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Canada's Forest Inventory 1991: the 1994 version

An addendum to Canada's Forest Inventory 1991

Pacific Forestry Centre • Information Report BC-X-362E

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*Note: After October 19, 1996 the Area Code for Victoria will change to (250).

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Printed in Canada

A microfiche edition of this publication may be purchased from:

Micromedia Ltd.
240 Catherine St., Suite 305
Ottawa, ON K2P 2G8
Phone: (613) 237-4250
Toll-free 1-800-567-1914
FACS (613) 237-4251

Cette publication est également disponible en français.

Canadian Cataloguing in Publication Data

Lowe, J.J. (Joseph J.)

Canada's forest inventory 1991 : the 1994 version

(Information report; BC-X-362)

Issued also in French under title: Inventaire des forêts du Canada, 1991, version de 1994.

Includes an abstract in French.

“An addendum to Canada's forest inventory 1991”

Includes bibliographical references.

ISBN 0-662-24461-3

Cat. no. Fo46-17/362E

1. Forest surveys — Canada.
 2. Forests and forestry — Canada.
- I. Power, K. (Katja)
II. Gray, S.L. (Stephen Laing)
III. Pacific Forestry Centre.
IV. Series: Information report (Pacific Forestry Centre); BC-X-362

SD145.L68 1996 333.75'11'0971 C96-980221-8

Dedication

This report is dedicated to the memory of Joe Lowe (1934-1996), who dedicated most of his professional career with provincial forest inventories and the federal government to the improvement of forest resource inventories. Those of us who worked with him will continue to pursue his vision.

Contents

This report is an addendum to update some parts *Canada's forest inventory 1991* (Lowe et al. 1994). To help cross reference the two documents, the same numbers as in the earlier report have been used for chapters, tables, and maps; consequently, the numbering sequence is not always continuous. Table 6.1.1 was formerly Table 6.1; Tables 6.1.2 and 6.1.3 are new.

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Abstract

Canada's Forest Inventory 1991 was created without any new information from Quebec. The Quebec data became available in 1994, at which time the 1991 database (CanFI91) was amended to become the 1994 version (CanFI91-V94).

This document, an addendum to the main report *Canada's forest inventory 1991* (Lowe et al. 1994), updates certain key numbers and maps.

Summaries from the inventory could previously be reported by province and territory or by forest region and forest section. Now reports can also be summarized by ecozone and ecoregion. All three of these important systems of administrative and natural regionalisation are quantified in some of the tables.

Highlights

- The inventory covers all major forest areas.
- Of Canada's total area (997 million ha):
 - 42% is forest;
 - 25% is timber productive forest.
- Of the forest area (418 million ha), the ownership pattern is:
 - 71% provincial;
 - 22% federal (including territorial);
 - 7% private.
- Of the stocked timber productive forest (227 million ha) the forest type distribution is:
 - 62% softwood;
 - 22% mixedwood;
 - 16% hardwood.
- Of the timber productive forest volume (26 159 million m³) species distribution is :
 - 77% coniferous;
 - 23% broadleaved.
- The average growth to maturity of the timber productive forest is:
 - 1.59 m³/(stocked ha·year);
 - 360 million m³/year.
- Of the timber productive forest area (245 million ha) an estimated:
 - 7% is (temporarily) not stocked;
 - 46% is young;
 - 42% is mature or overmature;
 - 5% is uneven-aged or unclassified for maturity;
 - 49% (all ages) is presently suitable and available for wood production.*
- This 'wood production forest'* (120 million ha) has an estimated:
 - 14 719 million m³ of growing stock volume (131 m³/stocked ha);
 - 197 million m³/year average productivity to maturity (1.76 m³/(stocked ha·year)).

* See chapter 12

Résumé

Au moment de la préparation de *L'inventaire des forêts du Canada 1991*, aucune nouvelle donnée du Québec n'était disponible. Lors de la publication des données du Québec en 1994, la base de données 1991 (IFCan91) a été modifiée et est devenue la version 1994 (IFCan91-V94).

Le présent document est un addenda au rapport principal, *L'inventaire des forêts du Canada 1991* (Lowe et collab., 1994) et met à jour certaines données principales et les cartes.

Dans les rapports précédents, les sommaires des données pouvaient être présentés par province et territoire et par région et section forestières. Ils peuvent maintenant l'être aussi par écozone et écorégion. Certains tableaux présentent maintenant des données en fonctions de ces trois importants systèmes de régionalisation administrative et naturelle.

Faits saillants

- L'inventaire couvre toutes les principales superficies de forêt.
- La superficie totale du Canada est de 997 millions d'hectares;
 - 42 % est occupée par des forêts;
 - 25 % est occupée par des forêts productives de bois marchand.
- La superficie des forêts est de 418 millions d'hectares :
 - 71 % appartient aux provinces;
 - 22 % appartient au gouvernement fédéral (y compris les territoires);
 - 7 % appartient à des intérêts privés.
- La superficie des forêts boisées productives de bois marchand est de 227 millions d'hectares :
 - 62 % est constituée de résineux;
 - 22 % est constituée d'essences mélangées;
 - 16 % est constituée de feuillus.
- Le volume des forêts productives est de 26 159 millions de m³ et la distribution des espèces est la suivante :
 - 77 % de résineux;
 - 23 % de feuillus.
- L'accroissement moyen jusqu'à la maturité des forêts productives est de :
 - 1,59 m³ (hectare boisé/an);
 - 360 millions m³/an
- La superficie des forêts productives de bois marchand est de 245 millions d'hectares; d'après les estimations :
 - 7 % n'est pas boisée (temporairement)
 - 46 % est jeune;
 - 42 % est mûre ou surannée;
 - 5 % est inéquienne ou non classifiée
 - 49 % (de tous âges) peut être exploitée pour sa matière ligneuse.*
- Cette «forêt productive de matière ligneuse»* est de 120 millions d'hectares; selon les estimations :
 - le volume du matériel sur pied est de 14 719 millions de m³ (131 millions de m³/hectare boisé);
 - la productivité moyenne jusqu'à la maturité est de 197 millions de m³/année (1,76 m³/hectare boisé/an)

* Voir le chapitre 12

5. Introduction

Canada's Forest Inventory 1991, 1994 version (CanFI91-V94) has replaced the 1991 inventory (CanFI91) as the authoritative national database on the distribution and structure of the forest resource. The main numerical change to the database around 1994 was the incorporation of new source data from the province of Quebec.

Differences between successive versions of the national inventory are strongly influenced by procedural differences in the practices and timing of the source inventories as they are created and recruited to the national inventory. Such mathematical differences should not be considered real change in the forest.

This document, an addendum to the main report *Canada's forest inventory 1991* (Lowe et al. 1994), updates certain key numbers and maps. The text has been kept to a minimum.

Items for the addendum were selected based on recent experience with clients of the inventory. These items have the same reference numbers as their counterparts in the main report, which they replace. Items in the main report that have not been replaced in the addendum are technically out of date, but should still satisfy most general users except where there is a particular interest in Quebec. Clients with special needs for data not included in the addendum may request products directly from the current database (see Chapter 14. Information services).

The new technical supplement to both the main report and this addendum (Gray and Power 1996) provides a detailed description of the current inventory. In summary, four major changes have been made between 1991 and 1994:

A. CanFI91 evolved from CanFI86 with incorporation of the latest inventory information available by the collection deadline of early 1991. Unfortunately, the large amount of new inventory in Quebec was not available until 1994, so the biggest change for CanFI91-V94 is the addition of all Quebec data new since 1986. The database has not changed since 1991 for the other provinces and territories, except as described below.

B. The inventory has undergone some major procedural improvements, especially with the adoption of relational database management. Improved procedures for relating wood volume to forest area and the substitution of missing value volumes have caused an increase in total volume of 66 million m³ or 0.25% over the 1991 figures.

C. More water bodies have been included in CanFI in 1994 than in 1991. The detailed source inventories of the provinces and territories tend, understandably, not to include extremely large bodies of freshwater. Rationalization of the national coverage has resulted in the inclusion of such water bodies if they lie within the general forested zone of Canada. These water bodies include the Canadian portions of the Great Lakes and the St. Lawrence River, as well as other lakes shown on current CanFI maps.

D. The national inventory could always be summarized by province and territory. Between 1986 and 1991 the capability to report by forest region and forest section (Gray 1995) was added. CanFI91-V94 can now also be summarized by the new (terrestrial) ecozones and ecoregions.¹ All three of these important systems of administrative and natural regionalisation can now be used in CanFI analysis. Where certain tables in the main 1991 report were presented only by province (Tables 6.1, 16.1, and 16.3) they are repeated in this addendum by province, by forest region and by ecozone (Tables 6.1.1 to 6.1.33, 16.1.1 to 16.1.3, and 16.3.1 to 16.3.3).

The following symbols may be used in the tables:

... not applicable - zero -- too small to be expressed

¹ Lowe, J.J.; Power, K.; Marsan, M.W. 1996. Canada's forest inventory 1991: summary by terrestrial ecozones and ecoregions. Can. For. Serv., Pac. For. Cent., Inf. Rep. In prep.

6. National summary

Table 6.1.1. Area and volume summary by province and land class

Province/Territory	Area ($\times 1\,000\,000$ ha)					Volume ^a ($\times 1\,000\,000\text{ m}^3$)		
	Land	Water	Total	Forest	Tpf ^b	Conif.	Broadleaved	Total
						Timber productive forest	volume	
Newfoundland	31.3	5.0	36.0	22.5	11.3	491.9	39.8	531.7
Nova Scotia	5.0	0.5	5.4	3.9	3.8	156.3	106.2	262.5
Prince Edward Island	0.6	--	0.6	0.3	0.3	16.0	10.0	26.0
New Brunswick	7.1	0.2	7.3	6.1	6.0	434.1	211.9	646.1
Quebec	107.1	19.6	126.7	83.9	54.0	2937.5	1320.2	4257.7
Ontario	67.7	18.3	86.0	58.0	42.2	2399.3	1384.0	3783.3
Manitoba	37.8	10.0	47.8	26.3	15.2	611.9	326.0	938.0
Saskatchewan	35.0	5.9	40.9	28.8	12.6	460.6	435.2	895.7
Alberta	51.5	2.2	53.7	38.2	25.7	1921.6	1198.3	3119.9
British Columbia	92.6	2.5	95.1	60.6	51.7	9883.6	711.0	10594.5
Yukon Territory	47.8	0.5	48.3	27.5	7.5	572.3	65.7	638.0
Northwest Territories	90.9	14.4	105.3	61.4	14.3	333.2	132.9	466.0
Canada	574.4	78.7	653.1	417.5	244.6	20218.3	5941.2	26159.4

^aVolume reported only for timber productive forest.

^bTpf = timber productive forest area.

Totals may not add exactly due to rounding.

For more detail see Appendix 1, Tables 16.1.1 and 16.3.1.

Table 6.1.2. Area and volume summary by forest region and land class

Forest region	Area (× 1 000 000 ha)					Volume ^a (× 1 000 000 m ³)		
	Land	Water	Total	Forest	Tpf ^b	Conif.	Broadleaved	Total
Acadian	11.3	0.7	12.0	9.1	8.8	513.1	279.3	792.4
Boreal - For.& Barr.	148.5	28.2	176.7	102.4	23.5	677.0	73.8	750.9
Boreal - For. & Grassl.	13.9	7.8	21.7	2.7	2.3	48.1	169.6	217.8
Boreal - Pred. Forest	249.2	26.5	275.7	217.5	140.8	8696.2	3599.7	12295.9
Coast	11.4	0.3	11.7	7.4	6.3	2198.9	62.7	2261.6
Columbia	5.2	0.2	5.4	3.9	3.6	740.0	25.9	765.9
Deciduous	2.7	2.4	5.1	0.4	0.4	4.5	20.5	25.0
Grassland	3.5	0.1	3.6	1.3	1.2	156.8	13.1	169.9
Grt. Lks. - St. Lawr.	35.4	9.2	44.6	27.6	24.5	1005.5	1467.8	2473.4
Montane	14.5	0.6	15.0	12.1	11.8	2038.6	104.7	2143.3
Subalpine	25.0	0.6	25.6	16.6	14.8	3070.7	98.9	3169.6
Tundra	53.8	2.1	55.9	16.5	6.4	1068.8	25.0	1093.8
Canada	574.4	78.7	653.1	417.6	244.6	20218.3	5941.0	26159.5

^aVolume reported only for timber productive forest.

^bTpf = timber productive forest area.

Totals may not add exactly due to rounding.

For more detail see Appendix 1, Tables 16.1.2 and 16.3.2.

Table 6.1.3. Area and volume summary by ecozone and land class

Ecozone	Area (× 1 000 000 ha)					Volume ^a (× 1 000 000 m ³)		
	Land	Water	Total	Forest	Tpf ^b	Conif.	Broadleaved	Total
Arctic Cordillera	0.7	0.1	0.8	0.1	0	0	0	0
Southern Arctic	8.4	1.2	9.6	3.2	-	0.2	-	0.2
Taiga Plains	57.1	5.4	62.5	50.0	17.1	747.8	415.1	1162.9
Taiga Shield	88.6	20.6	109.2	52.7	10.2	249.5	15.4	265.0
Boreal Shield	163.2	29.4	192.6	151.1	106.1	5744.5	2510.9	8255.3
Atlantic Maritime	19.2	2.5	21.7	16.0	15.6	891.6	529.8	1421.4
Mixed Wood Plains	11.1	6.3	17.4	3.6	3.3	69.6	176.1	245.7
Boreal Plains	65.1	8.6	73.7	49.8	33.8	2167.7	1728.5	3896.2
Prairies	12.1	0.8	12.9	2.1	1.8	32.9	118.0	150.9
Taiga Cordillera	26.4	0.2	26.6	8.5	0.6	28.7	2.3	31.0
Boreal Cordillera	46.1	1.0	47.1	28.8	13.9	1188.4	126.6	1315.0
Pacific Maritime	20.3	0.4	20.7	10.1	8.6	3065.5	74.6	3140.1
Montane Cordillera	48.0	1.5	49.5	34.9	32.1	5939.8	237.2	6177.0
Hudson Plains	8.1	0.7	8.8	6.7	1.5	91.9	6.6	98.6
Canada	574.4	78.7	653.1	417.6	244.6	20218.1	5941.1	26159.3

^aVolume reported only for timber productive forest.

^bTpf = timber productive forest area.

Totals may not add exactly due to rounding.

For more detail see Appendix 1, Tables 16.1.3 and 16.3.3.

10. Forest composition

Table 10.2. Area percent of stocked timber productive forest by composition

Predominant genus	Forest type			Total
	Softwood	Mixedwood	Hardwood	
Coniferous	55	7	1	63
Broadleaved	3	8	14	25
Unclassified	5	6	2	12
Total	62	22	16	100

Totals may not add exactly due to rounding.
For more detail see Appendix 1, Table 16.11.

Table 10.3. Volume by species group ($\times 1\ 000\ 000\ m^3$)

Coniferous		Broadleaved	
Spruce	8534	Poplar - aspen	3670
Pine	4808	Birch	1242
Fir	3087	Maple	724
Hemlock	1775	Other	305
Douglas-fir	881	Total - Broadleaved	5941
Larch	185		
Cedar and other	947	All species	
Total - Coniferous	20218	Total - All species	26159

For more detail see Appendix 1, Table 16.12.

12. Forest ownership, use, and availability

Table 12.1. Area percent of forest by province and ownership

Province or Territory	Million ha	% Crown				Total
		Provincial	Federal	Private		
Newfoundland	22.3	5.3	--	0.1		5.4
Nova Scotia	3.9	0.3	--	0.6		0.9
Prince Edward I.	0.3	--	--	0.1		0.1
New Brunswick	6.1	0.7	--	0.7		1.5
Quebec	83.9	17.8	0.1	2.2		20.1
Ontario	58.0	12.3	0.1	1.5		13.9
Manitoba	25.3	5.9	0.1	0.3		6.3
Saskatchewan	28.8	6.7	0.1	0.1		6.9
Alberta	38.2	7.9	0.8	0.4		9.2
British Columbia	60.6	13.9	0.1	0.5		14.5
Yukon Territory	27.4	-	6.6	-		6.6
Northwest Terr.	61.4	-	14.2	-		14.7
Canada	417.3	70.8	22.3	6.6		100.0

All 'Provincial/Territorial' forest in the Yukon and Northwest Territories has been assigned to 'Federal'.

Totals may not add exactly due to rounding.
For more detail see Appendix 1, Table 16.18.

Table 12.2. Area percent of timber productive forest by province and ownership

Province or Territory	Million ha	% Crown			
		Provincial	Federal	Private	Total
Newfoundland	11.3	4.5	--	0.1	4.6
Nova Scotia	3.8	0.4	--	1.1	1.5
Prince Edward I.	0.3	--	--	0.1	0.1
New Brunswick	6.0	1.2	--	1.2	2.4
Quebec	54.0	18.8	0.1	3.2	22.1
Ontario	42.2	14.9	0.1	2.3	17.3
Manitoba	15.2	5.7	0.1	0.4	6.2
Saskatchewan	12.6	4.8	0.2	0.2	5.2
Alberta	25.7	9.2	0.7	0.5	10.5
British Columbia	51.7	20.1	0.2	0.9	21.2
Yukon Territory	7.5	-	3.1	-	3.1
Northwest Terr.	14.3	-	5.9	-	5.9
Canada	244.6	79.5	10.5	9.9	100.0

All 'Provincial/Territorial' forest in the Yukon and Northwest Territories has been assigned to 'Federal'.

Totals may not add exactly due to rounding.
For more detail see Appendix 1, Table 16.19.

Table 12.8. The wood production forest

Nonreserved accessed timber productive forest			
A. Application of policy constraint discount factor (%) to area (million ha)			
	Nonstocked^a	Stocked	Total
Area before discount ^b	9.527	138.058	147.585
Policy constraint factor ^c	-18.8%	-18.8%	-18.8%
Area after discount	7.736	112.103	119.839
B. Calculation of volume			
Stocked area (million ha)		112.103	
Volume per hectare (m ³ /ha) ^d		131.3	
Volume (million m ³)		14719	
C. Calculation of mean annual increment to maturity			
Stocked area (million ha)		112.103	
m.a.i. (m ³ /(ha·yr)) ^e		1.757	
m.a.i. (million m ³ /yr)		197	

Totals may not add exactly due to rounding.

^aNonstocked=Total-Stocked.

^bSource: Stocked - Appendix 1, Table 16.25; Total - Appendix 1, Table 16.26.

^cSource: Appendix 2, Table 17.2.

^dSource: Appendix 1, Table 16.25.

^eSource: Appendix 1, Table 16.24.

14. Information services

Some recent publications present different aspects of Canada's forests:

- *Canada's forest inventory 1991* (Lowe et al. 1994);
- *A descriptive forest inventory of Canada's forest regions* (Gray 1995);
- *(Canada's forest inventory 1991: summary by terrestrial ecozones and ecoregions* (Lowe et al. in prep.)).

Technical features of the inventory are described in:

- *Canada's forest inventory 1991, version 1994: technical supplement* (Gray and Power 1996).

The first two reports are available (the first also in French under the title *Inventaire des forêts du Canada 1991*, report PI-X-115/F; the second one is published in English at this writing, but is being translated) from Publications Distribution, Petawawa National Forestry Institute, P.O. Box 2000, Chalk River, Ontario, K0J 1J0. The other two reports will be available from the Pacific Forestry Centre (address below).

- *Land type data* at <http://www.pfc.forestry.ca/>

The CanFI 'land class' and 'forest type' codes have been combined into 'land type' codes for each of about 47 000 cells. These cell-level data are available on the Pacific Forestry Centre's World Wide Web site.

- *Special products*

The database CanFI91-V94 (Canada's forest inventory 1991, 1994 version) is available to answer special client requests at:

Forest Inventory and Analysis Project
Pacific Forestry Centre
Canadian Forest Service
506 West Burnside Road
Victoria, B.C.
V8Z 1M5

Phone: (604) 363-0615*
Fax: (604) 363-0775*
E-mail: kpower@a1.pfc.forestry.ca

*Note: After October 19, 1996 the Area Code for Victoria will change to (250).

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16. Appendix 1. Summary tables

Tables 16.1.1 and 16.3.1 were formerly 16.1 and 16.3, respectively. Tables 16.1.2, 16.1.3, 16.3.2, and 16.3.3 are new.

- Table 16.1.1. Inventoried area by province and land class
- Table 16.1.2. Inventoried area by forest region and land class
- Table 16.1.3. Inventoried area by ecozone and land class
- Figure 16.2. Area by land class and stocking
- Table 16.3.1. Volume of timber productive forest by province and forest type
- Table 16.3.2. Volume of timber productive forest by forest region and forest type
- Table 16.3.3. Volume of timber productive forest by ecozone and forest type
- Table 16.5. Area of timber productive forest by province and stocking class
- Table 16.10. Area of stocked timber productive forest by province and forest type
- Table 16.11. Area of stocked timber productive forest by forest type and predominant genus
- Table 16.12. Volume by species group and forest type
- Table 16.18. Area of forest by province and ownership
- Table 16.19. Area of timber productive forest by province and ownership
- Table 16.21. Area of forest by status and ownership
- Table 16.22. Area of timber productive forest by status and ownership
- Table 16.23. Volume of timber productive forest by status and ownership

- Table 16.24. Mean annual increment of stocked timber productive forest that is accessed and not reserved by province
- Table 16.25. Area, volume, and volume per hectare of stocked timber productive forest that is accessed and not reserved by province
- Table 16.26. Area of timber productive forest that is accessed and not reserved by province and ownership

Table 16.1.1. Inventoried area by province and land class ($\times 1000$ ha)

Province/Territory	Forest				Unspecified land	Water	Unclassified	Total
	Timber productive	Timber unprod.	Unspecified productivity	Nonforest				
Newfoundland	11271	11254	-	8790	-	4703	23	36041
Nova Scotia	3766	156	-	949	-	467	90	5428
Prince Edward Island	278	16	-	263	--	17	-	574
New Brunswick	5954	152	-	867	-	189	142	7304
Quebec	53991	29904	-	23168	-	19599	-	126662
Ontario	42204	15791	-	9393	7	18307	324	86026
Manitoba	15239	11038	-	11563	-	9963	-	47803
Saskatchewan	12633	16155	18	5189	835	5901	142	40873
Alberta	25705	12021	487	11100	984	2233	1196	53726
British Columbia	51739	8810	16	31406	-	2457	675	95103
Yukon Territory	7470	20021	58	20181	78	535	--	48343
Northwest Territories	14321	44347	2769	29477	-	14360	-	105274
Canada	244571	169665	3348	152346	1904	78731	2592	653157

Totals may not add exactly due to rounding.

Table 16.1.2. Inventoried area by forest region and land class ($\times 1000$ ha)

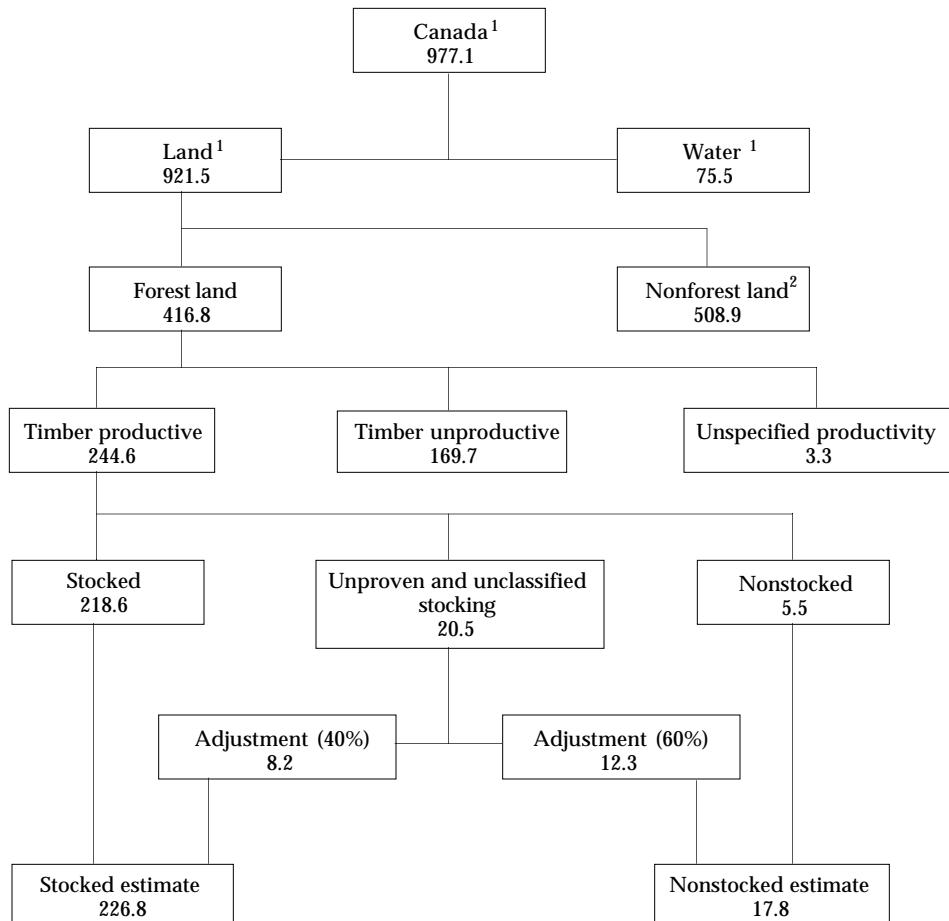
Forest region	Forest				Unspecified land	Water	Unclassified	Total
	Timber productive	Timber unprod.	Unspecified productivity	Nonforest				
Acadian	8815	313	-	1992	--	662	207	11989
Boreal - Forest and Barren	23546	76515	2307	46051	17	28242	20	176698
Boreal - Forest and Grassl.	2323	372	18	11030	99	7804	89	21735
Boreal - Pred. Forest	140784	75763	954	28896	1532	26519	1251	275699
Coast	6352	1096	-	3359	-	297	602	11706
Columbia	3619	289	-	1250	-	246	-	5404
Deciduous	403	28	-	2273	-	2381	-	5085
Grassland	1230	64	5	2093	151	89	-	3632
Grt. Lakes - St. Lawr.	24550	3089	-	7546	3	9233	185	44606
Montane	11750	315	9	2364	30	569	8	15045
Subalpine	14794	1760	15	8229	53	624	176	25651
Tundra	6405	10057	40	37261	18	2063	53	55897
Canada	244571	169661	3348	152344	1903	78729	2591	653147

Totals may not add exactly due to rounding.

Table 16.1.3. Inventoried area by ecozone and land class ($\times 1000$ ha)

Ecozone	Forest				Unspecified land	Water	Unclassified	Total
	Timber productive	Timber unprod.	Unspecified productivity	Nonforest				
Arctic Cordillera	-	51	-	701	-	66	-	818
Southern Arctic	9	3213	13	5148	--	1233	-	9616
Taiga Plains	17076	31532	1411	7023	26	5407	-	62475
Taiga Shield	10214	41143	1318	35883	12	20572	-	109142
Boreal Shield	106095	44977	5	11793	11	29379	347	192607
Atlantic Maritime	15572	463	-	2916	--	2533	232	21716
Mixed Wood Plains	3302	352	-	7419	-	6272	-	17345
Boreal Plains	33796	15516	502	12580	1516	8653	1174	73737
Prairies	1779	296	12	9891	179	835	-	12992
Taiga Cordillera	583	7876	28	17895	5	233	-	26620
Boreal Cordillera	13913	14871	30	17280	60	970	--	47124
Pacific Maritime	8563	1493	-	9524	-	402	675	20657
Montane Cordillera	32131	2702	26	12931	95	1492	164	49541
Hudson Plains	1537	5179	-	1359	-	675	-	8750
Canada	244570	169664	3345	152343	1904	78722	2592	653140

Totals may not add exactly due to rounding.



Totals may not add exactly due to rounding.

¹Source: Canada Year Book 1992.

²Nonforest land = Land - Forest.

For more detail see Appendix 1, Tables 16.1 and 16.5.

Figure 16.2. Area by land class and stocking ($\times 1\ 000\ 000$ ha).

Note: The area for water in this figure is from the Canada Year Book 1992 and covers all of the water in Canada, while the area for water in Tables 6.1.1 and 16.1.1 is the area of water that was recorded in the source forest inventories (i.e., not all water bodies in Canada are recorded in the inventories). The forest inventories cover only the forested areas of Canada, and include a more detailed tally of the water, so that the inventory figures for water can exceed the figures in the Canada Year Book. Therefore, the two figures for area of water in Canada cannot be compared.

Table 16.3.1. Volume of timber productive forest by province and forest type ($\times 1000 \text{ m}^3$)

Province/Territory	Forest type				Total
	Softwood	Mixedwood	Hardwood	Unclassified	
Newfoundland					
Coniferous	464613	25646	1634	--	491893
Broadleaved	18900	15087	5813	--	39800
Total	483513	40733	7447	1	531694
Nova Scotia					
Coniferous	104897	35347	16068	-	156312
Broadleaved	12595	22825	70737	-	106157
Total	117492	58173	86805	-	262470
Prince Edward Island					
Coniferous	7788	5597	2618	-	16003
Broadleaved	1212	3429	5388	-	10029
Total	9000	9026	8006	-	26032
New Brunswick					
Coniferous	268414	102206	51844	11663	434127
Broadleaved	32324	71696	104093	3828	211941
Total	300738	173902	155937	15491	646068
Quebec					
Coniferous	2311025	480849	137988	7619	2937481
Broadleaved	157167	494670	663174	5204	1320215
Total	2468192	975519	801162	12823	4257696
Ontario					
Coniferous	1752615	535059	111278	372	2399324
Broadleaved	138538	504929	740343	207	1384017
Total	1891153	1039988	851621	579	3783341
Manitoba					
Coniferous	488089	98647	25174	-	611910
Broadleaved	63804	88306	173939	-	326049
Total	551893	186952	199113	-	937958
Saskatchewan					
Coniferous	310662	114386	35505	-	460553
Broadleaved	39012	108486	287694	-	435192
Total	349674	222872	323199	-	895745
Alberta					
Coniferous	1236772	435905	248771	179	1921627
Broadleaved	138796	262863	796588	17	1198264
Total	1375569	698768	1045359	197	3119893
British Columbia					
Coniferous	9336425	533866	12937	379	9883607
Broadleaved	60167	345095	305197	555	711014
Total	9396593	878962	318134	934	10594623
Yukon Territory					
Coniferous	478472	90082	3744	-	572298
Broadleaved	25071	31799	8794	-	65664
Total	503543	121881	12538	-	637962
Northwest Territories					
Coniferous	150431	182273	471	-	333175
Broadleaved	3437	90006	39418	-	132861
Total	153868	272279	39890	-	466037
CANADA					
Coniferous	16910203	2639863	648032	20212	20218310
Broadleaved	691023	2039191	3201178	9811	5941203
Total	17601226	4679054	3849210	30023	26159513

Totals may not add exactly due to rounding.

Table 16.3.2. Volume of timber productive forest by forest region and forest type ($\times 1000 \text{ m}^3$)

Forest region	Forest type				
	Softwood	Mixedwood	Hardwood	Unclassified	Total
Boreal pred. forest					
Coniferous	6613994	1661152	413333	7756	8696235
Broadleaved	493099	1245529	1856502	4537	3599667
Total	7107093	2906681	2269835	12293	12295902
Boreal forest and grassl.					
Coniferous	9479	10302	28332	-	48113
Broadleaved	2396	15685	151562	-	169643
Total	11876	25987	179894	-	217757
Boreal forest and barren					
Coniferous	588225	87074	1733	--	677032
Broadleaved	23604	40748	9493	--	73845
Total	611829	127822	11226	1	750878
Subalpine					
Coniferous	2969856	95502	5116	253	3070727
Broadleaved	28035	49026	21805	22	98888
Total	2997890	144528	26921	276	3169615
Montane					
Coniferous	1919691	115453	3424	56	2038624
Broadleaved	16546	59498	28568	95	104707
Total	1936237	174950	31992	151	2143330
Coast					
Coniferous	2166569	30604	1733	9	2198915
Broadleaved	5904	22978	33837	4	62723
Total	2172474	53582	35571	14	2261641
Columbia					
Coniferous	712455	26937	648	-	740040
Broadleaved	6482	12728	6688	-	25898
Total	718937	39666	7337	-	765940
Deciduous					
Coniferous	2297	1723	463	-	4483
Broadleaved	232	2095	18161	-	20488
Total	2529	3819	18624	-	24972
Grt. Lks. - St. Lawr.					
Coniferous	409832	452996	138564	4144	1005536
Broadleaved	67550	491230	906700	2348	1467828
Total	477382	944225	1045265	6492	2473364
Acadian					
Coniferous	332137	122031	51156	7755	513079
Broadleaved	40342	84187	152453	2354	279336
Total	372479	206219	203609	10108	792415
Grassland					
Coniferous	148215	5411	2933	219	156778
Broadleaved	977	2327	9390	449	13143
Total	149192	7738	12323	667	169920
Tundra					
Coniferous	1037453	30679	597	21	1068750
Broadleaved	5856	13159	6019	1	25035
Total	1043309	43838	6615	22	1093784
CANADA					
Coniferous	16910203	2639864	648032	20213	20218312
Broadleaved	691023	2039190	3201178	9810	5941201
Total	17601226	4679054	3849210	30023	26159513

Totals may not add exactly due to rounding.

Table 16.3.3. Volume of timber productive forest by ecozone and forest type ($\times 1000 \text{ m}^3$)

Ecozone	Forest type				Total
	Softwood	Mixedwood	Hardwood	Unclassified	
<i>Southern Arctic</i>					
Coniferous	156	41	-	-	197
Broadleaved	--	19	-	-	19
Total	157	60	-	-	217
<i>Taiga Plains</i>					
Coniferous	389901	335878	22069	-	747848
Broadleaved	14908	209295	190856	-	415059
Total	404809	545173	212926	-	1162908
<i>Taiga Shield</i>					
Coniferous	228940	20358	246	-	249544
Broadleaved	6754	8367	333	-	15454
Total	235694	28726	579	-	264999
<i>Boreal Shield</i>					
Coniferous	4499869	1010387	227007	7197	5744460
Broadleaved	338426	965117	1202674	4671	2510888
Total	4838295	1975504	1429681	11868	8255348
<i>Atlantic Maritime</i>					
Coniferous	561181	227224	91208	11999	891612
Broadleaved	65234	171199	289309	4017	529759
Total	626415	398423	380517	16016	1421371
<i>Mixed Wood Plains</i>					
Coniferous	26012	31356	11779	459	69606
Broadleaved	4754	36384	134442	551	176131
Total	30766	67739	146221	1010	245736
<i>Boreal Plains</i>					
Coniferous	1340499	567852	259354	-	2167705
Broadleaved	162751	417315	1148416	-	1728482
Total	1503250	985168	1407770	-	3896188
<i>Prairies</i>					
Coniferous	6556	6454	19921	-	32931
Broadleaved	1471	9060	107464	-	117995
Total	8028	15514	127385	-	150927
<i>Taiga Cordillera</i>					
Coniferous	23691	4944	74	-	28709
Broadleaved	979	1226	141	-	2346
Total	24669	6170	215	-	31054
<i>Boreal Cordillera</i>					
Coniferous	1029807	153725	4850	-	1188382
Broadleaved	30586	67345	28722	-	126653
Total	1060393	221070	33572	-	1315035
<i>Pacific Maritime</i>					
Coniferous	3024598	38608	2225	104	3065535
Broadleaved	7490	28062	39021	11	74584
Total	3032088	66670	41246	115	3140119
<i>Montane Cordillera</i>					
Coniferous	5689357	240900	9126	454	5939837
Broadleaved	53887	124069	58683	561	237200
Total	5743244	364969	67810	1015	6177038
<i>Hudson Plains</i>					
Coniferous	89638	2137	172	-	91947
Broadleaved	3782	1733	1119	-	6634
Total	93420	3870	1291	-	98581
CANADA					
Coniferous	16910205	2639864	648031	20213	20218313
Broadleaved	691022	2039191	3201180	9811	5941204
Total	17601227	4679055	3849211	30024	26159517

Totals may not add exactly due to rounding.

Table 16.5. Area of timber productive forest by province and stocking class ($\times 1000$ ha)

Province/Territory	Stocking not confirmed				Stocking confirmed				
	Nonstocked	Unproven	Unclassified	Subtotal	Fully	Partially	Unquantified	Subtotal	Total
Newfoundland	370	3226	-	3596	1988	494	5194	7676	11272
Nova Scotia	234	485	-	719	37	62	2949	3048	3767
Prince Edward Island	-	33	-	33	220	24	1	245	278
New Brunswick	66	41	-	107	4581	1051	215	5847	5954
Quebec	-	6715	-	6715	17284	26212	3780	47276	53991
Ontario	-	3166	1	3167	30279	7531	1228	39037	42204
Manitoba	-	1787	--	1787	12023	1429	-	13452	15239
Saskatchewan	-	1394	-	1394	8351	681	2208	11239	12633
Alberta	249	1995	13	2257	20549	1058	1841	23448	25705
British Columbia	4351	6	1	4359	47184	-	196	47380	51739
Yukon Territory	188	1632	-	1820	2761	2873	16	5650	7470
Northwest Territories	-	39	-	39	4266	8741	1274	14281	14321
Canada	5458	20519	15	25993	149523	50156	18902	218580	244573

Application of stocking factors to reassign areas of 'unproven' and 'unclassified' stocking

	Unproven +		Stocked				
	Nonstocked	unclassified ¹	Fully	Partially	Unquantified	Subtotal	Total
Before adjustment	5458	20534	149523	50156	18902	218580	244573
Stocking factor ²	60%	←	→	40%			
Adjustment ³	+ 12320				+ 8214	+ 8214	
Canada	17778	...	149523	50156	27116	226794	244573

Totals may not add exactly due to rounding.

¹ $20519 + 15 = 20534$

²Source: Canada's Forest Inventory 1991, Appendix 2, Table 17.1 40% stocked, but unquantified for stocking level; 60% nonstocked.

³ $20534 \times 60\% = 12320$ ha nonstocked.

$20534 \times 40\% = 8214$ ha stocked (unquantified).

Table 16.10. Area of stocked timber productive forest by province and forest type (× 1000 ha)

Province/Territory	Forest Type				Total
	Softwood	Mixedwood	Hardwood	Unclassified	
Newfoundland	7191	411	73	--	7675
Nova Scotia	1386	715	946	-	3047
Prince Edward Island	90	85	70	-	245
New Brunswick	2285	1460	1355	747	5847
Quebec	30321	9491	7044	420	47276
Ontario	21832	10064	7135	6	39037
Manitoba	9069	1883	2500	-	13452
Saskatchewan	6268	2215	2756	-	11239
Alberta	10090	4679	8672	7	23448
British Columbia	39454	5459	2456	11	47380
Yukon Territory	4251	1275	124	-	5650
Northwest Territories	4225	9395	662	-	14282
Canada	136462	47132	33793	1191	218578
Adjustment from unproven stocking¹				+ 8214	+ 8214
Canada	136462	47132	33793	9405	226792

Totals may not add due to rounding.

¹Source: Appendix 1, Table 16.5. The stocked portion of 'unproven + unclassified' stocking is allocated to the unclassified forest type.

Table 16.11. Area of stocked timber productive forest by forest type and predominant genus (× 1000 ha)

Predominant genus	Forest Type				Total
	Softwood	Mixedwood	Hardwood	Unclassified	
Spruce	53360	6249	--	-	59609
Pine	31955	4947	--	-	36902
Fir	12750	2060	--	-	14810
Hemlock	4355	155	--	-	4510
Douglas-fir	4223	265	-	-	4488
Larch	830	29	-	-	859
Cedar and other conifers	3013	360	--	-	3373
Unspecified conifers	9665	1816	2273	-	13754
Subtotal - conifers	120151	15881	2273	-	138305
Poplar	--	6765	11037	-	17802
Birch	--	5412	3376	-	8788
Maple	--	995	5040	-	6036
Other broadleaved	6046	1529	2086	-	9662
Unsp. broadleaved	--	3040	8481	-	11521
Subtotal - broadleaved	6046	17741	30020	-	53809
Unclassified	10265	13508	1500	1191	26464
Canada	136462	47131	33793	1191	218578
Adjustment from unproven stocking¹				+ 8214	+ 8214
Canada	136462	47131	33793	9405	226792

Totals may not add exactly due to rounding.

¹Source: Appendix 1, Table 16.5. The stocked portion of 'unproven + unclassified' stocking is allocated to the unclassified forest type.

Table 16.12. Volume by species group and forest type ($\times 1000 \text{ m}^3$)

Species group	Forest type				
	Softwood	Mixedwood	Hardwood	Unclass.	Total
Black spruce and red spruce	3672814	480310	110406	3933	4267462
Other spruce	3021380	981197	260991	3817	4267384
White pine	75938	85110	19918	170	181136
Jack, lodgepole, and shore pine	3933714	518458	92376	278	4544826
Other pine	63376	15432	3195	122	82124
Balsam fir	2598933	367226	110812	10359	3087331
Hemlock	1707579	48137	19345	77	1775138
Douglas-fir	829643	45206	5913	269	881032
Larch	168649	12785	3437	231	185103
Cedar and other conifers	838138	85983	21634	958	946714
Subtotal - conifers	16910164	2639844	648027	20214	20218250
Trembling aspen	332703	1028596	1529678	1188	2892164
Other poplar	101328	237040	438715	919	778001
Yellow birch	14414	113030	138015	232	265690
Other birch	195950	429412	345444	5422	976228
Sugar maple and black maple	7373	69525	355278	277	432452
Other maple	27044	98760	164382	1128	291314
Other broadleaved species	12209	62815	229655	645	305324
Subtotal - broadleaved	691021	2039178	3201167	9811	5941173
Total - all species	17601185	4679022	3849194	30025	26159423

Totals may not add exactly due to rounding.

Table 16.18. Area of forest by province and ownership ($\times 1000 \text{ ha}$)

Province/Territory	Federal		Provincial/		Private				Total
	Other	Native	Territorial	Industrial	Nonndust.	Municipal	Unspecified	Unclass.	
Newfoundland	97	-	22146	7	--	18	255	-	22523
Nova Scotia	101	11	1100	883	1827	-	-	-	3923
Prince Edward I.	1	1	20	-	273	-	-	-	295
New Brunswick	73	--	2935	1229	1868	-	-	-	6106
Quebec	154	238	74286	1102	8113	-	1	-	83895
Ontario	163	176	51217	839	5555	--	-	45	57995
Manitoba	264	118	24619	-	1159	117	-	-	26277
Saskatchewan	337	165	27881	-	236	-	187	-	28806
Alberta	3242	209	32974	-	-	15	1512	263	38214
British Columbia	352	215	57832	-	2142	5	18	--	60564
Yukon Territory	117	-	27433	-	-	-	-	-	27550
Northwest Terr.	15104	-	46332	-	-	-	-	-	61436
Canada	20005	1133	368775	4060	21173	155	1973	308	417584

Totals may not add exactly due to rounding.

Table 16.19. Area of timber productive forest by province and ownership (× 1000 ha)

Province/Territory	Federal		Provincial/		Private					Total
	Other	Native	Territorial	Industrial	Nonindust.	Municipal	Unspecified	Unclass.		
Newfoundland	60	-	11022	4	--	15	169	-	11271	
Nova Scotia	101	11	1030	846	1778	-	-	-	3767	
Prince Edward I.	1	1	19	-	257	-	-	-	278	
New Brunswick	71	--	2888	1207	1788	-	-	-	5954	
Quebec	145	168	45907	1057	6713	-	1	-	53991	
Ontario	127	141	36351	744	4795	--	-	45	42204	
Manitoba	247	89	13821	-	983	98	-	-	15239	
Saskatchewan	327	133	11784	-	203	-	187	-	12633	
Alberta	1689	15	22464	-	-	14	1270	252	25705	
British Columbia	274	198	49145	-	2099	5	17	--	51739	
Yukon Territory	73	-	7398	-	-	-	-	-	7470	
Northwest Terr.	2373	-	11948	-	-	-	-	-	14321	
Canada	5488	756	213777	3858	18616	132	1644	297	244572	

Totals may not add exactly due to rounding.

Table 16.21. Area of forest by status and ownership (× 1000 ha)

Status	Federal		Provincial/		Private					Total
	Other	Native	Territorial	Industrial	Nonindust.	Municipal	Unspecified	Unclass.		
Reserved	5522	-	6920	-	-	-	-	-	12442	
Assigned	1	448	44985	-	-	18	-	-	45452	
Retained	14484	684	314619	-	-	126	-	-	329913	
Other	-	-	2	4059	21173	5	1974	-	27213	
Unclassified	-	-	2250	-	-	6	-	308	2564	
Total	20007	1132	368776	4059	21173	155	1974	308	417584	

Totals may not add exactly due to rounding.

Table 16.22. Area of timber productive forest by status and ownership (× 1000 ha)

Status	Federal		Provincial/		Private					Total
	Other	Native	Territorial	Industrial	Nonindust.	Municipal	Unspecified	Unclass.		
Reserved	3276	-	5707	-	-	-	-	-	8983	
Assigned	1	209	37167	-	-	16	-	-	37392	
Retained	2211	549	169085	-	-	105	-	-	171950	
Other	-	-	2	3857	18617	5	1644	-	24126	
Unclassified	-	-	1817	-	-	6	-	298	2121	
Total	5488	758	213778	3857	18617	132	1644	298	244572	

Totals may not add exactly due to rounding.

Table 16.23. Volume of timber productive forest by status and ownership ($\times 1000 \text{ m}^3$)

Status	Federal		Provincial/		Private					Total
	Other	Native	Territorial	Industrial	Nonindust.	Municipal	Unspecified	Unclass.	Unclass.	
Reserved	219494	-	971345	-	-	-	-	-	-	1190840
Assigned	54	20441	4614203	-	-	1669	-	-	-	4636368
Retained	90021	65392	1771129	-	-	6262	-	-	-	1932805
Other	-	-	211	360814	1647479	744	175337	-	-	2184586
Unclassified	-	-	233549	-	-	1283	-	39926	39926	274758
Total	309569	85833	7590437	360814	1647479	9958	175337	39926	39926	10219357

Totals may not add exactly due to rounding.

Table 16.24. Mean annual increment of stocked timber productive forest that is accessed and not reserved by province

Province/Territory	m.a.i. to maturity $\text{m}^3/(\text{ha}\cdot\text{yr})$
Newfoundland	1.672
Nova Scotia	1.347
Prince Edward Island	2.142
New Brunswick	1.853
Quebec	1.478
Ontario	1.824
Manitoba	1.587
Saskatchewan	2.035
Alberta	1.984
British Columbia	1.944
Yukon Territory	1.006
Northwest Terr.	0.564
Canada	1.760

Table 16.25. Area, volume, and volume per hectare of stocked timber productive forest that is accessed and not reserved by province

Province/Territory	Area	Volume	
	$(\times 1000 \text{ ha})$	$(\times 1000 \text{ m}^3)$	(m^3/ha)
Newfoundland	2434	192671	79.17
Nova Scotia	2954	253801	85.93
Prince Edward I.	245	26025	106.23
New Brunswick	5777	637186	110.29
Quebec	31174	3087704	99.05
Ontario	22896	2253359	98.42
Manitoba	5274	411306	77.99
Saskatchewan	5204	568339	109.21
Alberta	20877	2949036	141.26
British Columbia	33056	7507327	227.11
Yukon Territory	1351	150466	111.34
Northwest Terr.	1711	91678	53.57
Canada	132953	18128898	136.36
Adjustment¹	$\times 1.03840$	$\times 1$	/1.03840
Canada	138058	18128898	131.3

¹In Table 16.5 (for all stocked timber productive forest) the stocking adjustment of 8214 was added to 218580 to total 226794 thousand ha. The same adjustment factor of 226974/218580 = 1.038402 is assumed for this table.

The stocking adjustment adds area to the youngest age class, so there is no increase in volume and the volume per hectare is reduced accordingly.

Totals may not add exactly due to rounding.

Table 16.26. Area of timber productive forest that is accessed and not reserved by province and ownership ($\times 1000$ ha)

Province/Territory	Federal		Provincial/		Private				Total
	Other	Native	Territorial	Industrial	Nonindust.	Municipal	Unspecified	Unclass.	
Newfoundland	2	-	2797	4	--	15	144	-	2962
Nova Scotia	5	11	1030	846	1778	-	-	-	3671
Prince Edward I.	1	1	19	-	257	-	-	-	278
New Brunswick	70	--	2838	1189	1787	-	-	-	5884
Quebec	126	158	28839	1055	5743	-	1	35	35958
Ontario	68	81	19725	633	4672	--	-	-	25179
Manitoba	2	69	4697	-	968	98	-	-	5834
Saskatchewan	-	128	5107	-	203	-	187	-	5626
Alberta	-	15	21460	-	-	14	1270	252	23011
British Columbia	58	179	33539	-	1921	5	17	--	35719
Yukon Territory	-	-	1750	-	-	-	-	-	1750
Northwest Terr.	197	-	1516	-	-	-	-	-	1713
Canada	529	642	123317	3727	17329	132	1619	287	147585

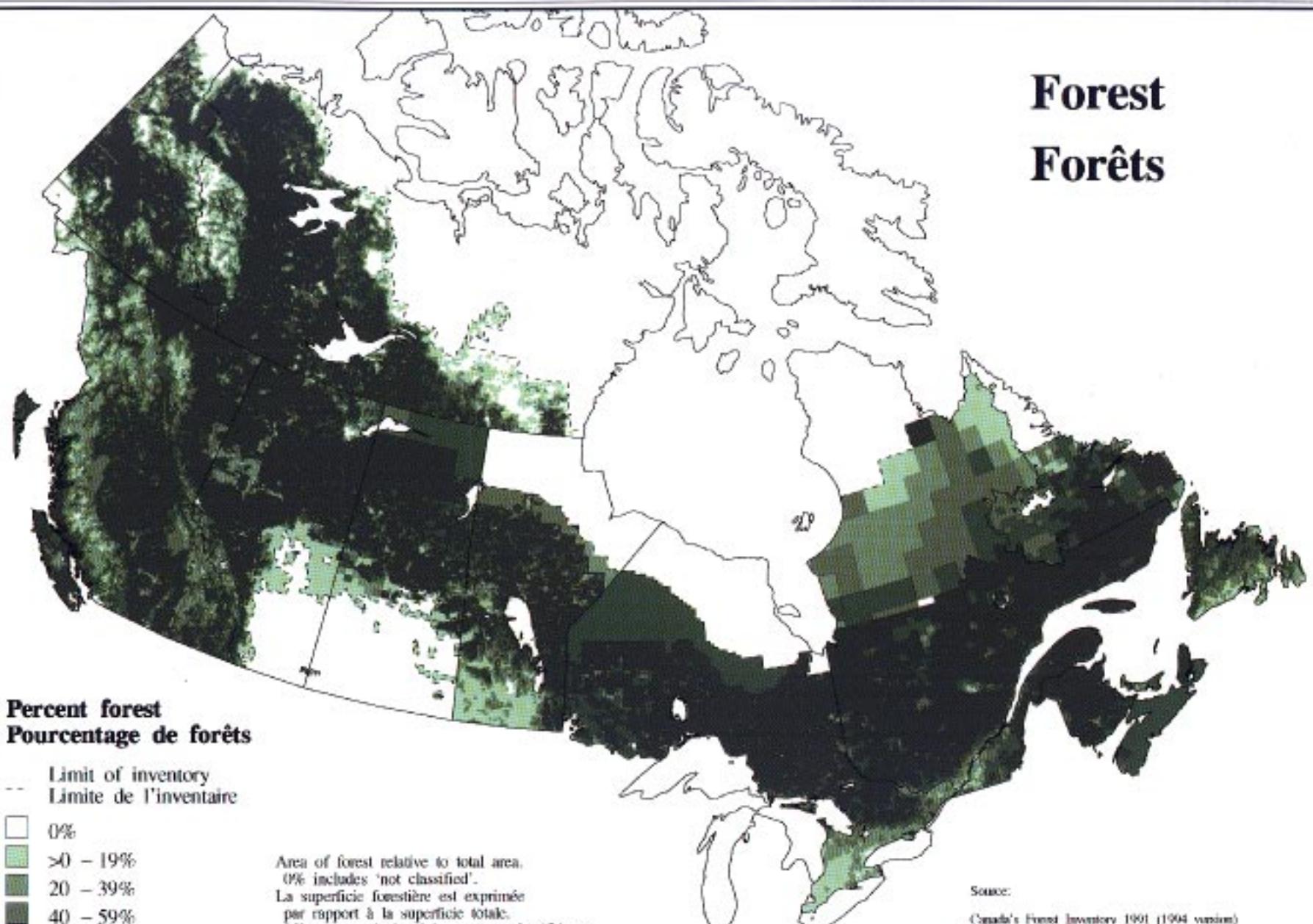
Totals may not add exactly due to rounding.

19. Maps

Map 19.1. Forest

Map 19.2. Timber productive forest

Forest Forêts



Timber productive forest

Forêts productives de bois marchand

