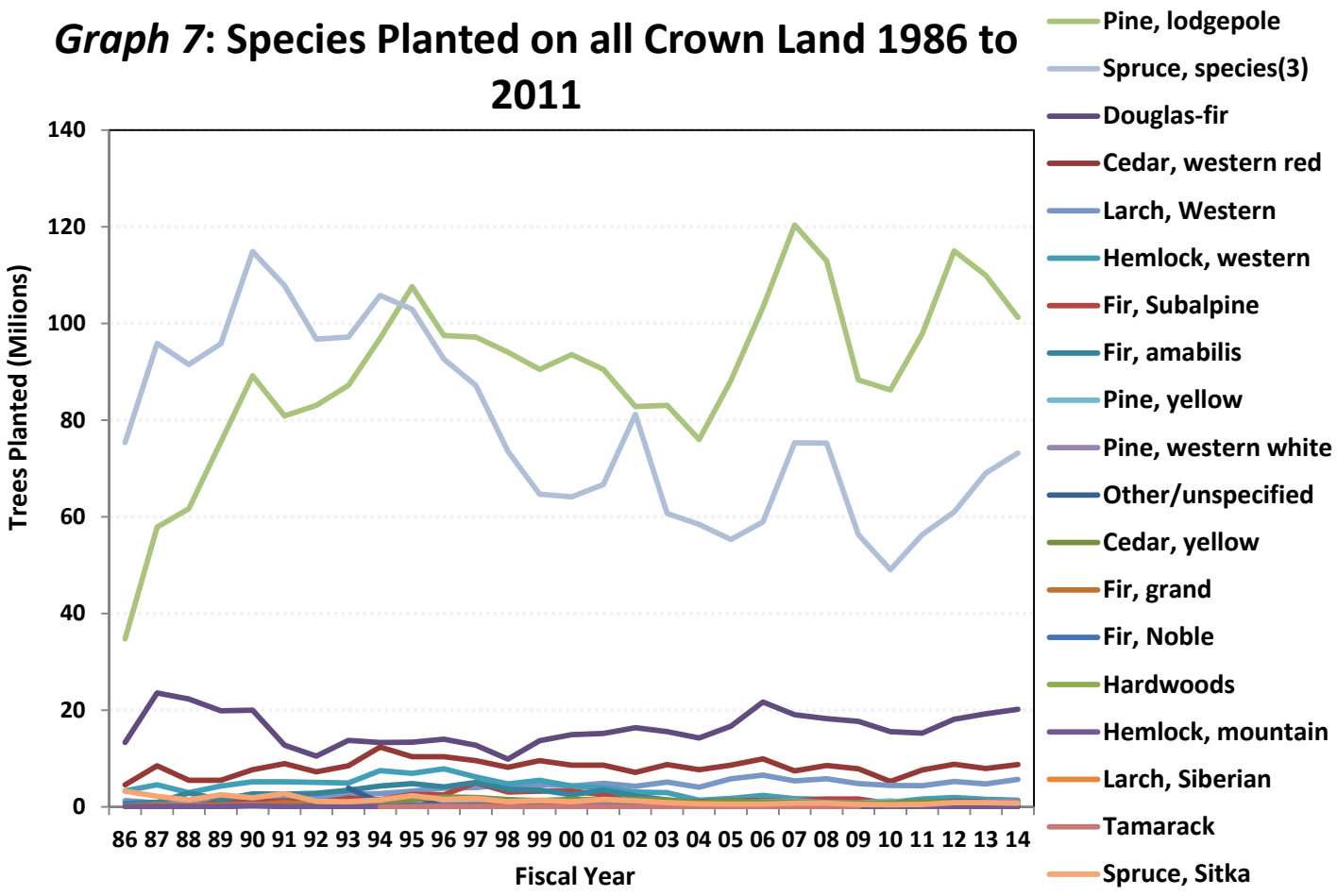
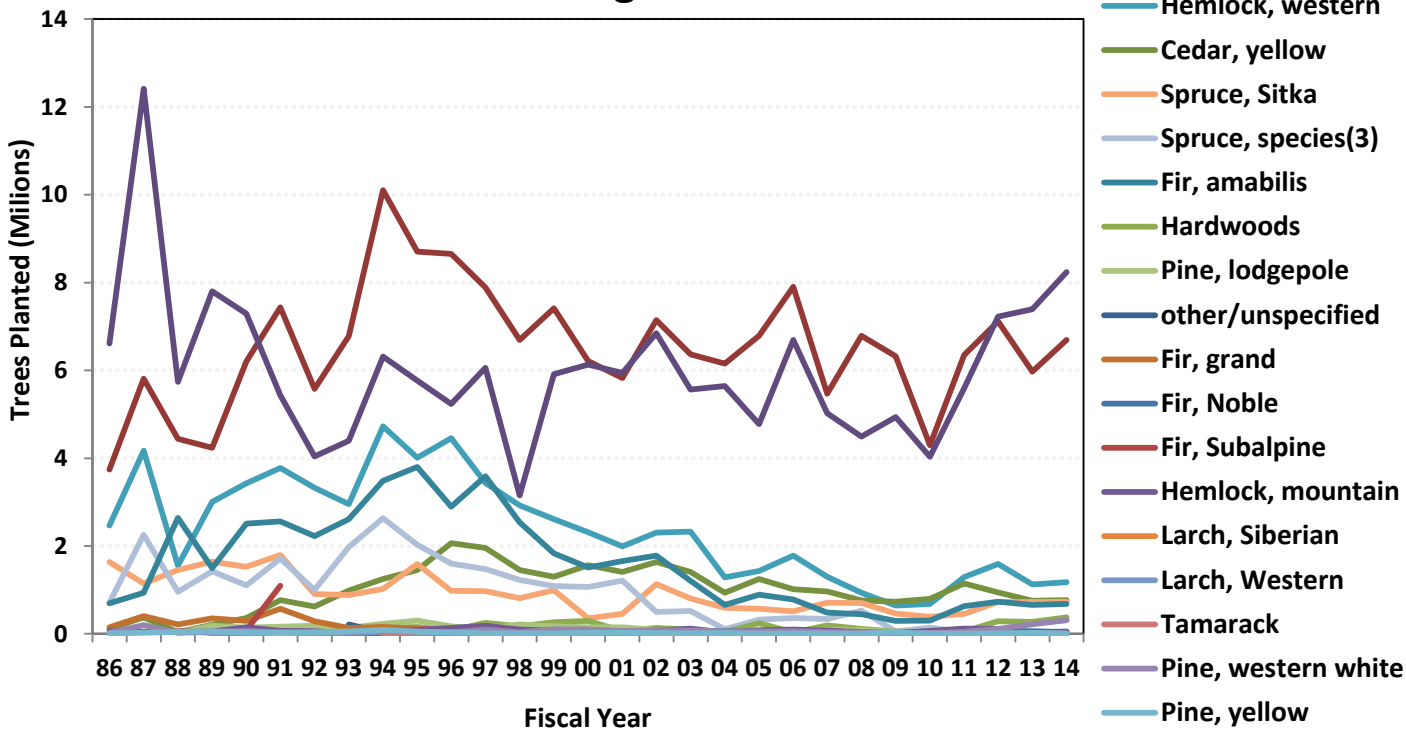
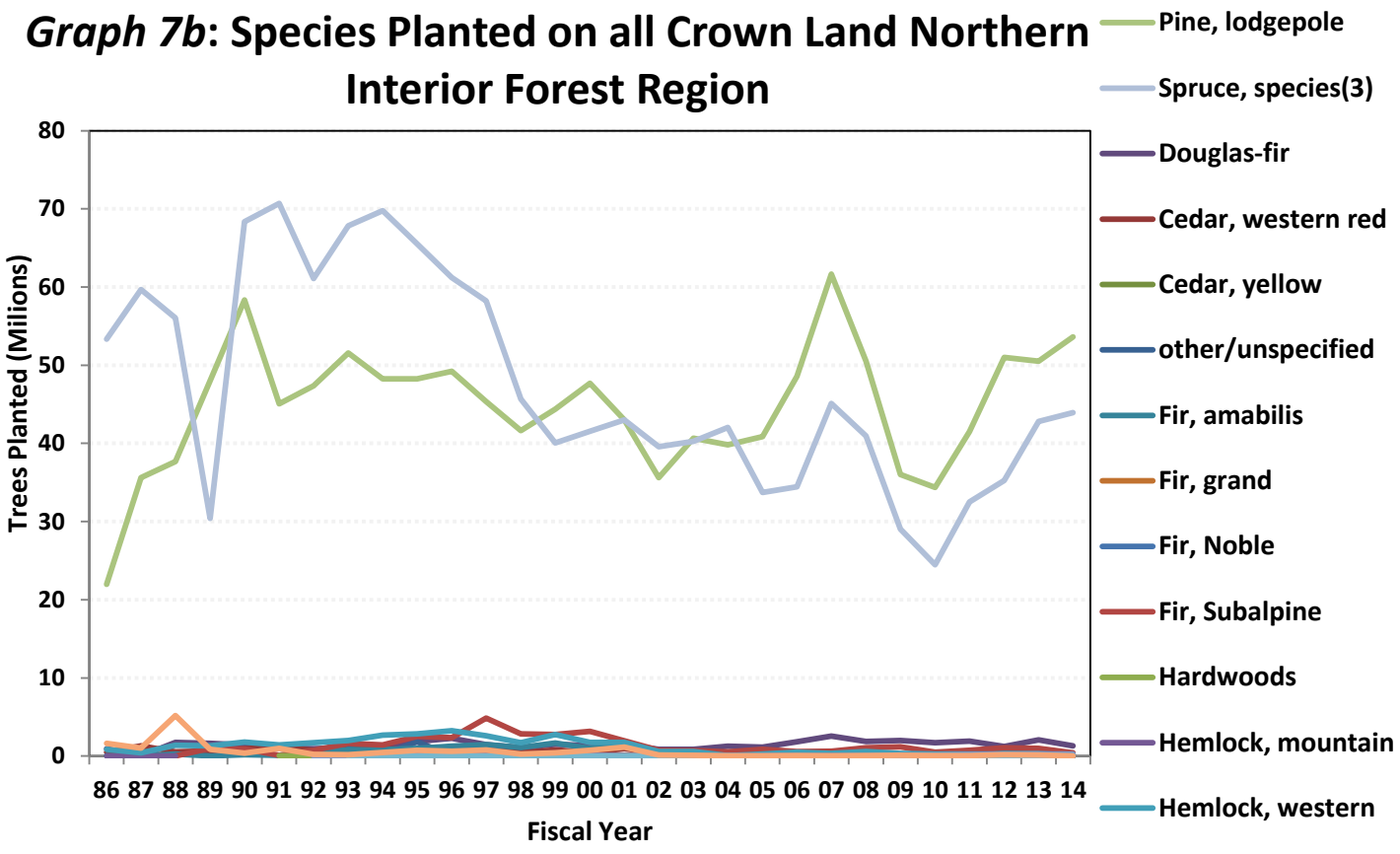
Graph 7: Species Planted on all Crown Land 1986 to 2011



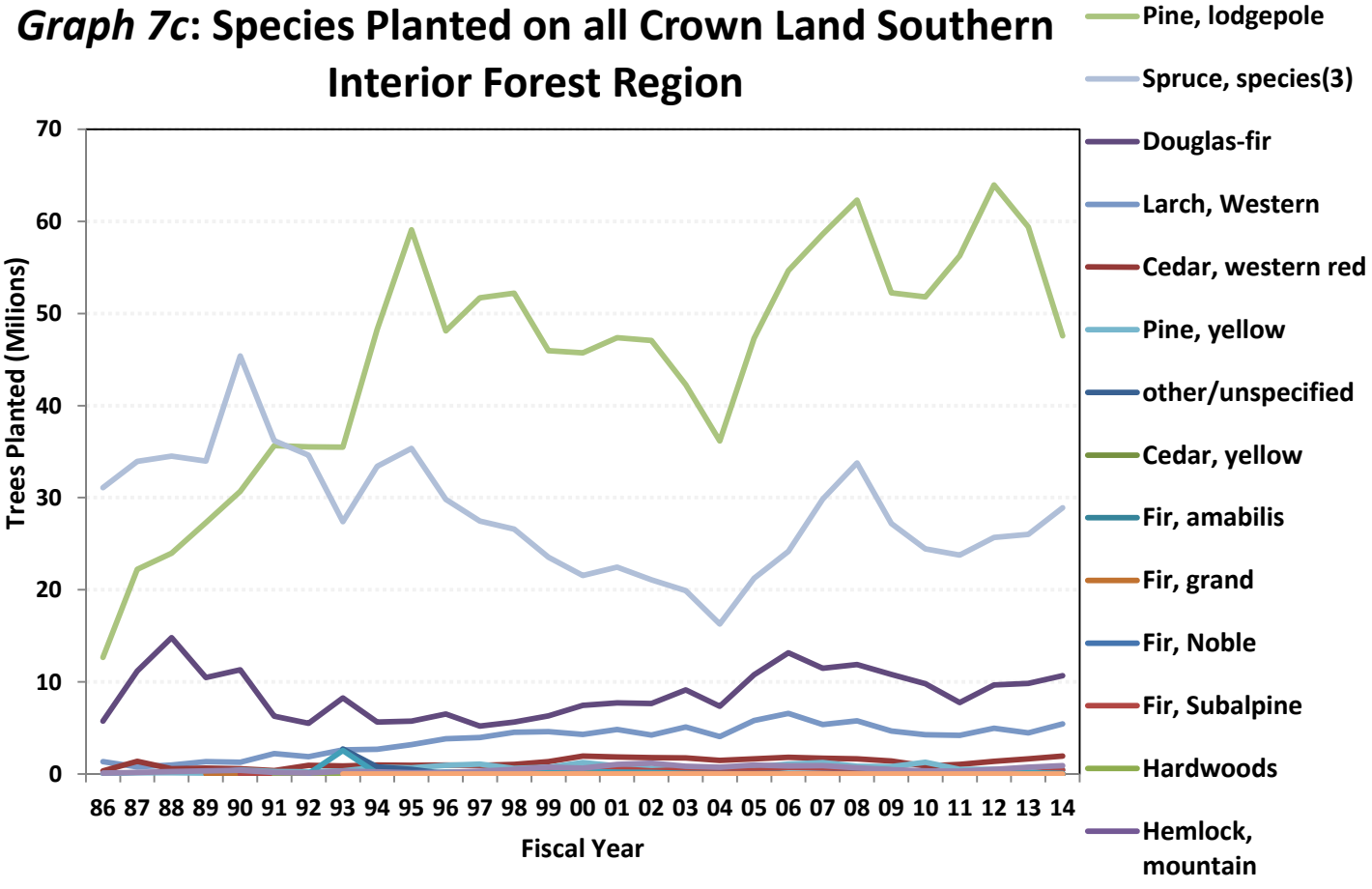
Graph 7a: Species Planted on all Crown Land Coastal Forest Region



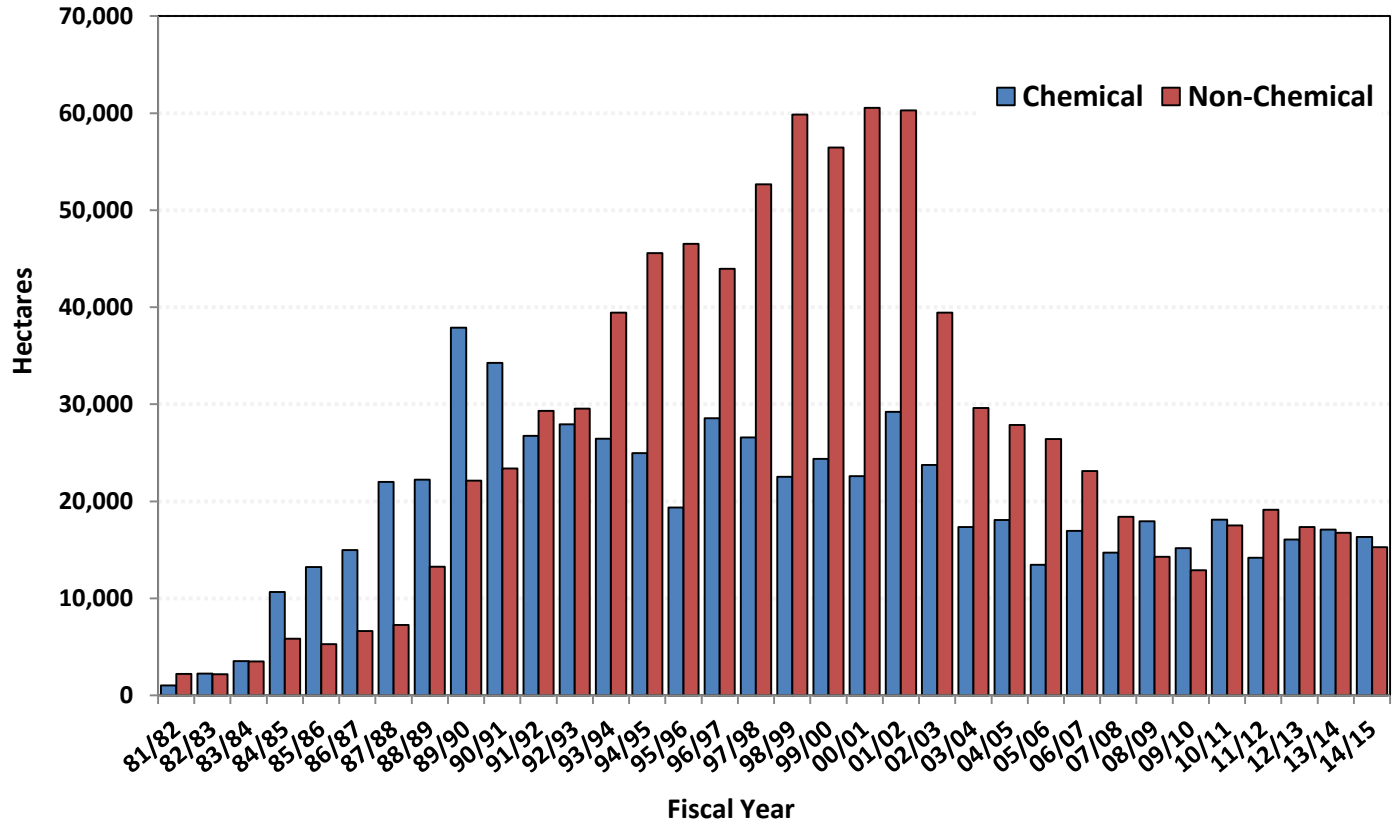
Graph 7b: Species Planted on all Crown Land Northern Interior Forest Region



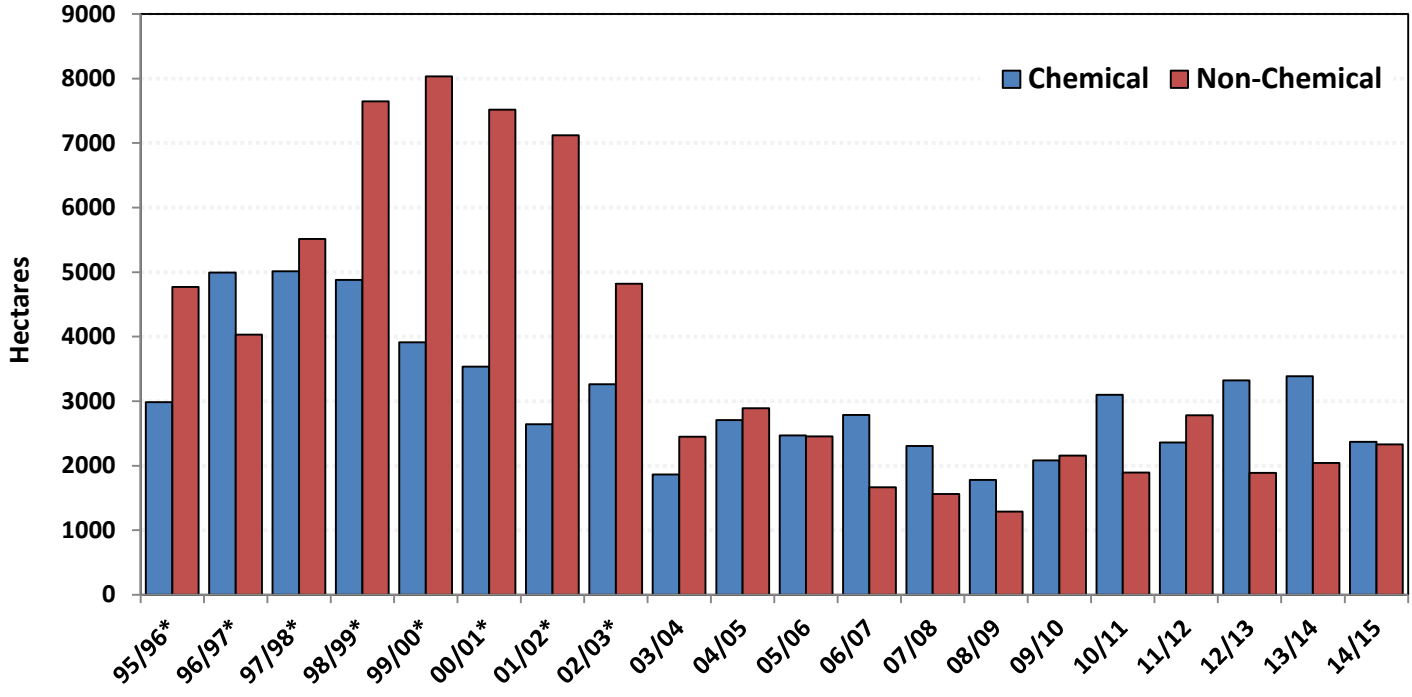
Graph 7c: Species Planted on all Crown Land Southern Interior Forest Region



Graph 8: Brushing on All Crown Land 1981 to 2015

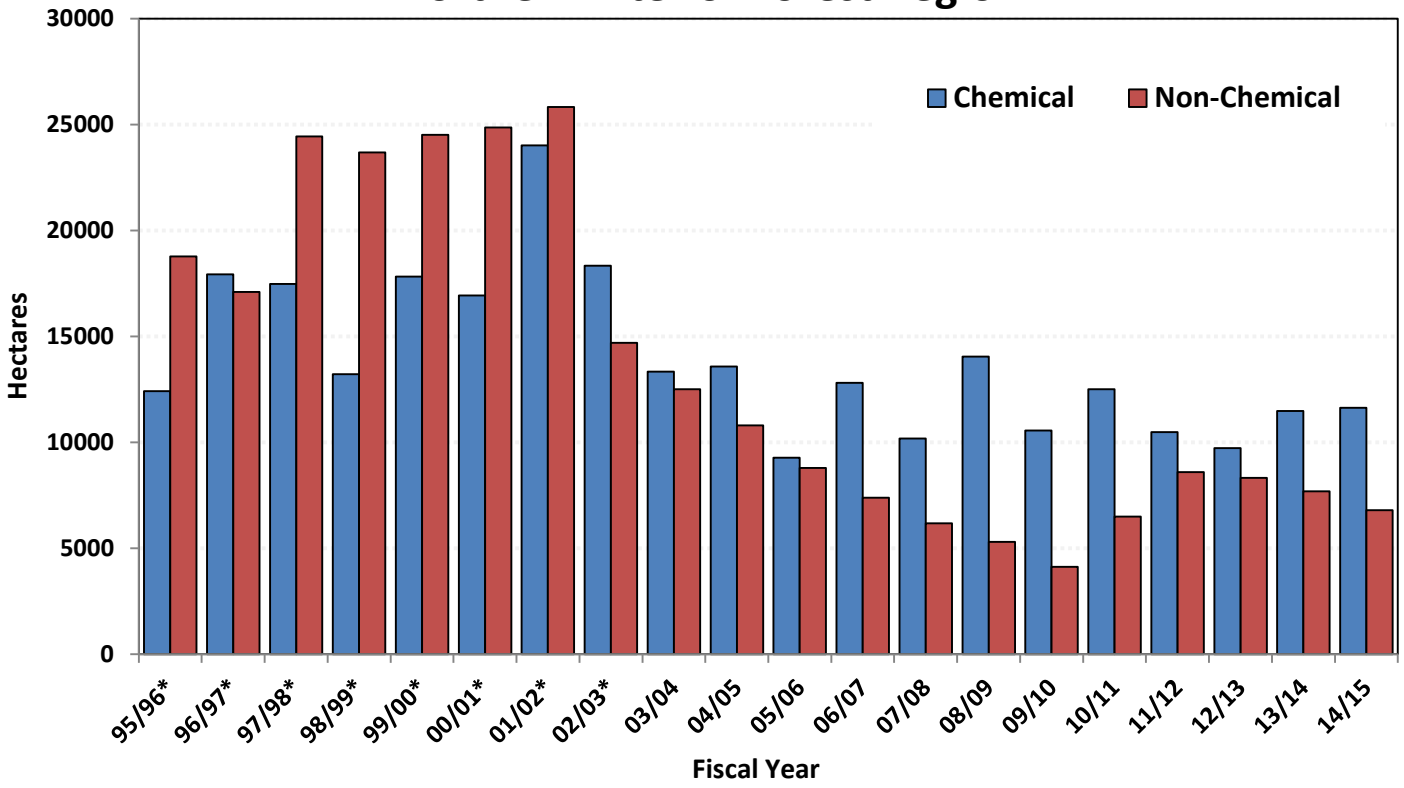


Graph 8a: Brushing on Crown Land Coastal Forest Region



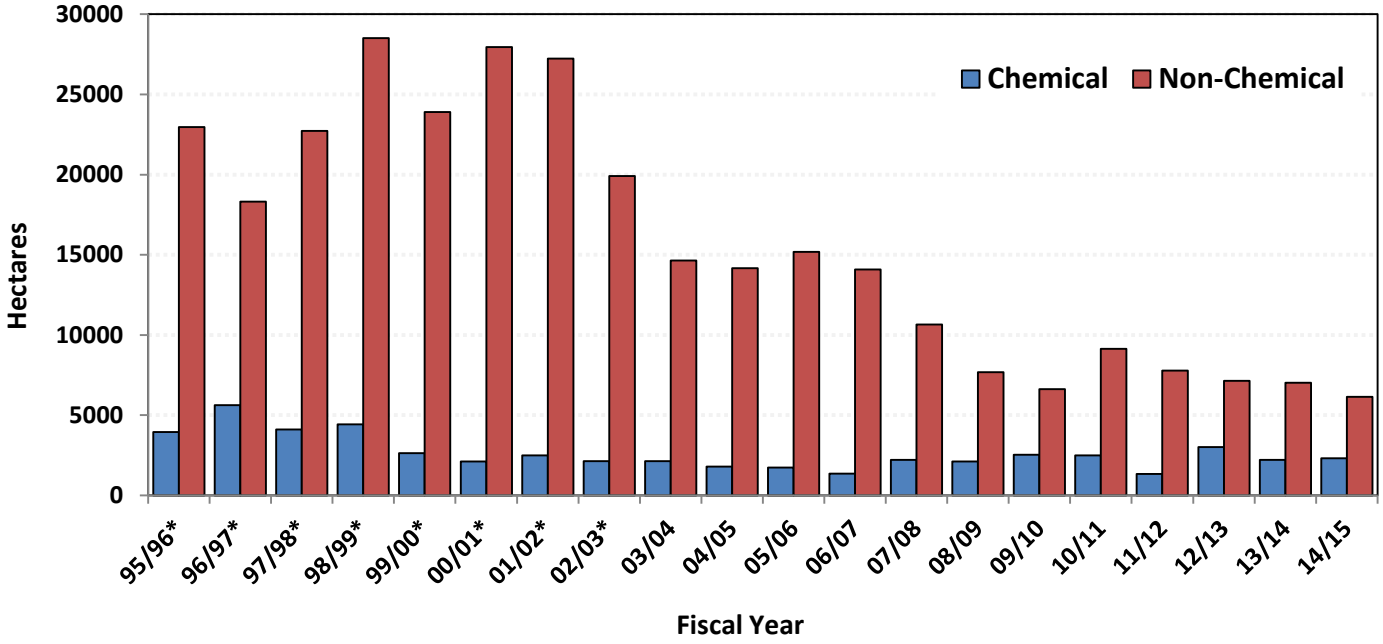
* Old region codes: Vancouver = Coastal

Graph 8b: Brushing on Crown Land
Northern Interior Forest Region



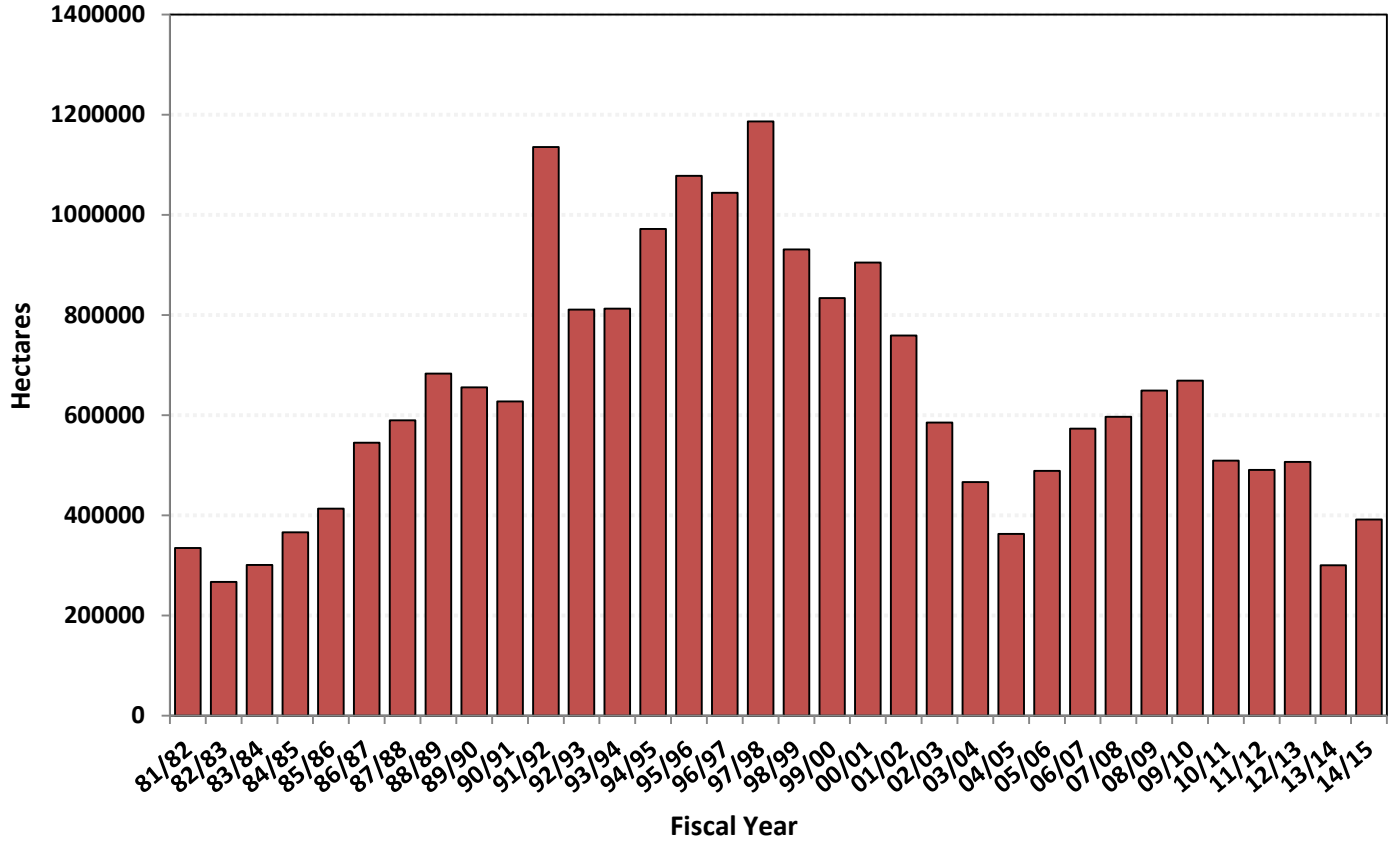
* Old region codes: Prince George, Prince Rupert = Northern Interior

Graph 8c: Brushing on Crown Land
Southern Interior Forest Region

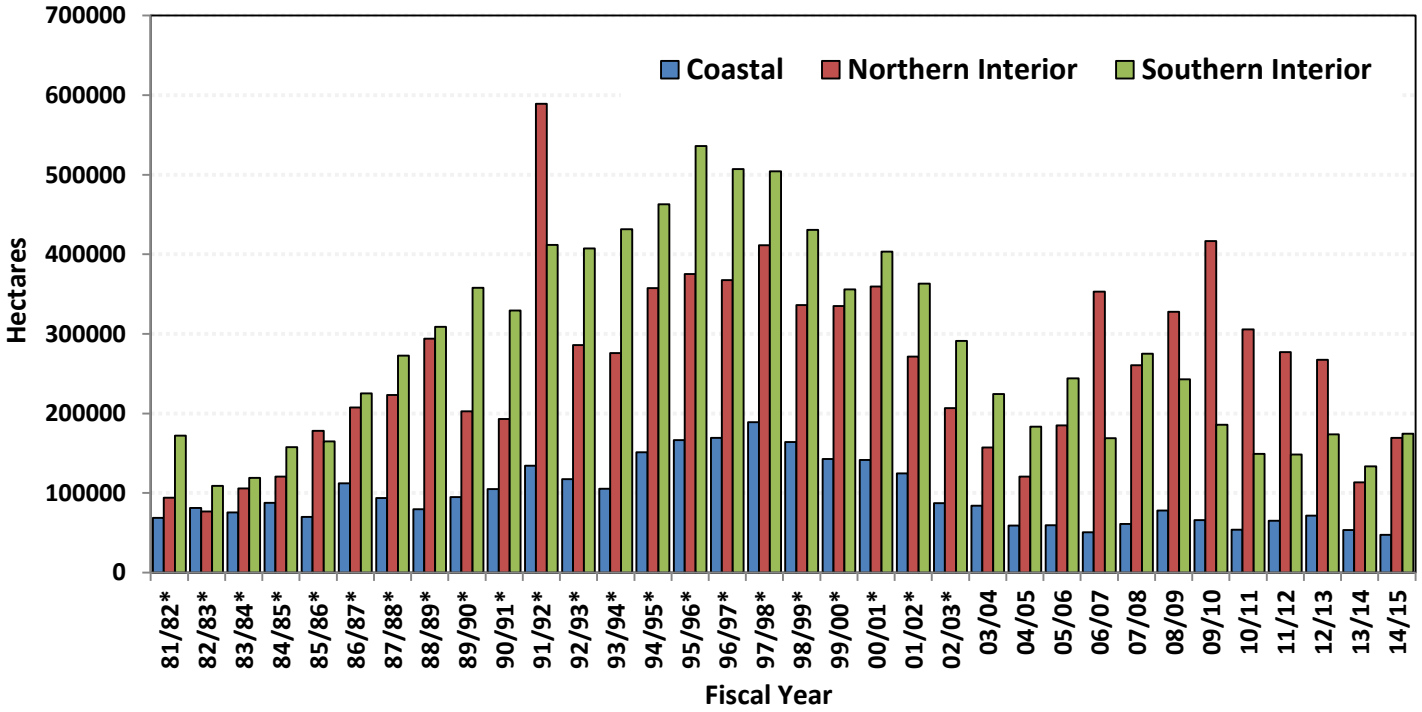


* Old region codes: Cariboo, Kamloops, Nelson = Southern Interior

Graph 9: Silviculture Surveys on All Crown Land



Graph 9a: Surveys on Crown Land by Forest Region



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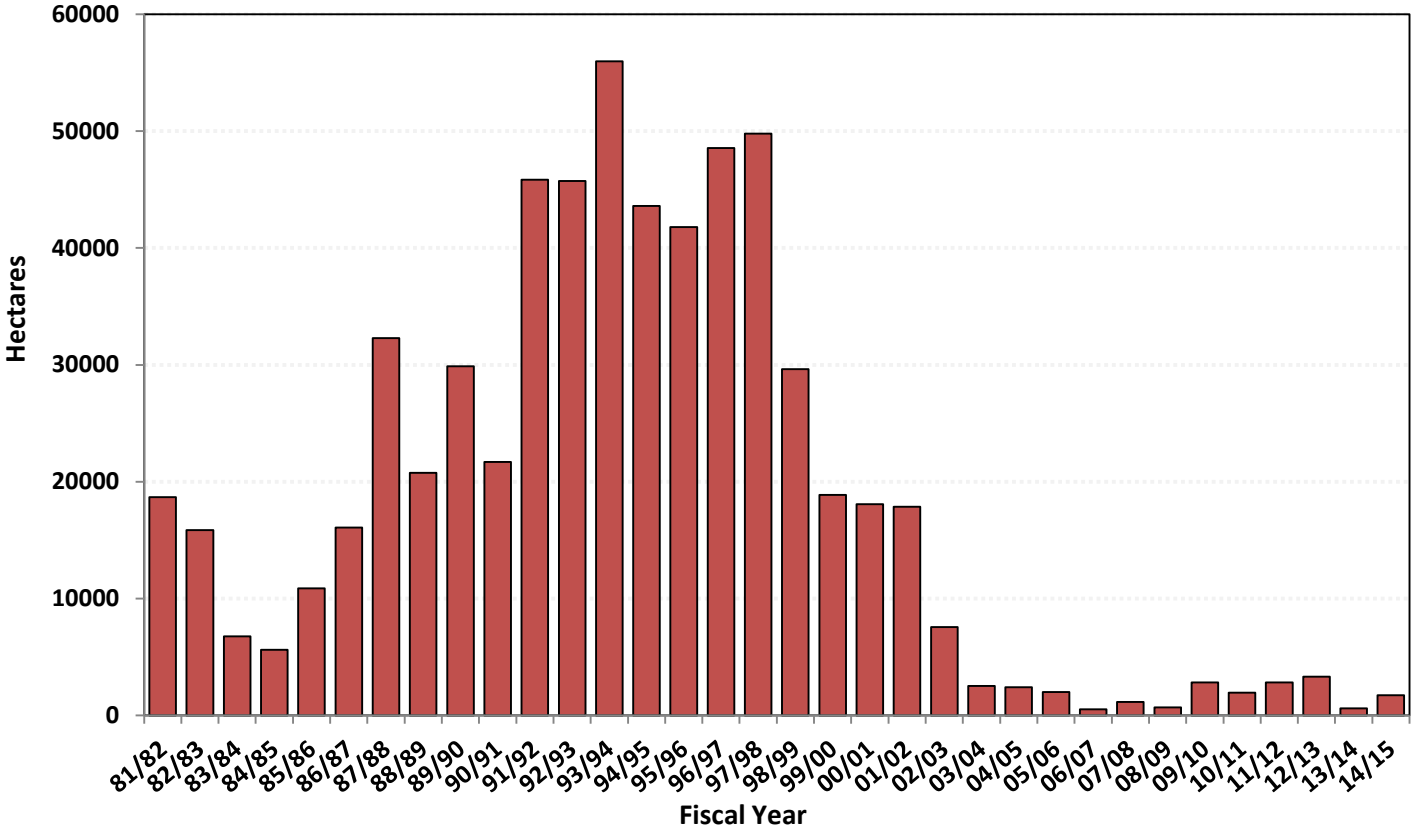
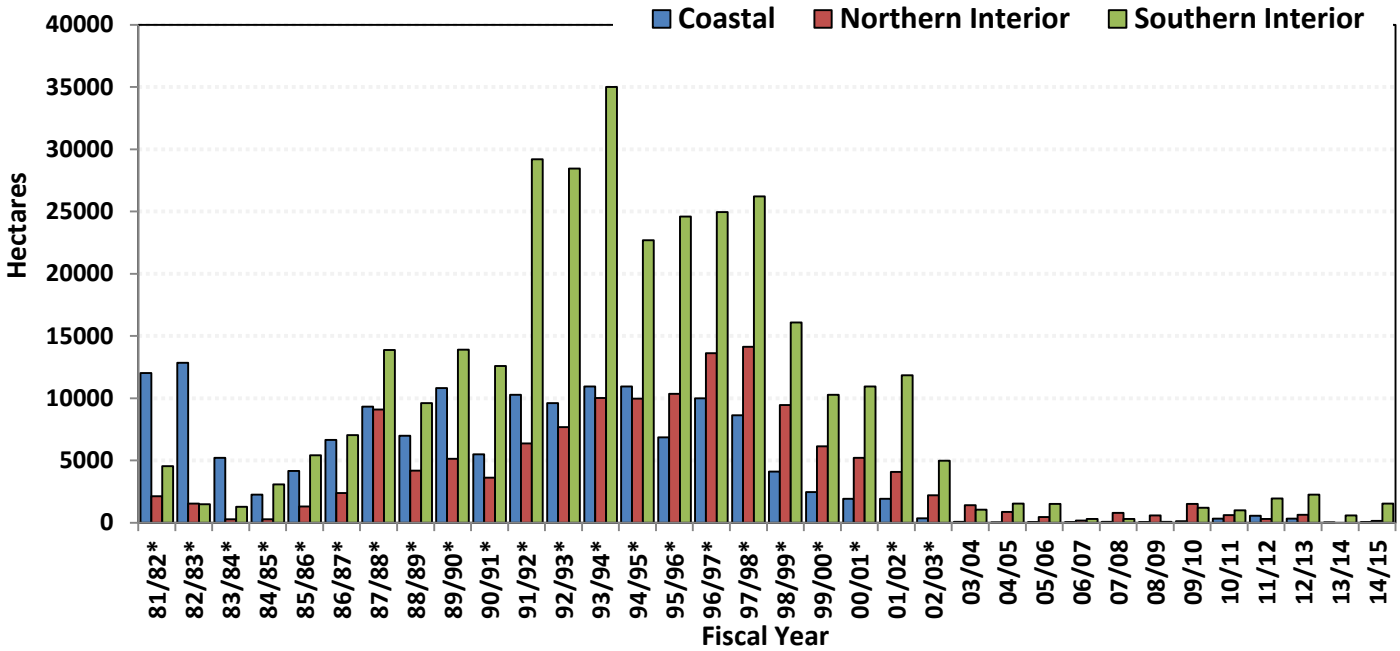
Graph 10: Juvenile Spacing on All Crown Land

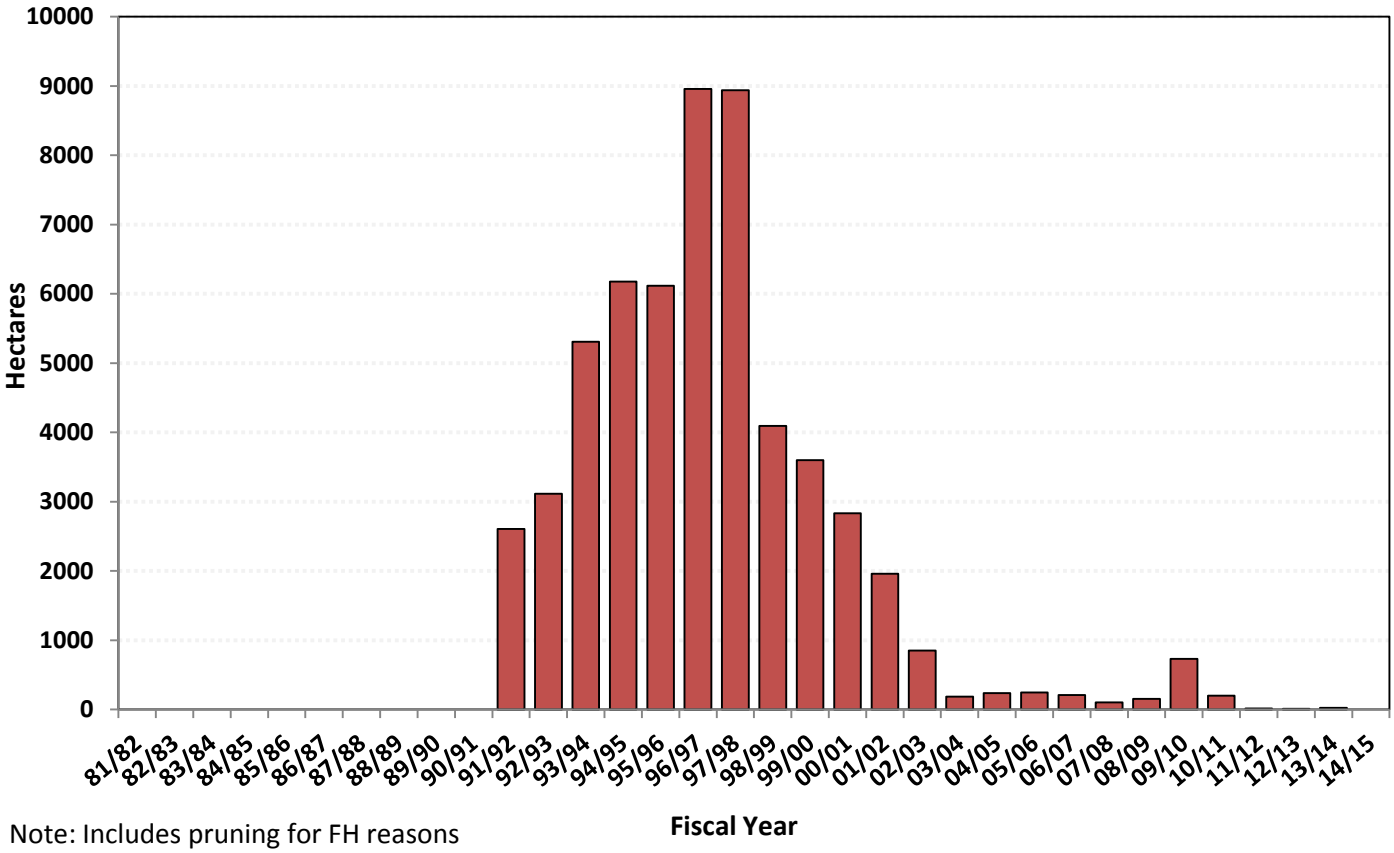


Graph 10a: Spacing on Crown Land by Forest Region



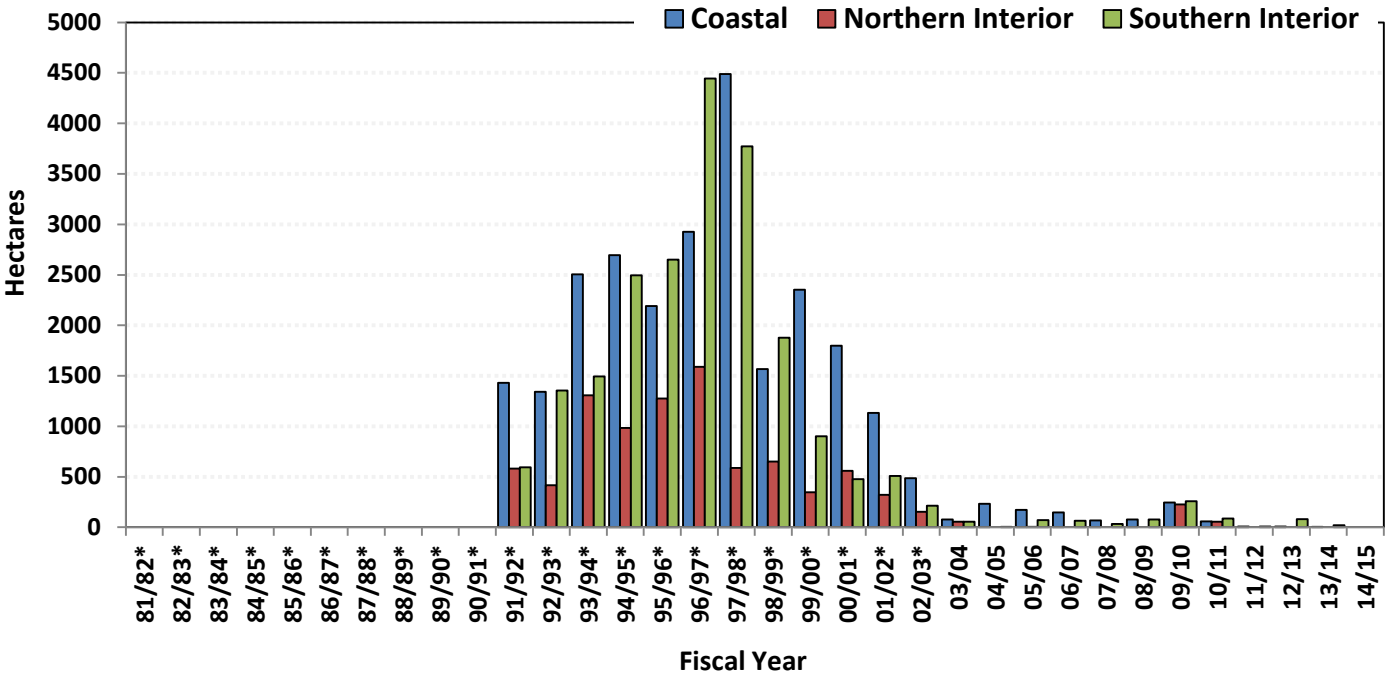
* Old region codes: Cariboo, Kamloops, Nelson = Southern Interior, Prince George, Prince Rupert = Northern Interior, Vancouver = Coastal

Graph 11: Pruning on All Crown Land



Note: Includes pruning for FH reasons

Graph 11a: Pruning on Crown Land by Forest Region



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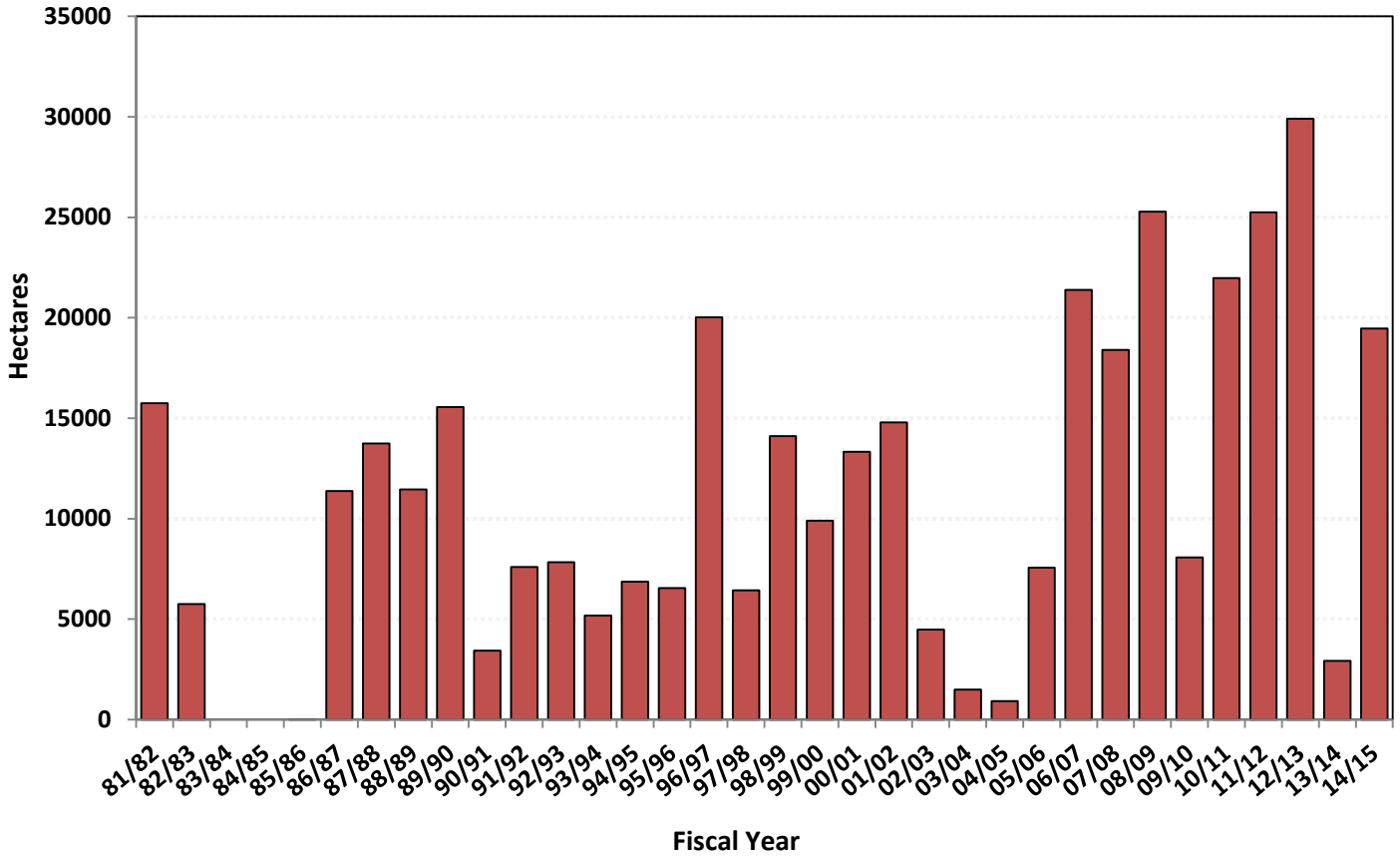
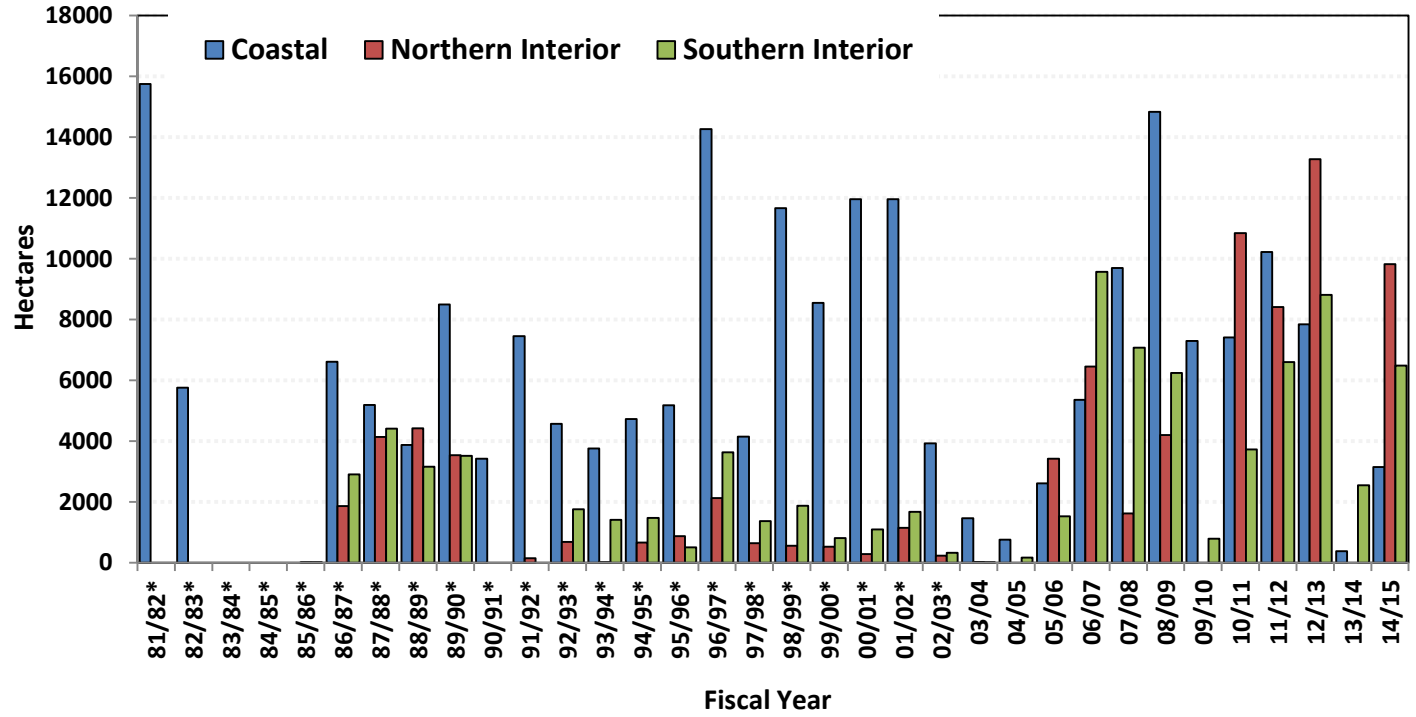
Graph 12: Fertilization on All Crown Land



Graph 12a: Fertilization on Crown Land by Forest Region



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Appendix 1

The following are listings of Website inks to detailed tables of the current Silviculture Statistics up to 2011, producing the charts and graphs listed above:

- Silviculture Program Statistics Homepage
  (Annual Reports of Silviculture Investments and Accomplishments)

  http://www.for.gov.bc.ca/hfp/silviculture/statistics/statistics.htm

- Annual Report Silviculture Tables and Graphs by Fiscal Year

  https://www.for.gov.bc.ca/hfp/silviculture/statistics/statistics.htm

  Pre 2006 - http://www.for.gov.bc.ca/mof/annualreports.htm

  Just the Facts - https://www.for.gov.bc.ca/hfp/publications/00001/

- Ministry of Forests and Range Annual Reports

  http://www.for.gov.bc.ca/mof/annualreports.htm