

1999 Summary of Backlog Not Satisfactorily Restocked Forest Land







Canadian Cataloguing in Publication Data

Main entry under title:

Summary of backlog not satisfactorily restocked forest land. — 1988-

Irregular. Title from cover. Co-published 1997– , by Forest Renewal BC. Issued 1997– , by Forest Practices Branch. ISSN 1488-0822 = Summary of backlog not satisfactorily restocked forest land

1. Reforestation – British Columbia – Statistics – Periodicals. 2. Forest management – British Columbia – Statistics – Periodicals. I. British Columbia. Ministry of Forests. II. British Columbia. Forest Practices Branch. III. Forest Renewal BC.

SD146.B7N56 333.75'11'0971105 C97-960197-5

© 1999 Province of British Columbia

Executive Summary

The 1984 Forest and Range Resource Analysis estimated that there were 738 000 hectares of good and medium site Crown land that had been harvested, burned by wildfire, destroyed by pests or other damage and were classified as backlog (pre-1982) not satisfactorily restocked (NSR). These areas were considered economically viable for timber production and given a high priority for silviculture activities. In 1995, the *Forest Practices Code of British Columbia Act* re-defined a backlog area as "an area from which the timber was harvested, damaged or destroyed before October 1, 1987; and, which in the district manager's opinion, is insufficiently stocked with healthy, well-spaced trees of a commercially acceptable species." Therefore, summary reports produced prior to that date included only pre-82 backlog NSR, while subsequent reports include information on both pre-82 and 1982–87 backlog NSR.

The present summary indicates that as of February 1999, there are 68 857 hectares of treatable pre-1982 backlog NSR remaining on good and medium sites, and 41 204 hectares of treatable 1982–87 good, medium and poor site backlog NSR on Crown land in British Columbia. Reductions in the amount of backlog NSR land during the past two years can be attributed to reclassification of NSR sites to satisfactorily restocked or not productive as well as to reforestation programs. The bulk of this work has been carried out with funding provided by Forest Renewal BC (FRBC).

The 1984 estimate of 738 000 hectares of backlog NSR on Crown land was the motivation for the 1985–1990 Canada–British Columbia Forest Resource Development Agreement (FRDA). Under FRDA, there was an increase in reforestation activities on backlog NSR areas. Increased site preparation, planting and silviculture surveys resulted in fewer areas being classified as backlog NSR. Modifications in survey procedures and in silviculture stocking standards also resulted in less land being classed as backlog NSR. As FRDA wound down in 1990, the Ministry of Forests continued to address the backlog areas at a somewhat reduced rate. Between 1990 and 1996, funding began to shift away from planting and toward plantation maintenance activities such as brushing.

In 1994, FRBC was established to plan and implement a program of investment to, in part, "renew the forest economy of B.C." Part of the FRBC program was to invest in projects that help to reduce the amount of backlog NSR. In August 1996, Forest Renewal BC agreed to fund a ten-year, \$250 million backlog reforestation program. With this commitment, it was estimated that planting of backlog sites would be completed by 2002, or earlier wherever possible. In spite of this commitment, however, planting of backlog NSR sites has dropped off since 1996 to around 6000 ha/year. Backlog NSR may still be eliminated in the Cariboo, Kamloops, Nelson, and Vancouver forest regions by 2002, but not until 2005 in the Prince Rupert and 2008 in the Prince George forest regions.



Trends in Net Backlog NSR by Region

Net pre-1982 backlog NSR includes good and medium sites only. Net 1982–87 backlog NSR includes good, medium and poor sites.

Table of Contents

| Executive Summary | iii |
|--|-----|
| Summary of Provincial Backlog NSR Land | 1 |
| Backlog NSR Defined | 1 |
| Gross Not Stocked Forest Land | 1 |
| Backlog NSR Net-down Description | 2 |
| Net Backlog NSR | 2 |
| Factors Responsible for Backlog NSR Reductions | 2 |
| Sources of Information | 3 |
| NSR in British Columbia – Pre-1982 | 4 |
| NSR in British Columbia – 1982–87 | 5 |
| Summary Table of British Columbia Forest Land Statistics | 6 |
| Provincial Summary of the Net Pre-1982 Backlog NSR Land | 7 |
| Changes in Backlog NSR Land Classification | 8 |
| Reductions in Backlog NSR as a Result of Planting and Natural Regeneration | 9 |
| Silviculture Activities on Backlog NSR Land | 10 |
| Net Backlog NSR by Forest Region | 12 |
| Review of the Regional Net Backlog NSR Land | 13 |
| Cariboo | 13 |
| Kamloops | 13 |
| Nelson | 13 |
| Prince George | 13 |
| Prince Rupert | 14 |
| Vancouver | 14 |
| Summary | 14 |
| Graphs of Regional Backlog NSR: | |
| Cariboo Forest Region | 15 |
| Kamloops Forest Region | 18 |
| Nelson Forest Region | 21 |
| Prince George Forest Region | 24 |
| Prince Rupert Forest Region | 27 |
| Vancouver Forest Region | 30 |
| Appendices | |
| 1 Summary of Regional Proportions | 33 |

| Summary of Net Backlog NSR by Region, TSA and TFL | 34 |
|---|--|
| Summary of Net-down Process for Backlog NSR | 50 |
| Glossary | 54 |
| | Summary of Net Backlog NSR by Region, TSA and TFL Summary of Net-down Process for Backlog NSR Glossary |

Summary of Provincial Backlog NSR Land

This report updates the 1997 Summary of Backlog Not Satisfactorily Restocked Forest Land published by the Ministry of Forests and uses the same methodology and format as the 1988 and 1990 reports. While early reports discussed only pre-1982 backlog NSR, the 1997 and this report also includes statistics on 1982–87 backlog NSR.

Backlog NSR Defined

The term "not satisfactorily restocked" and its acronym NSR are used to describe forest lands that are not growing to their full potential due to insufficient stocking of acceptable tree species. The Ministry of Forests Backlog Management Policy defines backlog NSR as productive forest land which was denuded prior to 1987 and has not been regenerated to the desired stocking standards for the opening.

Specific definitions of NSR have changed over time and have been periodically redefined as survey procedures and management objectives evolved. Today, in British Columbia, the stocking status of any given area is evaluated on the basis of site-specific standards that define preferred and acceptable tree species, as well as target and minimum stocking levels. The criteria and standards used to determine NSR lands have been developed from ongoing research. In order for a tree species to be considered preferred or acceptable for restocking a site, it must be ecologically suitable and economic to harvest and utilize.

Changing market conditions can dramatically affect the acceptability of a tree species for restocking sites, and consequently, forest land status. For example, recent changes in market demands and utilization of aspen have made this species acceptable for restocking specific ecosystems in northeastern British Columbia. Areas previously stocked with aspen and called NSR are now being reclassified as satisfactorily restocked if sufficient numbers of aspen occur on site.

In addition, the Ministry of Forests Backlog Management Policy recognizes that certain areas will never reach the current free growing standards under present economic or biological constraints, and that further investments cannot be justified or may not be appropriate. In the case of NSR areas where further investments cannot be justified, the NSR label is replaced with an accurate inventory label. This new label acknowledges that the NSR area is untreatable for social, economic or environmental reasons or the stocking is appropriate in view of the need to achieve non-timber resource objectives (e.g., fisheries, wildlife, range or recreation).

Areas that are classed as NSR are considered not to be contributing to the forest's growing stock, although they may still contribute to other resource values. If left untreated they influence future timber supply and allowable annual cut levels. The estimate of backlog NSR is used to determine the level of silviculture activity required to convert NSR lands to a satisfactorily restocked status.

NSR is a broad term and does not describe the silvicultural regime, operability or treatment priority for a given site. Denuded areas have differing levels of disturbance, site quality, vegetative cover and resource potential. Some of these factors will also change with time. Therefore, NSR estimates are adjusted in order to produce a silviculturally meaningful statistic, one that can be used to plan and implement reforestation activities.

This summary incorporates the use of a "netdown" process to reduce gross NSR estimates to net NSR figures.

Gross Not Stocked Forest Land

Resources Inventory Branch estimates that there are about three million hectares of not stocked Crown land that originated from harvesting, wildfire, pests and other causes (Table 1). A large portion of the gross backlog not stocked land is classified as non-commercial brush and timber, inaccessible, uneconomic or it is on low or poor site class land. Much of this land requires reclassification surveys.

Pre-1982 Backlog NSR

About 94 000 hectares are classified as pre-1982 gross good and medium site backlog NSR as defined in this report (Table 1). Only the good and medium site backlog NSR was considered for reforestation funding under the 1985–90 Canada–British Columbia Forest Resource Development Agreement (FRDA).

1982–1987 Backlog NSR

The gross backlog NSR area originating from harvesting, wildfire, pests and other causes, occurring between January 1, 1982 and October 1, 1987, is 50 694 hectares (see Appendix 3, page 52). Of this amount, the

Summary of Provincial Backlog NSR Land

gross backlog on good, medium and poor sites is 50 323 hectares (Table 1). Under the Industry Outstanding program, reforestation funding priority was given to all harvested areas, and the good, medium and poor sites that were destroyed by wildfire, pests or other natural disturbances.

Backlog NSR Net-down Description

The estimate of net backlog NSR on Crown lands was determined through the application of a net-down procedure, which made deductions for areas that were considered naturally regenerated or areas that had low economic operability. Appendix 3 details the net-down deductions by forest region.

The net backlog NSR land in this report excludes NSR areas that were:

- remote and lacking access such as in wildfire burns in the northern interior;
- harvested by selection, shelterwood and seed tree systems and designed to regenerate naturally;
- older regenerated stands with sufficient numbers of well-spaced crop trees per hectare;
- stands having an average age of less than 12 years with stocking levels greater than 700 well-spaced stems per hectare;
- stands having an average age of more than 12 years with stocking levels greater than 500 well-spaced stems per hectare;
- NSR areas less than five hectares in size;
- pre-1982 in poor and low site productivity classes;
- 1982–87 in low productivity class.

Net Backlog NSR

This summary indicates that 68 857 hectares of pre-1982 backlog NSR are on good and medium sites and are potential candidates for silviculture activities.

Likewise, Table 1 shows that 41 204 hectares of 1982–87 backlog NSR are on good, medium and poor sites and available for silviculture treatment.

The 1984 Forest and Range Resource Analysis estimated that there were 738 000 hectares of good and medium site net backlog NSR land in

the province (Table 2). The 1988, 1990 and 1997 *Backlog NSR Summaries* reported that this area had been reduced by 25%, 41% and 87%, respectively. This report shows that, over the last 14 years (since 1984), there has been a 669 143 hectare (91%) reduction in good and medium site pre-1982 backlog NSR land.

Factors Responsible for Backlog NSR Reductions

Reductions in backlog NSR land can be attributed to reclassification of NSR sites to satisfactorily restocked (SR) or not productive (NP) and to reforestation programs on backlog sites. Much of the land that has been reclassified to SR, has regenerated naturally (see figures on page 8 and 9).

Large programs to survey, plant and treat backlog NSR sites were funded by FRDA from 1985–90, and by the Ministry of Forests from 1990–96. During 1990–96, funding began to shift away from planting, and towards activities (e.g., brushing) aimed at maintaining existing plantations (refer to figures on pages 10 and 11). In 1996, FRBC became responsible for funding activities aimed at reducing backlog NSR, and committed \$250 million over a ten-year period. At this time, it was projected that backlog NSR would be eliminated by the year 2002. Under the new funding arrangement, surveying and brushing programs have continued at levels similar to previous years, but planting programs have been reduced considerably. As a result, the rate at which backlog NSR is being reduced has dropped to 2% per year. It is now estimated that backlog NSR in B.C. will be eliminated in 2008.

Sources of Information

This report details the backlog NSR land by forest region, timber supply area and tree farm licence (Appendix 2).

The data used to produce the charts and summary tables that follow were obtained from several sources:

- 1. Estimates available at the time of signing the 1985–1990 Canada–British Columbia Forest Resource Development Agreement indicated that there were 644 522 hectares of good and medium site backlog NSR in the province. In 1984,¹ the Ministry produced updated information indicating that the net backlog NSR was 738 000 hectares (Table 2). This estimate was confirmed and published in *Renewal* in 1986.²
- 2. Data on the total forest land and total gross NSR (Table 1) comes from the 1994/95 *Ministry of Forests Annual Report*. This information was submitted by the Ministry of Forests Resources Inventory Branch. The statistics on the total productive and available forest land are from the Ministry of Forests 1984 *Forest and Range Resource Analysis*.
- 3. Data for the backlog NSR on tree farm licences (TFL) were derived from hand compiled TFL reports.
- 4. Data for the gross good and medium site backlog NSR on timber supply areas were derived from the Ministry of Forests Integrated Silviculture Information System (ISIS). Data for the net NSR were derived from the gross area totals after deductions were made for areas considered to be inoperable, selectively logged (and likely to regenerate naturally), less than 12 years old with more than 700 stems per hectare, or areas that were more than 12 years old with more than 500 stems per hectare, and areas less than five hectares in size.
- 5. ISIS was used to derive the net backlog NSR on TSAs for all regions. The intent of using ISIS for the net backlog NSR number is to:
 - a) provide summaries on a consistent and auditable basis of the net backlog NSR openings identified in this report;
 - b) record ongoing reforestation activities and any changes in forest land status that result from these activities; and
 - c) monitor the change in forest land stocking status through silviculture activities funded under special funding source (e.g., FRBC).

¹ Forest and Range Resource Analysis, 1984. Ministry of Forests.

² *Renewal*, 1986. Vol. 1, No. 1. Fall 1986.

Location of the Good and Medium Site Net Pre-1982 Backlog NSR Land^a by TSA and TFL



Location of the Good, Medium and Poor Site Net 1982–87 Backlog NSR Land^a by TSA and TFL



| | | Inventory database ^a | | Gross b | acklog NSR ^{b,c} | Net ba | cklog NSR ^{b,d} |
|-----------------|---------------------------------|---|---|--------------------------|-------------------------------|--------------------------|-----------------------------|
| Region | Total productive forest land | e Total current productive T and available forest land | fotal not stocked forest land ^e | Pre-1982 (good, med.) | 1982–87 (good, med., poor) | Pre-1982 (good, med.) | 1982–87 (good, med., poo |
| | | | (area | in hectares) | | | |
| Cariboo | 5 976 000 | 3 925 605 | 339 000 | 13 363 | 8 545 | 8 560 | 6 651 |
| Kamloops | 4 385 000 | 3 657 034 | 257 000 | 4 977 | 4 451 | 2 148 | 2 542 |
| Nelson | 3 343 000 | 2 509 410 | 187 000 | 9 270 | 6 346 | 4 805 | 2 783 |
| Prince George | 17 527 000 | 9 412 878 | 1 671 000 | 53 497 | 24 925 | 46 341 | 24 188 |
| Prince Rupert | 8 997 000 | 3 563 812 | 429 000 | 10 866 | 4 960 | 5 309 | 4 025 |
| Vancouver | 5 361 000 | 3 079 518 | 133 000 | 1 835 | 1 096 | 1 694 | 1 015 |
| Provincial tota | 1 45 589 000 | 26 148 257 | 3 016 000 | 93 808 | 50 323 | 68 857 | 41 204 |

^a Sources: Ministry of Forests Annual Report and the 1984 Resource Analysis.
^b Sources: ISIS and hand compiled TFL submissions.
^c Areas denuded due to harvesting, wildfire and other causes (including pest damage, flood and blowdown from wind).
^d Net area after deductions for inoperable, inaccessible and low economic priority areas.
^e Total productive and available forest land that is not stocked.

TABLE 2. Provincial summary of the net backlog^a of not satisfactorily restocked land for good and medium pre-1982 sites,and for good, medium and poor 1982–87 sites

| | | Pr | e-1982 (good a | 1982-87 (go | 1982-87 (good, medium and poor sites) | | | | |
|------------------|---|------------------------------|------------------------------|------------------------------|---------------------------------------|---|--------------------------------|------------------------------|---|
| Region | 1984 Resource analysis ^b | 1988 Summary ^c | 1990 Summary ^d | 1997 Summary ^d | 1999 Summary ^d | Difference in 1984 and 1999 summaries (%) | 1997 Summary ^{d,e} | 1999 Summary ^d | Difference in 1997 and 1999 summaries (%) |
| | | | | | (area in hee | ctares) | | | |
| Cariboo | 43 400 | 30 747 | 26 346 | 11 974 | 8 560 | -80 | 12 223 | 6 651 | -46 |
| Kamloops | 51 400 | 74 241 | 57 869 | 6 261 | 2 148 | -96 | 5 040 | 2 542 | -50 |
| Nelson | 93 700 | 60 787 | 44 273 | 5 906 | 4 805 | -95 | 5 047 | 2 783 | -45 |
| Prince George | 488 700 | 271 747 | 224 205 | 57 215 | 46 341 | -91 | 43 623 | 24 188 | -45 |
| Prince Rupert | 40 500 | 106 396 | 78 130 | 10 720 | 5 309 | -87 | 9 681 | 4 025 | -58 |
| Vancouver | 20 300 | 9 227 | 5 868 | 1 742 | 1 694 | -92 | 3 022 | 1 015 | -66 |
| Provincial total | s 738 000 | 553 145 | 436 691 | 93 818 | 68 857 | -91 | 78 636 | 41 204 | -48 |

^a Net NSR after deductions as per Appendix 3.

^b The 1984 *Range and Resource Analysis* indicated that there remained a provincial total of 272 975 ha of good and medium site NSR (applies to pre-1982 NSR only).

^c 1988 Summary of Backlog Not Satisfactorily Restocked Forest Land (applies to pre-1982 NSR only).

^d Summary for Crown land only and includes timber supply areas and tree farm licences. Data derived from hand compiled TFL summaries and ISIS.

^e These values represent 1982–87 backlog NSR remaining in 1995/96. The definition of backlog NSR was changed in the Forest Practices Code (1995) to include areas denuded from 1982–87.



Changes in Pre-82 NSR All Sites

Hectares (thousands)

^a Equals NSR area reclassified as NP minus openings caused by fire and pests to free growing areas

^b Equals natural regeneration minus natural regeneration failure

^c Equals planting minus plantation failures

Changes in 1982–87 NSR All Sites

600 Total NSR remaining at end of 1990/91 (MoF Annual Report) 500 **Reclassification**^a Natural regeneration^b 400 Planted^c 300 200 100 0 90/91 91/92 92/93 93/94 94/95 95/96 96/97 97/98 Year

Hectares (thousands)

^a Equals NSR area reclassified as NP minus openings caused by fire and pests to free growing areas

^b Equals natural regeneration minus natural regeneration failure

c Equals planting minus plantation failures

Reductions in Backlog NSR as a Result of Planting and Natural Regeneration



Reductions in Pre-1982 NSR as a Result of Planting and Natural Regeneration Hectares (thousands) All Sites





Silviculture Surveys on Backlog Areas

Planting and Site Preparation Accomplishments on Pre-1982 Backlog Areas



Planting and Site Preparation on 1982–87 Backlog Areas



Hectares (thousands)



Backlog Area Planted Under Various Funding Arrangements









Hectares (thousands)



Net Backlog^a Not Satisfactorily Restocked Land^b by Forest Region



- ^a Backlog areas denuded prior to 1982 (pre-1982), good and medium sites only, and from January 1, 1982 to October 1, 1987 (1982–87) good, medium and poor sites only
- ^b NSR Not satisfactorily restocked Summary for Crown land only and includes timber supply areas and tree farm licences Data derived from the Ministry of Forests' hand compiled TFL summaries and ISIS

Cariboo

The Ministry of Forests 1984 *Forest and Range Resource Analysis* estimated that the Cariboo Forest Region had 43 400 hectares of good and medium site land classified as backlog NSR.

The 1999 summary estimates 8560 hectares of pre-1982 good and medium site backlog NSR remain in the Cariboo Forest Region. This is a decrease of 34 840 hectares or 80% from the 1984 figure.

Backlog NSR on good, medium and poor sites from disturbances that occurred between January 1, 1982 and October 1, 1987 amounts to 6650 hectares in the Cariboo Forest Region. This is a reduction of 46% since 1997.

Planting and reclassification of land following silviculture surveys both contributed to the decrease in backlog NSR. Between 1996 and 1998, approximately 165 000 hectares were surveyed in the Cariboo Forest Region. Planting accounted for 69% of the decrease in backlog NSR during that period.

Kamloops

In 1984, the Kamloops Forest Region had an estimated 51 400 hectares of good and medium site classified as backlog NSR. The number of silviculture surveys on Crown land was increased through funding under FRDA, identifying additional areas that were NSR. Consequently, the 1988 estimate increased to 74 200 hectares.

The latest estimate (1999) of pre-1982 backlog NSR is 2150 hectares, a decrease of 96% from the 1984 estimate.

Net good, medium and poor site 1982–87 backlog NSR is currently 2540 hectares, which is a reduction of 50% since 1997. Reductions in backlog NSR in the Kamloops Forest Region can be attributed to reforestation activities such as planting and silviculture surveys. Since 1996, approximately 225 000 hectares have been surveyed. Planting is responsible for 83% of the decrease in backlog NSR in the Kamloops Forest Region since 1996.

Nelson

Planting and reclassification of stocking status following surveys funded by FRDA and recently by FRBC, has reduced pre-1982 backlog NSR from 93 700 hectares in 1984, to 4800 hectares in 1999. Net good, medium and poor site backlog from disturbances originating between 1982 and 1987 currently amounts to 2780 hectares. It has been reduced by 45% since 1997.

Some reduction in backlog NSR in the Nelson Forest Region has occurred as a result of areas being impractical for treatment—for example, fillin planting on small areas within larger blocks, inaccessible wildfires and other inoperable areas. Since 1997, silviculture surveys have taken place on approximately 120 000 hectares in the Nelson Region. During that period, planting has been responsible for 57% of the reduction in backlog NSR.

Prince George

The 1984 Forest and Range Resource Analysis estimated that the Prince George Forest Region had 488 700 hectares of good and medium site NSR that had originated prior to 1982. By 1988, the estimate was reduced to 271 700 hectares, and by 1990, to 224 200 hectares. The 1999 estimate of pre-1982 NSR is 46 340 hectares, which is a reduction of 91% since 1984. The reductions in NSR can be attributed to a substantially increased reforestation program as well as a large survey program which determined that many areas were satisfactorily restocked through natural regeneration. Table 1 also indicates that the Prince George Forest Region has 24 200 hectares of 1982–87 good, medium and poor site backlog NSR.

Since 1997, approximately 207 000 hectares of land received silviculture surveys in the Prince George Forest Region. Planting was responsible for 24% of the reduction in backlog NSR during that period.

Recent changes in market demands for aspen are also having a significant effect on the estimate of NSR in the region. Until the late 1980s, aspen was not considered an acceptable tree species for reforesting certain ecosystems. Surveys are being carried out on areas stocked with aspen and conifers that were previously classified as NSR. Many of these ecosystems are now being reclassified as satisfactorily restocked with aspen–conifer mixtures.

Much of the gross NSR in the Prince George Forest Region originated through wildfires in the remote Mackenzie, Fort Nelson, Fort St. John and Dawson Creek Timber Supply Areas. Many of these areas are considered inoperable or inaccessible and have been removed from the net backlog NSR total. However, even with these deductions, a significant portion of the net backlog NSR

Review of the Regional Net Backlog NSR Land

remaining in the Prince George Forest Region originated through wildfires and other causes (Table 1), and not through harvesting.

Many of the remaining net backlog areas are not immediately treatable due to constraints imposed by other forest resource users. In many areas, reforestation must be delayed to maintain wildlife habitat on logged or burned openings. Also, it may not be appropriate to treat large areas of backlog at a single time because significant changes in vegetation type would occur. Treatments may be delayed to allow "green-up" of adjacent areas. Natural regeneration continues on many areas and surveying provides current information on the status of NSR sites.

Prince Rupert

The Ministry of Forests 1984 *Forest and Range Resource Analysis* estimated that the Prince Rupert Forest Region had 40 500 hectares of good and medium site land classified as backlog NSR land. The 1985 FRDA provided funding for increased reforestation activities on these NSR areas. Funding continues today under FRBC.

In 1988, the estimate of pre-1982 good and medium site backlog NSR rose to 106 400 hectares as a result of increased silviculture surveys. Much of the increase in NSR was due to the reclassification of portions of the Cassiar TSA from poor site to good and medium site.

The 1990 summary indicated that 78 100 hectares of pre-1982 good and medium site backlog NSR remained. At present, it is estimated that 5300 hectares of pre-1982 good and medium site NSR remain. This is an 87% reduction from the original 1984 estimate, and a 95% reduction from the 1988 estimate. Much of this net backlog NSR originated from wildfires and other natural causes.

This report (see Table 1) indicates that there are 10 870 hectares of 1982–87 good, medium and poor site backlog NSR remaining in the Prince Rupert Forest Region, but that only 4025 hectares will be considered for treatment. The balance is inoperable, inaccessible or deferred due to other resource interests. The amount of 1982–87 backlog NSR has been reduced by 58% since 1997, to about 4000 hectares.

From 1996 to 1998, silviculture surveys took place on approximately 120 000 hectares of land in the Prince Rupert Forest Region. During that period, planting resulted in 27% of the decrease in backlog NSR.

Vancouver

In 1984, the Vancouver Forest Region had an estimated 20 300 hectares of good and medium site classified as backlog NSR. This 1999 summary indicates that 1700 hectares of pre-1982 NSR remain, which represents a reduction of 92% from the original 1984 estimate. The prediction made in the 1990 NSR summary report that the Vancouver Forest Region would be the first region with little or no backlog NSR has been proven out. NSR resulting from the term 1982–87 is currently about 1000 hectares. It has been reduced by 66% since 1997.

The reduction in backlog NSR can be attributed to increased reforestation. Increased planting on backlog NSR areas and silviculture surveys have resulted in less area being classified as NSR. Between 1996 and 1998, approximately 127 000 hectares were surveyed in the Vancouver Forest Region. Planting was responsible for 30% of the reduction in backlog NSR during that period.

Summary

This report shows that considerable progress has been made at reducing backlog on treatable sites, but that the rate of reduction has slowed in the past two years. As the FRDA agreement wound down in 1990, the Ministry of Forests continued to address backlog areas at a slightly reduced rate. The Ministry of Forests and FRBC continue to fund reforestation and survey work, but at a lesser rate.

If current rates of surveying and planting continue, backlog NSR is likely to be eliminated in the Cariboo, Kamloops, Nelson and Vancouver Forest Regions by the year 2002. However, it is likely to take until 2005 for it to be eliminated in the Prince Rupert Forest Region, and until 2008 in the Prince George Forest Region. Concurrent with the elimination of backlog NSR, is the need for an ongoing long-term commitment to fund the silviculture treatments (i.e., brushing and surveys) which will ensure that these areas develop into healthy, free growing stands. Funding for these activities will be required for approximately 15 years after all backlog NSR areas are rehabilitated, planted or naturally regenerated.







Location of the Good, Medium and Poor Site Net 1982–87 Backlog NSR Land^a

Cariboo Forest Region



Net Backlog^a NSR^b by Site Class



^a Backlog – areas denuded prior to 1982 (pre-1982), and from January 1, 1982 to October 1, 1987 (1982–87)





Location of the Good, Medium and Poor Site Net 1982–87 Backlog NSR Land^a

Kamloops Forest Region



Net Backlog^a NSR^b by Site Class



- ^a Backlog areas denuded prior to 1982 (pre-1982), and from January 1, 1982 to October 1, 1987 (1982–87)
- ^b NSR not satisfactorily restocked (includes non-commercial brush areas)







Location of the Good, Medium and Poor Site Net 1982–87 Backlog NSR Land^a

^a NSR – not satisfactorily restocked (includes non-commercial brush areas)

🔲 600–800 ha

🔲 100–200 ha

Nelson Forest Region



Net Backlog^a NSR^b by Site Class



- ^a Backlog areas denuded prior to 1982 (pre-1982), and from January 1, 1982 to October 1, 1987 (1982–87)
- ^b NSR not satisfactorily restocked (includes non-commercial brush areas)



Location of the Good and Medium Site Net Pre-1982 Backlog NSR Land^a



Location of the Good, Medium and Poor Site Net 1982–87 Backlog NSR Land^a

Prince George Forest Region



Net Backlog^a NSR^b by Site Class



- ^a Backlog areas denuded prior to 1982 (pre-1982), and from January 1, 1982 to October 1, 1987 (1982–87)
- ^b NSR not satisfactorily restocked (includes non-commercial brush areas)



Location of the Good and Medium Site Net Pre-1982 Backlog NSR Land^a



Location of the Good, Medium and Poor Site Net 1982–87 Backlog NSR Land^a



Net Backlog^a NSR^b by Site Class



- ^a Backlog areas denuded prior to 1982 (pre-1982), and from January 1, 1982 to October 1, 1987 (1982–87)
- ^b NSR not satisfactorily restocked (includes non-commercial brush areas)





Vancouver Forest Region



Net Backlog^a NSR^b by Site Class



- ^a Backlog areas denuded prior to 1982 (pre-1982), and from January 1, 1982 to October 1, 1987 (1982–87)
- ^b NSR not satisfactorily restocked (includes non-commercial brush areas)

| | Percent of provincial Crown land | | | | | | | | |
|-------------------|----------------------------------|------------------------------|--------------------------------|--|--|--|--|--|--|
| | | Net backlog NSR ^a | | | | | | | |
| Region | Productive forest land | Pre-1982 (good + med.) | 1982–87 (good, med. + poor) | | | | | | |
| Cariboo | 13 | 12 | 16 | | | | | | |
| Kamloops | 10 | 3 | 6 | | | | | | |
| Nelson | 8 | 7 | 7 | | | | | | |
| Prince George | 38 | 67 | 59 | | | | | | |
| Prince Rupert | 20 | 8 | 10 | | | | | | |
| Vancouver | 11 | 3 | 2 | | | | | | |
| Provincial totals | 100 | 100 | 100 | | | | | | |

Summary Table of Provincial/Regional Proportions

Appendix 2 Summary of Net Backlog^a NSR by Region, TSA and TFL

Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR Site by Class

| | | | Site class | | |
|-----------------------------|--------|----------|-----------------|-----|--------|
| Region | Good | Medium | Poor | Low | Total |
| | | (ar | ea in hectares) | | |
| Cariboo | 3 952 | 4 608 | 990 | 8 | 9 558 |
| Kamloops | 319 | 1 829 | 265 | 13 | 2 426 |
| Nelson | 682 | 4 123 | 795 | 378 | 5 978 |
| Prince George | 9 330 | 37 011 | 6 658 | 107 | 53 106 |
| Prince Rupert | 1 971 | 3 338 | 3 359 | 8 | 8 676 |
| Vancouver | 48 | 1 646 | 366 | 22 | 2 082 |
| Provincial totals | 16 302 | 52 555 | 12 433 | 536 | 81 826 |
| Total good and medium (net) | 68 857 | hectares | | | |

Backlog Not Satisfactorily Restocked Land^a

1982-87 NSR by Site Class

| | | Si | te class | | | |
|---------------------------------|-------|-----------------|--------------|-----|--------|--|
| Region | Good | Medium | Poor | Low | Total | |
| | | (area | in hectares) | | | |
| Cariboo | 687 | 3 129 | 2 835 | 57 | 6 708 | |
| Kamloops | 364 | 2 033 | 145 | 0 | 2 542 | |
| Nelson | 264 | 2 201 | 318 | 18 | 2 801 | |
| Prince George | 2 249 | 20 427 | 1 512 | 62 | 24 250 | |
| Prince Rupert | 1 144 | 2 348 | 533 | 41 | 4 066 | |
| Vancouver | 43 | 730 | 242 | 0 | 1 015 | |
| Provincial totals | 4 751 | 30 868 | 5 585 | 178 | 41 382 | |
| Total good, medium and poor (ne | t) | 41 204 hectares | | | | |

Regional Summary of Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR by Site Class

| | Management | | 1 | Site class | | |
|---------------|--------------|--------|----------|------------|-----|--------|
| Region | unit | Good | Medium | Poor | Low | Total |
| | | | (area in | hectares) | | |
| Cariboo | TSA | 3 536 | 2 753 | 990 | 8 | 7 287 |
| | TFL Total | 416 | 1 855 | 0 | 0 | 2 271 |
| | Total | 5 952 | 4 008 | 990 | 0 | 9 550 |
| Kamloops | TSA | 255 | 1 580 | 259 | 13 | 2 107 |
| _ | TFL | 64 | 249 | 6 | 0 | 319 |
| | Total | 319 | 1 829 | 265 | 13 | 2 426 |
| Nelson | TSA | 531 | 3 566 | 402 | 38 | 4 537 |
| | TFL | 151 | 557 | 393 | 340 | 1 441 |
| | Total | 682 | 4 123 | 795 | 378 | 5 978 |
| Prince George | TSA | 6 867 | 20 153 | 2 438 | 107 | 29 565 |
| 0 | TFL | 2 463 | 16 858 | 4 220 | 0 | 23 541 |
| | Total | 9 330 | 37 011 | 6 658 | 107 | 53 100 |
| Prince Rupert | TSA | 1 971 | 3 157 | 3 326 | 8 | 8 462 |
| 1 | TFL | 0 | 181 | 33 | 0 | 214 |
| | Total | 1 971 | 3 338 | 3 359 | 8 | 8 676 |
| Vancouver | TSA | 48 | 495 | 350 | 20 | 913 |
| | TFL | 0 | 1 151 | 16 | 2 | 1 169 |
| | Total | 48 | 1 646 | 366 | 22 | 2 082 |
| Province | TSA | 13 208 | 31 704 | 7 765 | 194 | 52 871 |
| | TFL | 3 094 | 20 851 | 4 668 | 342 | 28 955 |
| | Total | 16 302 | 52 555 | 12 433 | 536 | 81 820 |

Regional Summary of Backlog Not Satisfactorily Restocked Land^a

1982-87 NSR by Site Class

| | Management | | S | ite class | | |
|---------------|------------|--------------|------------------|---|----------|------------------|
| Region | unit | Good | Medium | Poor | Low | Total |
| | | | (area in ł | nectares) | | |
| Cariboo | TSA | 675 | 3 108 | 2 835 | 57 | 6 675 |
| | TFL | 12 | 21 | 0 | 0 | 33 |
| | Total | 687 | 3 129 | 2 835 | 57 | 6 708 |
| Kamloops | TSA TFL | 364 0 | 1 973 60 | 144 1 | 0 0 | 2 481 61 |
| | Total | 364 | 2 033 | 145 | 0 | 2 542 |
| Nelson | TSA TFL | 191 73 | 1 849 352 | 303 15 | 18 0 | 2 361 440 |
| | Total | 264 | 2 201 | 318 | 18 | 2 801 |
| Prince George | TSA TFL | 2 186 63 | 10 715 9 712 | $\begin{array}{c}1\ 465\\47\end{array}$ | 62 0 | 14 428 9 822 |
| | Total | 2 249 | 20 427 | 1 512 | 62 | 24 250 |
| Prince Rupert | TSA TFL | 1 135 9 | 2 300 48 | 524 9 | 41 0 | 4 000 |
| | Total | 1 144 | 2 348 | 533 | 41 | 4 066 |
| Vancouver | TSA TFL | 43 0 | 282 448 | 242 0 | 0 0 | 567 448 |
| | Total | 43 | 730 | 242 | 0 | 1 015 |
| Province | TSA TFL | 4 594 157 | 20 227 10 641 | 5 513 72 | 178 0 | 30 512 10 870 |
| | Total | 4 751 | 30 868 | 5 585 | 178 | 41 382 |

^a Summary for Crown land only and includes timber supply areas and tree farm licences. Data derived from hand compiled TFL summaries and the Ministry of Forests' ISIS. Backlog NSR represents net NSR after deductions as per Appendix 3.

^b Numbers may vary slightly from table to table due to rounding.

Cariboo Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR by Site Class

| Mar | nageme | ont unit type | | Si | te class | | |
|----------|--------|-----------------------------|-------|--------|------------|-----|-------|
| nu | mber a | and location | Good | Medium | Poor | Low | Total |
| | | | | (area | in hectare | es) | |
| TSA | 23 | 100 Mile House | 123 | 766 | 391 | 0 | 1 280 |
| | 26 | Quesnel | 3 089 | 1 260 | 21 | 0 | 4 370 |
| | 29 | Williams Lake | 324 | 727 | 578 | 8 | 1 637 |
| Total T | SA | | 3 536 | 2 753 | 990 | 8 | 7 287 |
| TFL | 5 | Mackenzie–Cariboo (Quesnel) | 416 | 78 | 0 | 0 | 494 |
| | 52 | Bowron-Cottonwood | 0 | 1 777 | 0 | 0 | 1 777 |
| Total T | FL | | 416 | 1 855 | 0 | 0 | 2 271 |
| Total re | gion | | 3 952 | 4 608 | 990 | 8 | 9 558 |

Appendix 2 Continued

Cariboo Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

1982-87 NSR by Site Class

| Mar | nageme | ont unit type | | Si | te class | | |
|----------|--------|-----------------------------|------|--------|------------|-----|-------|
| nu | mber a | and location | Good | Medium | Poor | Low | Total |
| | | | | (area | in hectare | es) | |
| TSA | 23 | 100 Mile House | 39 | 1 268 | 664 | 48 | 2 019 |
| | 26 | Quesnel | 337 | 901 | 82 | 0 | 1 323 |
| | 29 | Williams Lake | 299 | 939 | 2 089 | 9 | 3 333 |
| Total T | SA | | 675 | 3 108 | 2 835 | 57 | 6 675 |
| TFL | 5 | Mackenzie–Cariboo (Quesnel) | 12 | 21 | 0 | 0 | 33 |
| | 52 | Bowron-Cottonwood | 0 | 0 | 0 | 0 | 0 |
| Total T | FL | | 12 | 21 | 0 | 0 | 33 |
| Total re | gion | | 687 | 3 129 | 2 835 | 57 | 6 708 |

Kamloops Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR by Site Class

| Man | ageme | ent unit type | | Site class | | | | | | | |
|-----------|--------|---------------------------|------|--------------------|------|-----|-------|--|--|--|--|
| nu | mber a | and location | Good | Medium | Poor | Low | Total | | | | |
| | | | | (area in hectares) | | | | | | | |
| TSA | 11 | Kamloops | 239 | 955 | 106 | 13 | 1 313 | | | | |
| | 15 | Lillooet | 1 | 178 | 1 | 0 | 180 | | | | |
| | 18 | Merritt | 10 | 30 | 57 | 0 | 97 | | | | |
| | 22 | Okanagan | 5 | 417 | 95 | 0 | 517 | | | | |
| Fotal TS | 5A | | 255 | 1 580 | 259 | 13 | 2 107 | | | | |
| TFL | 15 | Inkaneep (Okanagan Falls) | 0 | 31 | 0 | 0 | 31 | | | | |
| | 18 | Clearwater | 34 | 168 | 6 | 0 | 208 | | | | |
| | 33 | Sicamous | 0 | 0 | 0 | 0 | 0 | | | | |
| | 35 | Jamieson Creek | 30 | 43 | 223 | 0 | 296 | | | | |
| | 49 | Okanagan (Kelowna) | 0 | 0 | 0 | 0 | 0 | | | | |
| | 49 | Okanagan (Armstrong) | 0 | 7 | 0 | 0 | 7 | | | | |
| Total TI | FL | | 64 | 249 | 229 | 0 | 542 | | | | |
| Total reg | gion | | 319 | 1 829 | 488 | 13 | 2 649 | | | | |

Kamloops Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

1982–1987 NSR by Site Class

| Mar | nagome | ont unit type | | Si | te class | | | | | | |
|----------|--------|---------------------------|-----------------------|--------------------|----------|-------|-------|--|--|--|--|
| nu | mber a | and location | Good | Medium | Poor | Low | Total | | | | |
| | | | | (area in hectares) | | | | | | | |
| TSA | 11 | Kamloops | 319 | 1 312 | 118 | 0 | 1 749 | | | | |
| | 15 | Lillooet | 21 | 93 | 11 | 0 | 125 | | | | |
| | 18 | Merritt | 0 | 76 | 0 | 0 | 76 | | | | |
| | 22 | Okanagan | 24 | 492 | 15 | 0 | 531 | | | | |
| Total T | SA | | 364 | 1 973 144 0 2 | | 2 481 | | | | | |
| TFL | 15 | Inkaneep (Okanagan Falls) | 0 | 21 | 0 | 0 | 21 | | | | |
| | 18 | Clearwater | 0 | 0 | 0 | 0 | 0 | | | | |
| | 33 | Sicamous | 0 | 0 | 0 | 0 | 0 | | | | |
| | 35 | Jamieson Creek | 0 | 20 | 0 | 0 | 20 | | | | |
| | 49 | Okanagan (Kelowna) | 0 | 13 | 0 | 0 | 13 | | | | |
| | 49 | Okanagan (Armstrong) | 0 | 6 | 1 | 0 | 7 | | | | |
| Total T | FL | | 0 | 60 | 1 | 0 | 61 | | | | |
| Total re | gion | | 364 2 033 145 0 2 542 | | | | 2 542 | | | | |

Nelson Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR by Site Class

| Management unit type, | | | Site class | | | | | | | |
|-----------------------|--------|---------------------------|------------|---|------------|-----|-------|--|--|--|
| nui | nber a | and location | Good | Site classGoodMediumPoorLowTot(area in hectares)(area in hectares) $(area in hectares)$ $(area in hectares)$ 11032410605078210 $(area in hectares)$ 3410255628112965431470902240024511744110124619831025313566402384505100217490021616727324676590112943000001415155739334014 | | | | | | |
| | | | | (area | in hectare | es) | | | | |
| TSA | 1 | Arrow | 110 | 324 | 106 | 0 | 540 | | | |
| | 2 | Boundary | 0 | 78 | 21 | 0 | 99 | | | |
| | 5 | Cranbrook | 34 | 1 025 | 56 | 28 | 1 143 | | | |
| | 7 | Golden | 296 | 543 | 147 | 0 | 986 | | | |
| | 9 | Invermere | 0 | 224 | 0 | 0 | 224 | | | |
| | 13 | Kootenay Lake | 45 | 1 174 | 41 | 10 | 1 270 | | | |
| | 27 | Revelstoke | 46 | 198 | 31 | 0 | 275 | | | |
| Total TS | 5A | | 531 | 3 566 | 402 | 38 | 4 537 | | | |
| TFL | 3 | Little Slocan (Arrow) | 0 | 51 | 0 | 0 | 51 | | | |
| | 8 | Boundary Creek | 3 | 200 | 8 | 0 | 211 | | | |
| | 14 | Spillimacheen (Invermere) | 17 | 49 | 0 | 0 | 66 | | | |
| | 23 | Arrow Lakes (Revelstoke) | 66 | 167 | 273 | 246 | 752 | | | |
| | 55 | Selkirk | 65 | 90 | 112 | 94 | 361 | | | |
| | 56 | Goldstream | 0 | 0 | 0 | 0 | 0 | | | |
| Total TF | L | | 151 | 557 | 393 | 340 | 1 441 | | | |
| Total reg | gion | | 682 | 82 4 123 795 378 5 5 | | | | | | |

Appendix 2 Continued

Nelson Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

1982-1987 NSR by Site Class

| Management unit type, | | | GoodMediumSite classTotalGoodMediumPoorLowTotal(area in hectares)163804704430512107240696441879829240101037041238540333221643202184380401271911849303182 3613503018821260010013175035000000 | | | | | |
|-----------------------|--------|---------------------------|---|--------|-----------|-------------|-------|--|
| nui | mber a | ind location | Good | Medium | Poor | Low | Total | |
| | | | | (ar | ea in hec | tares) | | |
| TSA | 1 | Arrow | 16 | 380 | 47 | 0 | 443 | |
| | 2 | Boundary | 0 | 51 | 21 | 0 | 72 | |
| | 5 | Cranbrook | 40 | 696 | 44 | 18 | 798 | |
| | 7 | Golden | 29 | 240 | 101 | 0 | 370 | |
| | 9 | Invermere | 41 | 238 | 54 | 0 | 333 | |
| | 13 | Kootenay Lake | 22 | 164 | 32 | 0 | 218 | |
| | 27 | Revelstoke | 43 | 80 | 4 | 0 | 127 | |
| Total TS | 5A | | 191 | 1 849 | 303 | 18 | 2 361 | |
| TFL | 3 | Little Slocan (Arrow) | 35 | 0 | 3 | 0 | 38 | |
| | 8 | Boundary Creek | 2 | 126 | 0 | 0 | 128 | |
| | 14 | Spillimacheen (Invermere) | 0 | 110 | 0 | 0 | 110 | |
| | 23 | Arrow Lakes (Revelstoke) | 23 | 99 | 7 | 0 | 129 | |
| | 55 | Selkirk | 13 | 17 | 5 | 0 | 35 | |
| | 56 | Goldstream | 0 | 0 | 0 | 0 | 0 | |
| Total TF | FL | | 73 | 352 | 15 | 0 | 440 | |
| Total reg | gion | | 264 | 2 201 | 318 | 318 18 2 80 | | |

Prince George Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR by Site Class

| Mar | 1200mg | ont unit type | | Si | ite class | | |
|----------|--------|------------------------------|--------------------------|--------|------------|-----|--------|
| nu | mber a | and location | Good | Medium | Poor | Low | Total |
| | | | | (area | in hectare | es) | |
| TSA | 8 | Fort Nelson | 2 308 | 868 | 23 | 84 | 3 283 |
| | 16 | Mackenzie | 320 | 2 532 | 215 | 0 | 3 067 |
| | 17 | Robson Valley (McBride) | 17 | 3 35 | 80 | 0 | 432 |
| | 24 | Prince George | 3 158 | 8 522 | 235 | 23 | 11 938 |
| | 40 | Fort St. John | 646 | 2 731 | 73 | 0 | 3 450 |
| | 41 | Dawson Creek | 418 | 5 165 | 1 812 | 0 | 7 395 |
| Total T | SA | | 6 867 | 20 153 | 2 438 | 107 | 29 565 |
| TFL | 30 | Sinclair (N.E. of P. George) | 2 463 | 1 938 | 260 | 0 | 4 661 |
| | 42 | Tanizul (Fort St James) | 0 | 1 220 | 0 | 0 | 1 220 |
| | 48 | Chetwynd | 0 | 13 700 | 3 960 | 0 | 17 660 |
| | 53 | Naver | 0 | 0 | 0 | 0 | 0 |
| Total T | FL | | 2 463 | 16 858 | 4 220 | 0 | 23 541 |
| Total re | gion | | 9 330 37 011 6 658 107 5 | | | | 53 106 |

Prince George Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

1982–1987 NSR by Site Class

| Mar | agome | ont unit type | | Si | ite class | | |
|----------|--------|------------------------------|-------|--------|------------|-------------|--------|
| nu | mber a | and location | Good | Medium | Poor | Low | Total |
| | | | | (area | in hectare | es) | |
| TSA | 8 | Fort Nelson | 540 | 1 304 | 90 | 62 | 1 996 |
| | 16 | Mackenzie | 259 | 1 236 | 51 | 0 | 1 546 |
| | 17 | Robson Valley (McBride) | 13 | 173 | 26 | 0 | 212 |
| | 24 | Prince George | 890 | 2 485 | 210 | 0 | 3 585 |
| | 40 | Fort St. John | 353 | 2 043 | 45 | 0 | 2 441 |
| | 41 | Dawson Creek | 131 | 3 474 | 1 043 | 0 | 4 648 |
| Total TS | SA | | 2 186 | 10 715 | 1 465 | 62 | 14 428 |
| TFL | 30 | Sinclair (N.E. of P. George) | 63 | 287 | 47 | 0 | 397 |
| | 42 | Tanizul (Fort St James) | 0 | 348 | 0 | 0 | 348 |
| | 48 | Chetwynd | 0 | 9 077 | 0 | 0 | 9 077 |
| | 53 | Naver | 0 | 0 | 0 | 0 | 0 |
| Total TI | FL | | 63 | 9 712 | 47 | 0 | 9 822 |
| Total re | gion | | 2 249 | 20 427 | 1 512 | 1 512 62 24 | |

Prince Rupert Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR by Site Class

| Ma | nageme | ent unit type. | | Site class Good Medium Poor Low Total (area in hectares) 85 195 5 0 285 281 239 1 479 0 1 999 | | | | | | |
|----------|---------|---------------------|-------------------------|---|------------|-----|-------|--|--|--|
| nu | imber a | ind location | Good | Medium | Poor | Low | Total | | | |
| | | | | (area | in hectare | es) | | | | |
| TSA | 3 | Bulkley | 85 | 195 | 5 | 0 | 285 | | | |
| | 4 | Cassiar | 281 | 239 | 1 479 | 0 | 1 999 | | | |
| | 10 | Kalum | 963 | 966 | 150 | 3 | 2 082 | | | |
| | 12 | Kispiox | 185 | 418 | 731 | 0 | 1 334 | | | |
| | 14 | Lakes | 0 | 33 | 44 | 0 | 77 | | | |
| | 20 | Morice | 53 | 807 | 5 | 0 | 865 | | | |
| | 21 | North Coast | 289 | 385 | 111 | 5 | 790 | | | |
| | 42 | Cranberry | 113 | 82 | 0 | 0 | 195 | | | |
| | 43 | Nass | 2 | 32 | 801 | 0 | 835 | | | |
| Total T | SA | | 1 971 | 3 157 | 3 326 | 8 | 8 462 | | | |
| TFL | 1 | Port Edward (Kalum) | 0 | 181 | 33 | 0 | 214 | | | |
| | 25 | Naka | 0 | 0 | 0 | 0 | 0 | | | |
| | 41 | Kitimat | 0 | 0 | 0 | 0 | 0 | | | |
| Total T | FL | | 0 | 181 | 33 | 0 | 214 | | | |
| Total re | egion | | 1 971 3 338 3 359 8 8 6 | | | | 8 676 | | | |

Prince Rupert Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

1982–1987 NSR by Site Class

| Ма | nagama | ont unit type | | Site class | | | | | |
|----------|---------|---------------------|----------------------|------------|------------|-----|-------|--|--|
| nı | imber a | and location | Good | Medium | Poor | Low | Total | | |
| | | | | (area | in hectare | es) | | | |
| TSA | 3 | Bulkley | 104 | 19 | 0 | 0 | 123 | | |
| | 4 | Cassiar | 0 | 179 | 151 | 41 | 371 | | |
| | 10 | Kalum | 34 | 240 | 46 | 0 | 320 | | |
| | 12 | Kispiox | 198 | 117 | 30 | 0 | 345 | | |
| | 14 | Lakes | 203 | 184 | 19 | 0 | 406 | | |
| | 20 | Morice | 494 | 239 | 235 | 0 | 968 | | |
| | 21 | North Coast | 11 | 20 | 0 | 0 | 31 | | |
| | 42 | Cranberry | 72 | 161 | 0 | 0 | 233 | | |
| | 43 | Nass | 19 | 1 141 | 43 | 0 | 1 203 | | |
| Total T | SA | | 1 135 | 2 300 | 524 | 41 | 4 000 | | |
| TFL | 1 | Port Edward (Kalum) | 9 | 48 | 9 | 0 | 66 | | |
| | 25 | Naka | 0 | 0 | 0 | 0 | 0 | | |
| | 41 | Kitimat | 0 | 0 | 0 | 0 | 0 | | |
| Total T | FL | | 9 | 48 | 9 | 0 | 66 | | |
| Total re | egion | | 1 144 2 348 533 41 4 | | | | 4 066 | | |

Appendix 2 Continued

Vancouver Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

Pre-1982 NSR by Site Class

| Management unit type, | | | Site class | | | | | | |
|-----------------------|--------|--------------------------------------|---------------|--------|------------|-----|-------|--|--|
| nui | nber a | and location | Good | Medium | Poor | Low | Total | | |
| | | | | (area | in hectare | es) | | | |
| TSA | 19 | Mid-coast | 22 | 0 | 0 | 0 | 22 | | |
| | 25 | Queen Charlotte | 0 | 0 | 0 | 0 | 0 | | |
| | 30 | Fraser | 0 | 225 | 169 | 20 | 414 | | |
| | 31 | Soo | 0 | 164 | 127 | 0 | 291 | | |
| | 33 | Kingcome | 26 | 78 | 48 | 0 | 152 | | |
| | 37 | Strathcona | 0 | 0 | 0 | 0 | 0 | | |
| | 38 | Arrowsmith | 0 | 28 | 6 | 0 | 34 | | |
| | 39 | Sunshine Coast | 0 | 0 | 0 | 0 | 0 | | |
| Total TS | 5A | | 48 495 350 20 | | 913 | | | | |
| TFL | 6 | Quatsing (Port McNeill) | 0 | 0 | 0 | 0 | 0 | | |
| | 10 | Toba (Toba River) | 0 | 0 | 0 | 0 | 0 | | |
| | 19 | Tahsis (Gold River) | 0 | 0 | 0 | 0 | 0 | | |
| | 24 | Moresby (O.C.I.) | 0 | 0 | 0 | 0 | 0 | | |
| | 25 | Naka (Port McNeill) | 0 | 0 | 0 | 0 | 0 | | |
| | 26 | Corporation of Mission | 0 | 0 | 0 | 0 | 0 | | |
| | 37 | Nimkish | 0 | 0 | 0 | 0 | 0 | | |
| | 38 | Squamish (Squamish River) | 0 | 0 | 0 | 0 | 0 | | |
| | 39 | Haida (Powell River, all divisions) | 0 | 0 | 0 | 0 | 0 | | |
| | 43 | Fraser/Hanathko/Kingcome | 0 | 0 | 0 | 0 | 0 | | |
| | 44 | Alberni (Port Alberni) | 0 | 1 151 | 16 | 0 | 1 167 | | |
| | 45 | Cordera-Knight (all divisions) | 0 | 0 | 0 | 0 | 0 | | |
| | 46 | Maquinna (west coast, all divisions) | 0 | 0 | 0 | 2 | 2 | | |
| | 47 | Duncan Bay (all divisions) | 0 | 0 | 0 | 0 | 0 | | |
| Total TF | Ľ | | 0 | 1 151 | 16 | 2 | 1 169 | | |
| Total reg | gion | | 48 | 1 646 | 366 | 22 | 2 082 | | |

Appendix 2 Continued

Vancouver Forest Region – Summary of Backlog Not Satisfactorily Restocked Land^a

1982-1987 NSR by Site Class

| Man | ageme | ent unit type | Site class | | | | | | |
|-----------|--------|--------------------------------------|------------|--------|------------|-----|-------|--|--|
| nui | mber a | and location | Good | Medium | Poor | Low | Total | | |
| | | | | (area | in hectare | es) | | | |
| TSA | 19 | Mid-coast | 0 | 4 | 0 | 0 | 4 | | |
| | 25 | Queen Charlotte | 0 | 0 | 0 | 0 | 0 | | |
| | 30 | Fraser | 12 | 108 | 80 | 0 | 200 | | |
| | 31 | Soo | 3 | 67 | 7 | 0 | 77 | | |
| | 33 | Kingcome | 28 | 50 | 129 | 0 | 207 | | |
| | 37 | Strathcona | 0 | 24 | 22 | 0 | 46 | | |
| | 38 | 38 Arrowsmith | | 29 | 4 | 0 | 33 | | |
| | 39 | Sunshine Coast | 0 | 0 | 0 | 0 | 0 | | |
| Total TS | 5A | | 43 | 282 | 242 | 0 | 567 | | |
| ſFL | 6 | Quatsino (Port McNeill) | 0 | 0 | 0 | 0 | 0 | | |
| | 10 | Toba (Toba River) | 0 | 46 | 0 | 0 | 46 | | |
| | 19 | Tahsis (Gold River) | 0 | 0 | 0 | 0 | 0 | | |
| | 24 | Moresby (Q.C.I.) | 0 | 0 | 0 | 0 | 0 | | |
| | 25 | Naka (Port McNeill) | 0 | 0 | 0 | 0 | 0 | | |
| | 26 | Corporation of Mission | 0 | 0 | 0 | 0 | 0 | | |
| | 37 | Nimkish | 0 | 0 | 0 | 0 | 0 | | |
| | 38 | Squamish (Squamish River) | 0 | 0 | 0 | 0 | 0 | | |
| | 39 | Haida (Powell River, all divisions) | 0 | 0 | 0 | 0 | 0 | | |
| | 43 | Fraser/Hanathko/Kingcome | 0 | 0 | 0 | 0 | 0 | | |
| | 44 | Alberni (Port Alberni) | 0 | 381 | 0 | 0 | 381 | | |
| | 45 | Cordera–Knight (all divisions) | 0 | 21 | 0 | 0 | 21 | | |
| | 46 | Maquinna (west coast, all divisions) | 0 | 0 | 0 | 0 | 0 | | |
| | 47 | Duncan Bay (all divisions) | 0 | 0 | 0 | 0 | 0 | | |
| Total TF | L | | 0 | 448 | 0 | 0 | 448 | | |
| Total reg | gion | | 43 | 730 | 242 | 0 | 1 015 | | |

^a Summary for Crown land only and includes timber supply areas and tree farm licences. Data derived from hand compiled TFL summaries and the Ministry of Forests' ISIS. Backlog NSR represents net NSR after deductions as per Appendix 3.

Pre-1982

| | | | Area deducted | | | | | | anna i | m e ti | T () | Total |
|----------------------------------|---|---|---|--|---|--|--|---|--|--|-----------------------------------|-------------------------------------|
| Pre-1982 site class | Gross ^a area (ha) | Inoper. ^b NSR (ha) | Non- clearcut ^{c,d} (ha) | NSR <12 yrs ^e >700 ws/ha (ha) | NSR≥12 yrs ^f >500 ws/ha (ha) | Total ^g for area <5 ha (ha) | Total area deducted | net area NSR (ha) | net area NSR (ha) | l otal) net area NSR (ha) | l otal net good & medium | l otal gross good & medium |
| Province | | | | | | | | | | | | |
| G M P L Total | 21 215 72 593 20 077 1 033 114 918 | 1 298 7 124 3 369 452 12 243 | 1 142 5 610 2 915 23 9 689 | 315 1 222 150 19 1 705 | 2 123 5 968 962 3 9 055 | 36 115 26 0 177 | 4 913 20 038 7 421 497 32 869 | 13 208 31 704 7 765 194 52 871 | 3 094 20 851 4 891 342 29 178 | 16 302 52 555 12 656 536 82 049 | 68 857 | 93 808 |
| Cariboo | | | | | | | | | | | | |
| G M P L Total | 5 743 7 620 2 465 8 15 836 | 18 1 163 227 0 1 408 | 298 213 821 0 1 331 | 119 258 122 0 498 | 1 346 1 329 303 0 2 977 | 11 50 3 0 64 | 1 791 3 012 1 475 0 6 278 | 3 536 2 753 990 8 7 287 | 416 1 855 0 0 2 271 | 3 952 4 608 990 8 9 558 | 8 560 | 13 363 |
| Kamloop | s | | | | | | | | | | | |
| G M P L Total | 575 4 402 2 019 57 7 053 | 0 290 246 31 567 | 203 1 595 1 264 10 3 072 | 7 58 0 0 65 | 42 617 21 3 683 | 4 13 0 0 17 | 256 2 573 1 531 44 4 404 | 255 1 580 259 13 2 107 | 64 249 229 0 542 | 319 1 829 488 13 2 649 | 2 148 | 4 977 |
| Nelson | | | | | | | | | | | | |
| G M P L Total | 1 241 8 029 2 153 413 11 836 | 249 1 771 504 22 2 546 | 243 1 221 664 13 2 141 | 0 54 13 0 67 | 67 846 166 0 1 079 | 0 14 11 0 25 | 559 3 906 1 358 35 5 858 | 531 3 566 402 38 5 978 | 151 557 393 340 1 441 | 682 4 123 795 378 5 978 | 4 805 | 9 270 |

continued...

Pre-1982 (continued)

| | | | Area deducted | | | | | | | | Total | Total |
|------------------------|------------------------------------|-------------------------------------|---|--|---|--|---------------------------|-------------------------|---|-------------------------|----------------------------------|-------------------------------------|
| Pre-1982 site class | Gross ^a area (ha) | Inoper. ^b NSR (ha) | Non- clearcut ^{c,d} (ha) | NSR <12 yrs ^e >700 ws/ha (ha) | NSR≥12 yrs ^f >500 ws/ha (ha) | Total ^g for area <5 ha (ha) | Total area deducted | net area NSR (ha) | TFL ¹ net area NSR (ha) | net area NSR (ha) | fotal net good & medium | f otal gross good & medium |
| Prince Ge | orge | | | | | | | | | | | |
| G | 10 320 | 224 | 211 | 107 | 430 | 18 | 990 | 6 867 | 2 463 | 9 330 | 46 341 | 53 497 |
| М | 43 177 | 905 | 2 209 | 613 | 2 417 | 22 | 6 166 | 20 153 | 16 858 | 37 011 | | |
| Р | 7 114 | 134 | 89 | 0 | 233 | 0 | 456 | 2 438 | 4 220 | 6 658 | | |
| L | 153 | 27 | 0 | 19 | 0 | 0 | 46 | 107 | 0 | 107 | | |
| Total | 60 764 | 1 290 | 2 509 | 739 | 3 080 | 40 | 7 658 | 29 565 | 23 541 | 53 106 | | |
| Prince Ru | pert | | | | | | | | | | | |
| G | 3 205 | 724 | 187 | 82 | 238 | 3 | 1 234 | 1 971 | 0 | 1 971 | 5 309 | 10 866 |
| М | 7 661 | 2 943 | 372 | 235 | 757 | 16 | 4 323 | 3 157 | 181 | 3 338 | | |
| Р | 5 919 | 2 246 | 70 | 0 | 235 | 9 | 2 560 | 3 326 | 33 | 3 359 | | |
| L | 380 | 372 | 0 | 0 | 0 | 0 | 372 | 8 | 0 | 8 | | |
| Total | 17 165 | 6 285 | 629 | 317 | 1 230 | 28 | 8 489 | 8 462 | 214 | 8 676 | | |
| Vancouve | er | | | | | | | | | | | |
| G | 131 | 83 | 0 | 0 | 0 | 0 | 83 | 48 | 0 | 48 | 1 694 | 1 835 |
| М | 1 704 | 52 | 0 | 4 | 2 | 0 | 58 | 495 | 1 151 | 1 646 | | |
| Р | 407 | 12 | 7 | 15 | 4 | 3 | 41 | 350 | 16 | 366 | | |
| L | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 2 | 22 | | |
| Total | 2 264 | 147 | 7 | 19 | 6 | 3 | 182 | 913 | 1 169 | 2 082 | | |

Ŋ

* Backlog – areas denuded prior to 1982.

^a Column "Gross area" represents gross NSR as recorded in ISIS and hand complied TFL submissions.

Net-down Criteria:

^b Inoperable NSR refers to areas that are untreatable due to inaccessibility or uneconomical conditions.

^c Refers to areas logged by the selection silviculture system and are assumed to regenerate naturally.

^d Refers to areas logged by the shelterwood and seed tree silviculture systems and are also assumed to regenerate naturally.

^e Includes all NSR areas with an average tree age of less than 12 years and stocking levels greater than 700 well-spaced trees per hectare, these areas now meet provincial minimum stocking standards.

^f Includes all NSR areas with an average tree age of more than 12 years and stocking levels greater than 500 well-spaced stems per hectare, these areas are considered a low priority for treatment.

^g Includes all NSR areas less than 5 hectares in size, these areas will regenerate naturally or are considered a low priority for treatment or uneconomic for treatment.

^h ISIS was used to generate net TSA backlog NSR statistics for all regions and were current to February 22, 1997.

ⁱ Tree farm license NSR was derived from hand complied backlog NSR submissions.

^j Column "Total net area" represents the net NSR after deductions.

1982-87

| | | | Area deducted | | | | | | anna i | m c ti | | |
|---------------------------------------|---|--|---|--|---|---|--|--|---|---|------------------------------------|--------------------------------------|
| 1982–87 site class | Gross ^a area (ha) | Inoper. ^b NSR (ha) | Non- clearcut ^{c,d} (ha) | NSR <12 yrs ^e >700 ws/ha (ha) | NSR≥12 yrs ^f >500 ws/ha (ha) | Total ^g for area <5 ha (ha) | Total area deducted | – TSA ⁿ net area NSR (ha) | net area NSR (ha) | Total) net area NSR (ha) | Total net good, med., & poor | Total gross good, med., & poor |
| Province | | | | | | | | | | | | |
| G M P L Total | 5 808 36 689 7 826 371 50 694 | 283 784 911 174 2 152 | 612 3 723 971 19 5 324 | 47 576 138 0 760 | 76 572 207 0 855 | 39 167 15 0 221 | 1 057 5 821 2 241 193 9 312 | 4 594 20 227 5 513 178 30 512 | 157 10 641 72 0 10 870 | 4 751 30 868 5 585 178 52 251 | 41 204 | 50 323 |
| Caribaa | | | | | | | | | | | | |
| G M P L | 953 4 360 3 232 57 | 0 107 8 0 | 239 829 88 0 | 14 145 122 0 | 2 105 180 0 | $ \begin{array}{c} 11 \\ 46 \\ 0 \\ 0 \end{array} $ | 266 1 231 397 0 | 675 3 108 2 835 57 | 12 21 0 0 | 687 3 129 2 835 57 | 6 651 | 8 545 |
| Total | 8 602 | 115 | 1 155 | 280 | 287 | 57 | 1 894 | 0 0/5 | 33 | 6 708 | | |
| Kamloops G M P L Total | 461 3 419 571 0 4 451 | 0 53 0 0 53 | 92 1 062 426 0 1 580 | 0 59 0 0 59 | 0 182 0 0 182 | 5 30 0 0 35 | 97 1 386 426 0 1 909 | 364 1 973 144 0 2 481 | 0 60 1 0 61 | 364 2 033 145 0 2 542 | 2 542 | 4 451 |
| Nelson | | | | | | | | | | | | |
| G M P L Total | 743 4 430 1 173 37 6 383 | 249 416 398 0 1 063 | 214 1 623 446 19 2 302 | 0 4 0 0 4 | 12 139 5 0 156 | 4 47 6 0 57 | 479 2 229 855 19 3 582 | 191 1 849 303 18 2 361 | 73 352 15 0 440 | 264 2 201 318 18 2 801 | 2 783 | 6 346 |

continued...

| 1982–87 site class | Gross ^a area (ha) | Area deducted | | | | | | m c . h | TTI | m d ti | | |
|-----------------------|------------------------------------|-------------------------------------|---|--|---|--|---------------------------|--|--|-------------------------|------------------------------------|--------------------------------------|
| | | Inoper. ^b NSR (ha) | Non- clearcut ^{c,d} (ha) | NSR <12 yrs ^e >700 ws/ha (ha) | NSR≥12 yrs ^f >500 ws/ha (ha) | Total ^g for area <5 ha (ha) | Total area deducted | 1.S.A. ⁿ net area NSR (ha) | 1.F.L. ⁴ net area NSR (ha) | net area NSR (ha) | Total net good, med., & poor | Total gross good, med., & poor |
| Prince Ge | orge | | | | | | | | | | | |
| G | 2 312 | 6 | 11 | 14 | 16 | 16 | 63 | 2 186 | 63 | 2 249 | 24 188 | 24 925 |
| М | 20 992 | 129 | 66 | 197 | 141 | 32 | 565 | 10 715 | 9 712 | 20 427 | | |
| Р | 1 621 | 105 | 0 | 0 | 0 | 4 | 109 | 1 465 | 47 | 1 512 | | |
| L | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 62 | 0 | 62 | | |
| Total | 24 987 | 240 | 77 | 211 | 157 | 52 | 737 | 14 428 | 9 822 | 24 250 | | |
| Prince Ru | pert | | | | | | | | | | | |
| G | 1 291 | 28 | 56 | 14 | 46 | 3 | 147 | 1 135 | 9 | 1 144 | 4 025 | 4 960 |
| М | 2 712 | 79 | 133 | 138 | 5 | 9 | 364 | 2 300 | 48 | 2 348 | | |
| Р | 957 | 394 | 5 | 0 | 22 | 3 | 424 | 524 | 9 | 533 | | |
| L | 215 | 174 | 0 | 0 | 0 | 0 | 174 | 41 | 0 | 41 | | |
| Total | 5 175 | 675 | 194 | 152 | 73 | 15 | 1 109 | 4 000 | 66 | 4 066 | | |
| Vancouve | er | | | | | | | | | | | |
| G | 48 | 0 | 0 | 5 | 0 | 0 | 5 | 43 | 0 | 43 | 1 015 | 1 096 |
| М | 776 | 0 | 10 | 33 | 0 | 3 | 46 | 282 | 448 | 730 | | |
| Р | 272 | 6 | 6 | 16 | 0 | 2 | 30 | 242 | 0 | 242 | | |
| L | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Total | 1 096 | 6 | 16 | 54 | 0 | 5 | 81 | 567 | 448 | 1 015 | | |

* Backlog – areas denuded between January 1, 1982 and October 1, 1987.

a Column "Gross area" represents gross NSR as recorded in ISIS and hand complied TFL submissions.

Net-down Criteria:

^b Inoperable NSR refers to areas that are untreatable due to inaccessibility or uneconomical conditions.

^c Refers to areas logged by the selection silviculture system and are assumed to regenerate naturally.

^d Refers to areas logged by the shelterwood and seed tree silviculture systems and are also assumed to regenerate naturally.

^e Includes all NSR areas with an average tree age of less than 12 years and stocking levels greater than 700 well-spaced trees per hectare, these areas now meet provincial minimum stocking standards.

^f Includes all NSR areas with an average tree age of more than 12 years and stocking levels greater than 500 well-spaced stems per hectare, these areas are considered a low priority for treatment.

^g Includes all NSR areas less than 5 hectares in size, these areas will regenerate naturally or are considered a low priority for treatment or uneconomic for treatment.

^h ISIS was used to generate net TSA backlog NSR statistics for all regions and were current to February 22, 1997.

ⁱ Tree farm license NSR was derived from hand complied backlog NSR submissions.

^j Column "Total net area" represents the net NSR after deductions.

Backlog NSR

An area:

- from which the timber was harvested, damaged or destroyed before October 1, 1987, and
- that, in the district manager's opinion, is insufficiently stocked with healthy, well-spaced trees of a commercially acceptable species.

Current productive and available forest land

The forest land base remaining after reductions are made for environmentally sensitive areas (ESAs) and the permanent forest land alienations anticipated over the next 20 years, (as per the 1984 *Forest and Range Resource Analysis*).

Gross backlog NSR

Total backlog NSR before deductions.

Impeded area

An area:

- from which the timber was harvested, damaged or destroyed before October 1, 1987, and
- that, in the district manager's opinion, is satisfactorily restocked with healthy, well-spaced trees of a commercially acceptable species, but not free growing.

NC brush

Non-commercial brush. Areas that have been 60% or more covered by brush one or more metres high.

Net NSR

NSR remaining after deductions are made for areas that are uneconomic, inaccessible, inoperable, of poor or low site classes (NSR), are likely to naturally regenerate, or are satisfactorily restocked (SR) based on the backlog stocking standards.

Not stocked forest land

Not stocked includes NSR areas on which forest stands have been disturbed by harvesting, wildfire or other causes and have not been restocked with sufficient trees of acceptable, commercial species. The area for NSR lands includes current and backlog (pre-1982 and 1982–1987) NSR. Also includes non-commercial areas with forest cover and non-commercial brush areas that have been 60% or more covered by brush one or more metres high.

NSR

Not satisfactorily restocked. Forest lands that are not growing to their full potential due to an insufficient stocking of acceptable commercial tree species.

Productive forest land

Forest land that is capable of producing a merchantable stand within a reasonable length of time.

Site class

A measure of forest site productivity as determined by site index. In this publication, the site classes are good, medium, poor and low.

TFL

Tree farm licence. Privately managed sustained yield units in which the Crown adds forest land to the company's private holdings (if any), sufficient to provide a continuous supply of wood for an existing or planned mill.

Treatable NSR

Represents the portion of net NSR that is potentially treatable given present management constraints.

TSA

Timber supply area. An area of the province created by the Ministry of Forests for the purpose of analysis, planning and management of timber resources. Boundaries have been determined on the basis of present and expected population centres, transportation networks, manufacturing facilities and existing administrative boundaries.