



# FIDS REPORT

FIDS Report 93-9

GRAPHS OF RECORDED FOREST INSECT OUTBREAKS  
UP TO 1992 IN THE NELSON FOREST REGION

A. J. Stewart  
Forest Insect and Disease Survey

## Pacific and Yukon Region



**Forest Insect and Disease Survey**



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UP TO 1992 IN THE NELSON FOREST REGION

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## INTRODUCTION

Graphs of recorded forest insect outbreaks in the Nelson Forest Region were compiled to provide an overview of known occurrences and trends. The objective is to give resource managers and others the known historical perspective from which to relate current and future insect outbreaks. However, past records of occurrence and extent do not guarantee the pattern of future outbreaks. With variations in weather, stand conditions such as composition and age, and management activities such as fire suppression and harvesting, there is considerable latitude for new or shifting outbreak patterns and the elevation of previously benign insects to pest status.

Information was obtained from several Forest Insect and Disease Survey reports: Forest Insect and Disease Conditions - Nelson Forest Region, published annually; national annual reports of the Forest Insect Survey (1936-50) and Forest Insect and Disease Survey (1950 onward) from years prior to the regional reports; and the regional written and map pest histories:

Unger, L. 1992. History of population fluctuations and infestations of important forest insects in the Nelson Forest Region 1923-1991. FIDS Report 92-13. 104 pp.

Vallentgoed, J. 1987. Maps of major forest insect infestations: Nelson Forest Region 1928-1986. FIDS Report 87-10. 68pp.

The most recent annual regional report, from which 1993 projections referred to in some of the graphs were obtained, was:

Unger, L. and A. Stewart. 1992. Forest Insect and Disease Conditions - Nelson Forest Region 1992. FIDS Report 93-3. 36pp.

Area figures are often absent from the earlier infestations due to lack of aerial coverage. To have an approximate record of their occurrence in the graphs, values were derived by comparing written descriptions to later, quantified outbreaks of similar intensity and occurrence. The resulting infestation profiles are more complete and closer to a standard coverage.

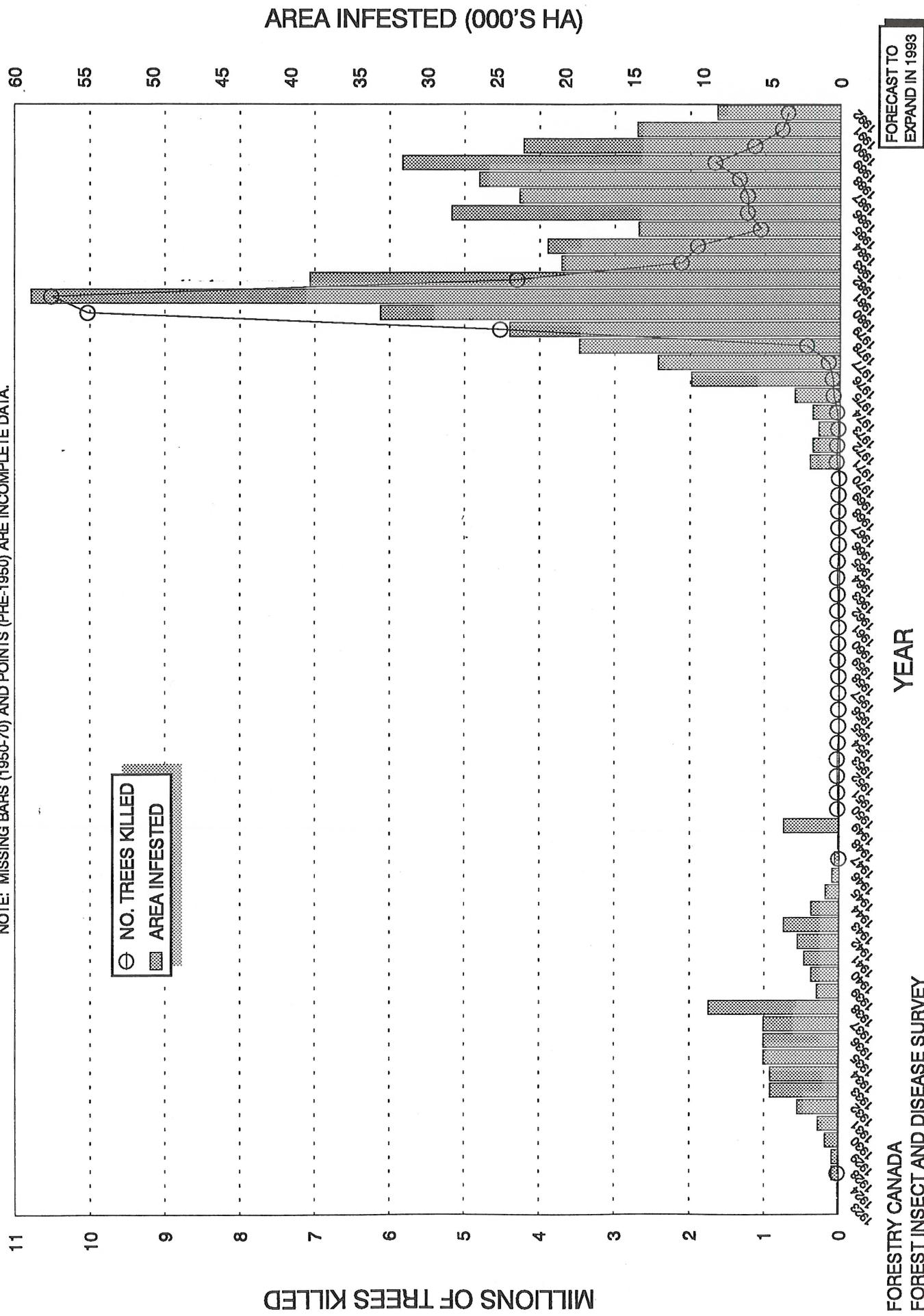
The graphs are grouped by host, roughly in order of the impact and occurrence of the insects; some are combined if the same host is involved:

- Mountain pine beetle - lodgepole and occasionally white and ponderosa pines.
- Lodgepole needleminers - lodgepole pine.
- Western hemlock looper - mainly western hemlock and western red cedar.
- Western blackheaded budworm and filament bearer - western hemlock.
- Conifer sawfly and gray spruce looper - mainly western hemlock.
- Spruce beetle - Engelmann spruce.
- Two-year-cycle spruce budworm - alpine fir, Engelmann spruce.
- Western balsam bark beetle - alpine fir.
- Douglas-fir beetle - Douglas-fir.
- Western false hemlock looper - Douglas-fir.
- Western spruce budworm and Douglas-fir tussock moth - Douglas-fir.
- Larch sawfly - western larch.
- Larch casebearer - western larch.
- Larch budmoth and green larch looper - western larch.
- Forest tent caterpillar - trembling aspen, white birch, black cottonwood.
- Satin moth - trembling aspen, black cottonwood.
- Deciduous tree insect outbreaks not quantified - various deciduous hosts.
- Coniferous tree insect outbreaks not quantified - various coniferous hosts.

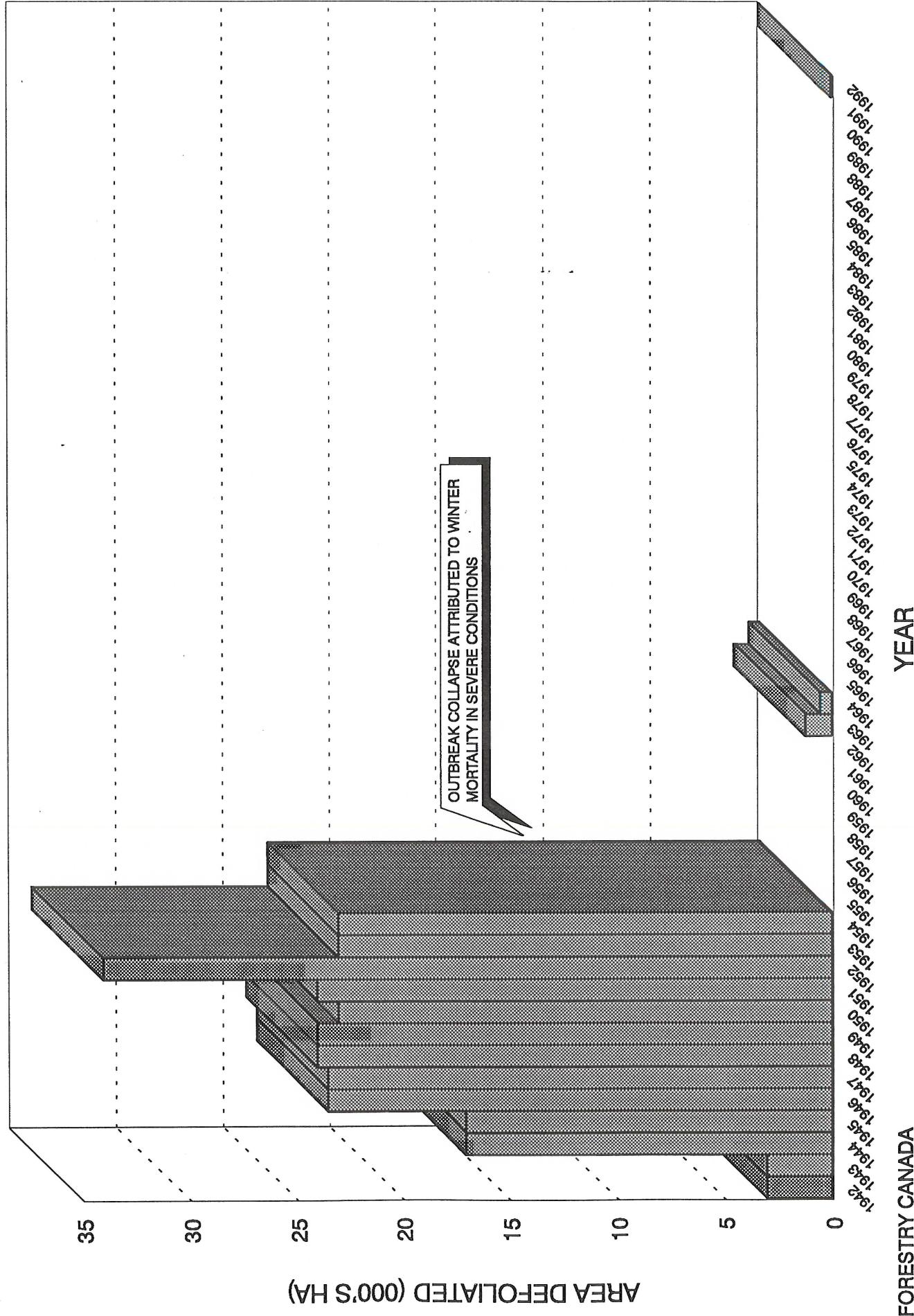
Comments and additional information are welcome, particularly with respect to outbreaks earlier than those recorded here.

RECORDED OUTBREAKS OF THE MOUNTAIN PINE BEETLE, *Dendroctonus ponderosae*, IN THE NELSON FOREST REGION

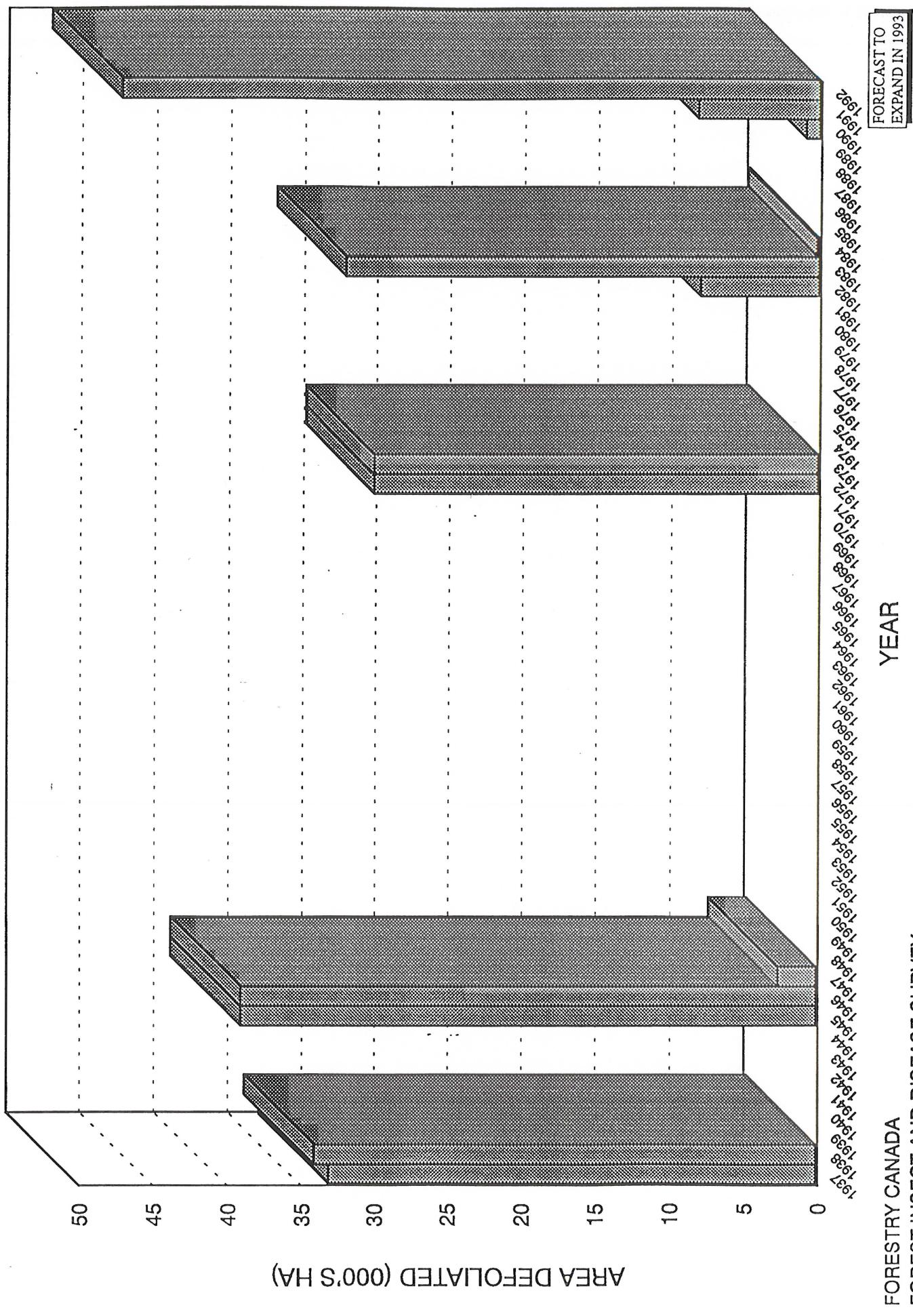
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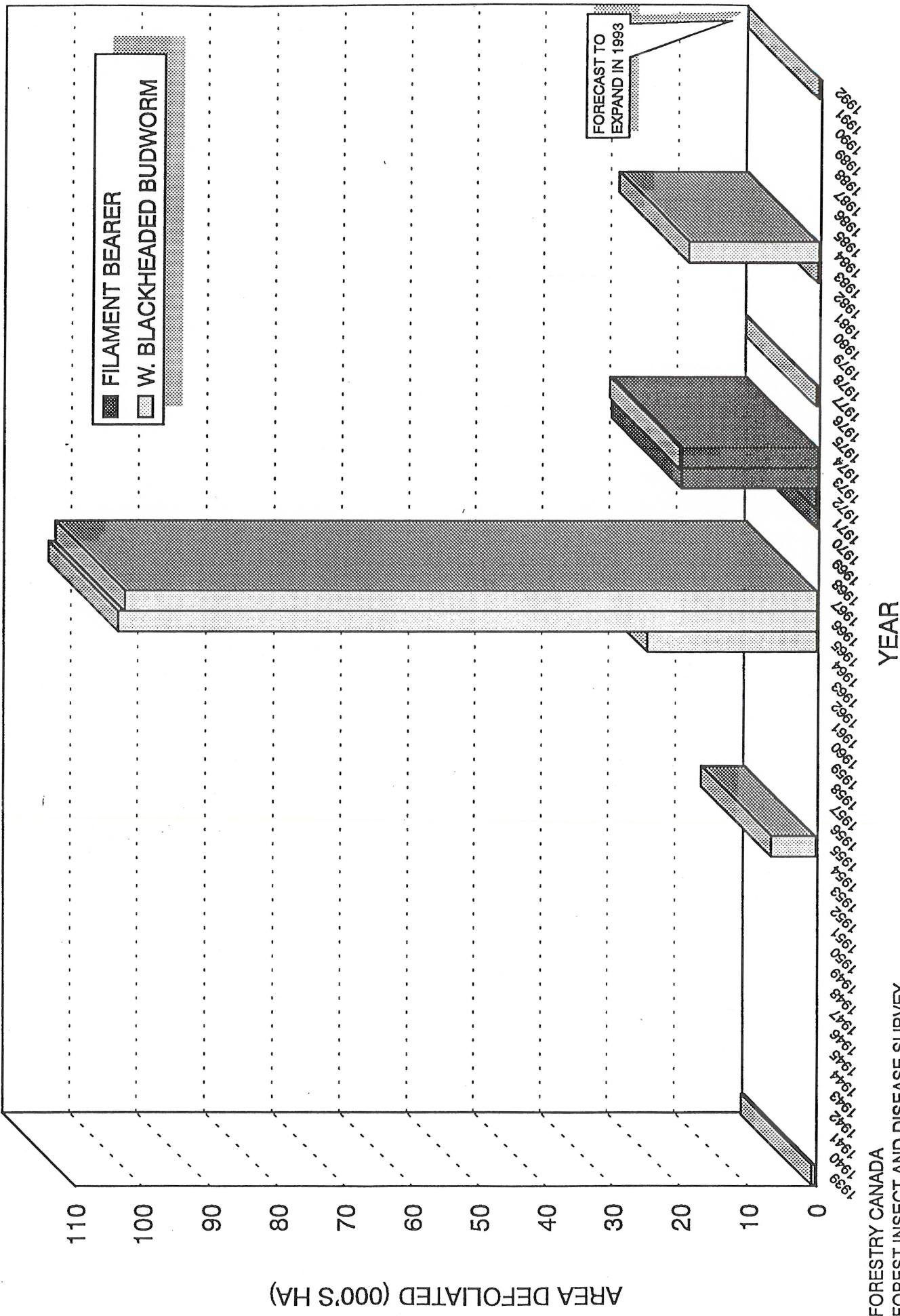
RECORDED OUTBREAKS OF LODGEPOLE NEEDLEMINERS, *Coleotechnites* spp., IN THE NELSON FOREST REGION



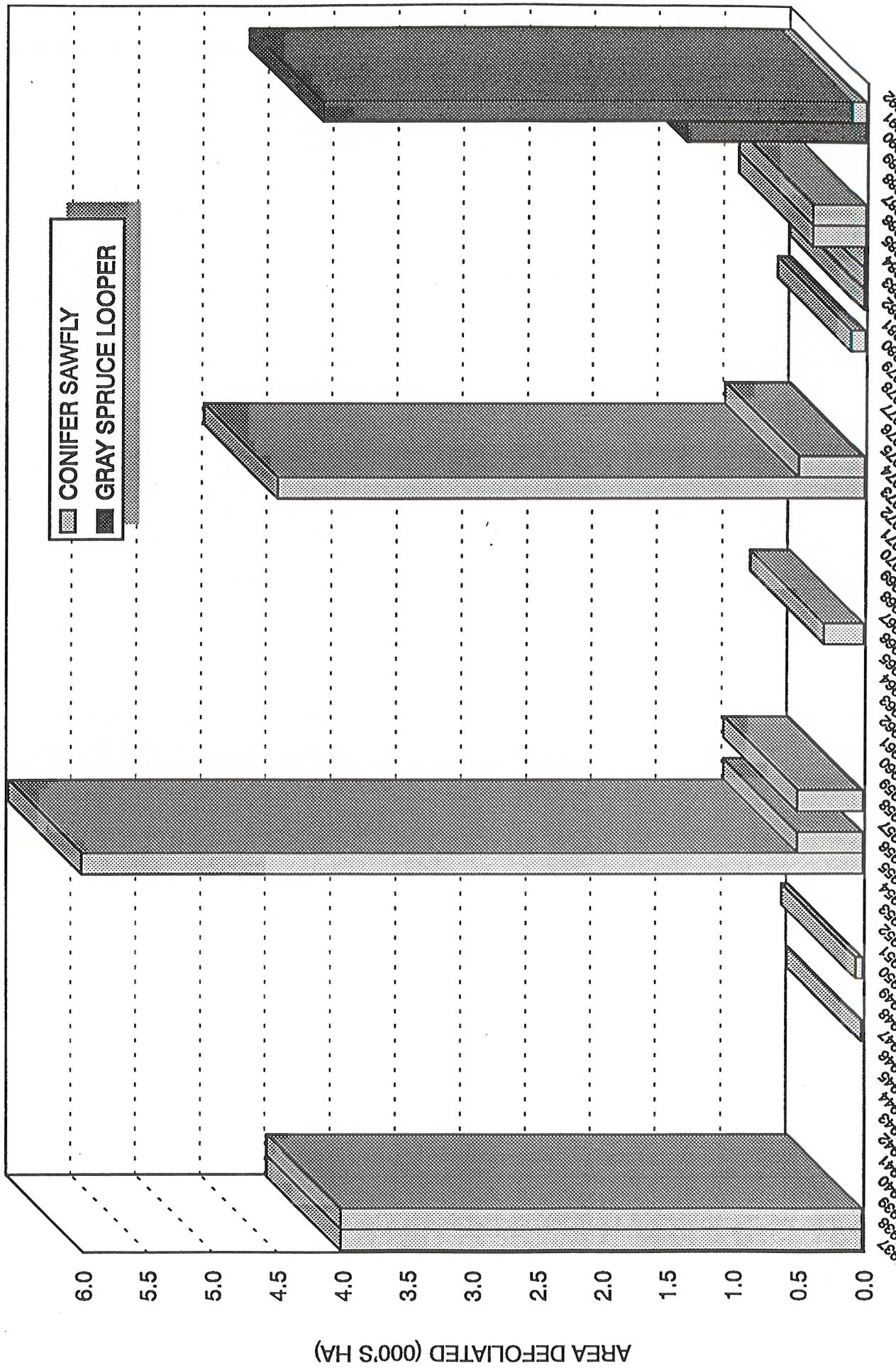
RECORDED OUTBREAKS OF THE WESTERN HEMLOCK LOOPER, *Lambdina fiscellaria lugubrosa*, IN THE NELSON FOREST REGION



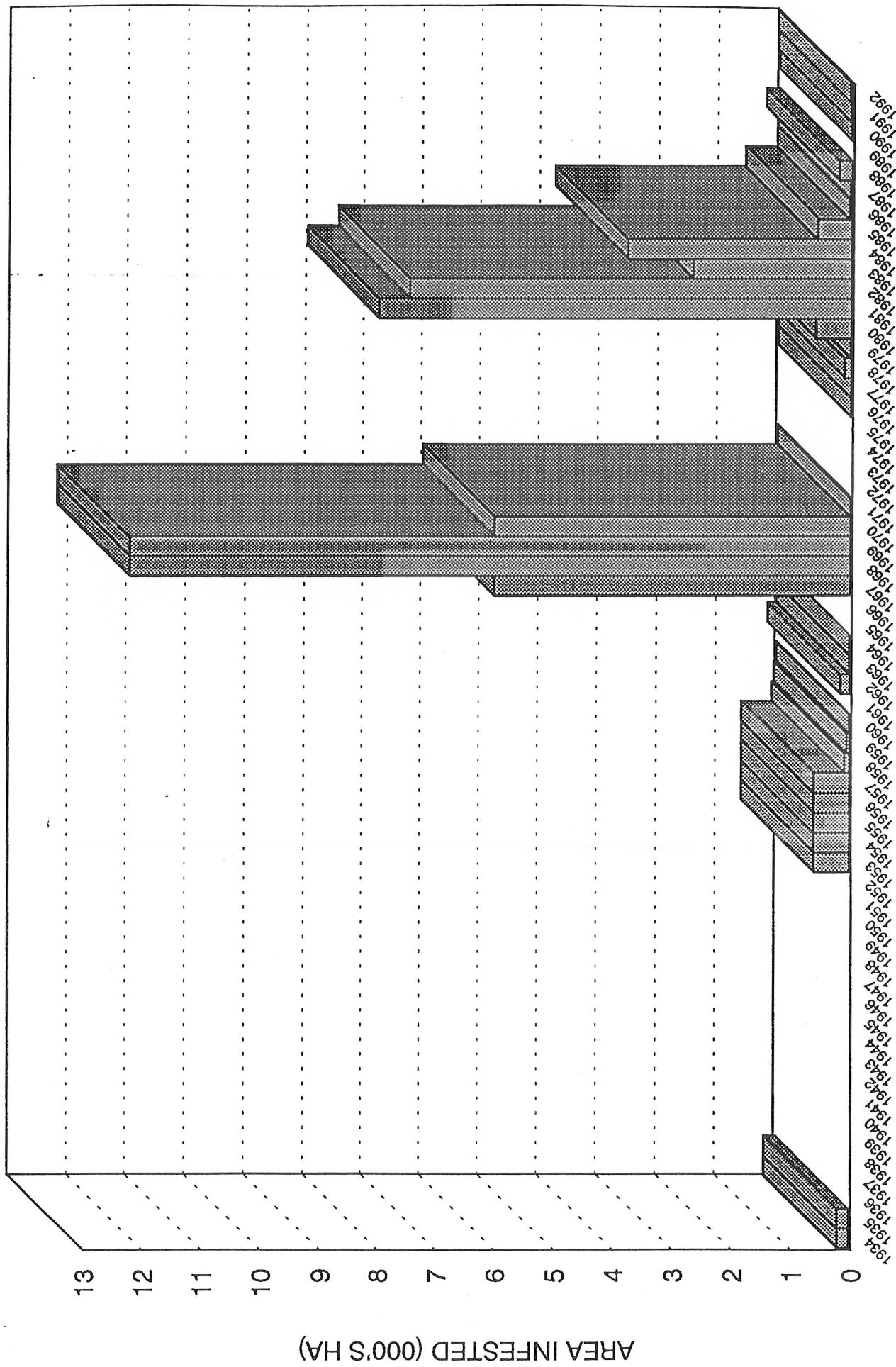
RECORDED OUTBREAKS OF THE WESTERN BLACKHEADED BUDWORM, *Acleris gloverana*,  
AND FILAMENT BEARER, *Nematocampa filamentaria*, IN THE NELSON FOREST REGION



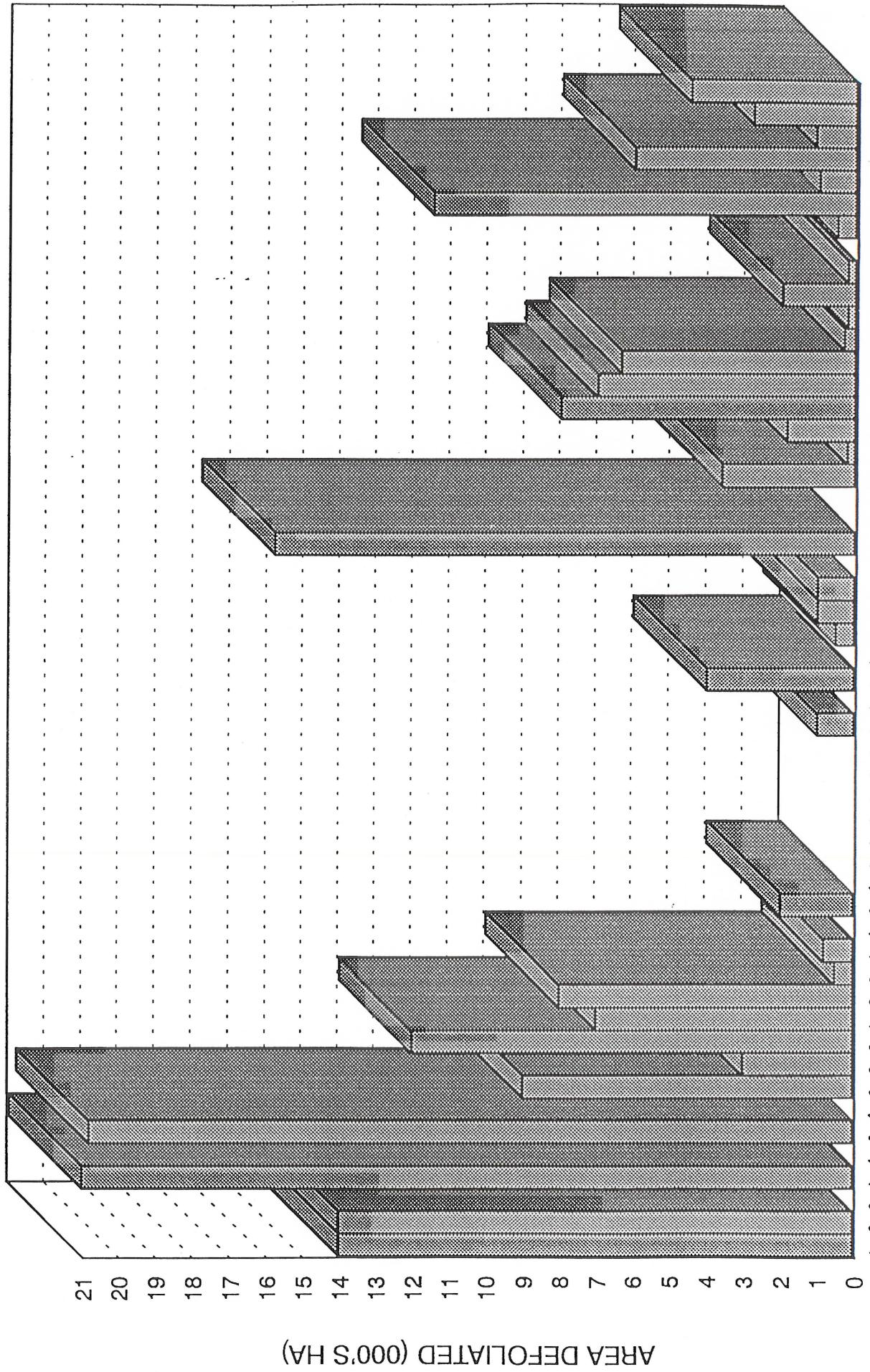
RECORDED OUTBREAKS OF A CONIFER SAWFLY, *Neodiprion* sp., AND THE GRAY SPRUCE LOOPER, *Carpeta divisata*,  
ON WESTERN HEMLOCK IN THE NELSON FOREST REGION



RECORDED OUTBREAKS OF THE SPRUCE BEETLE, *Dendroctonus rufipennis*, IN THE NELSON FOREST REGION

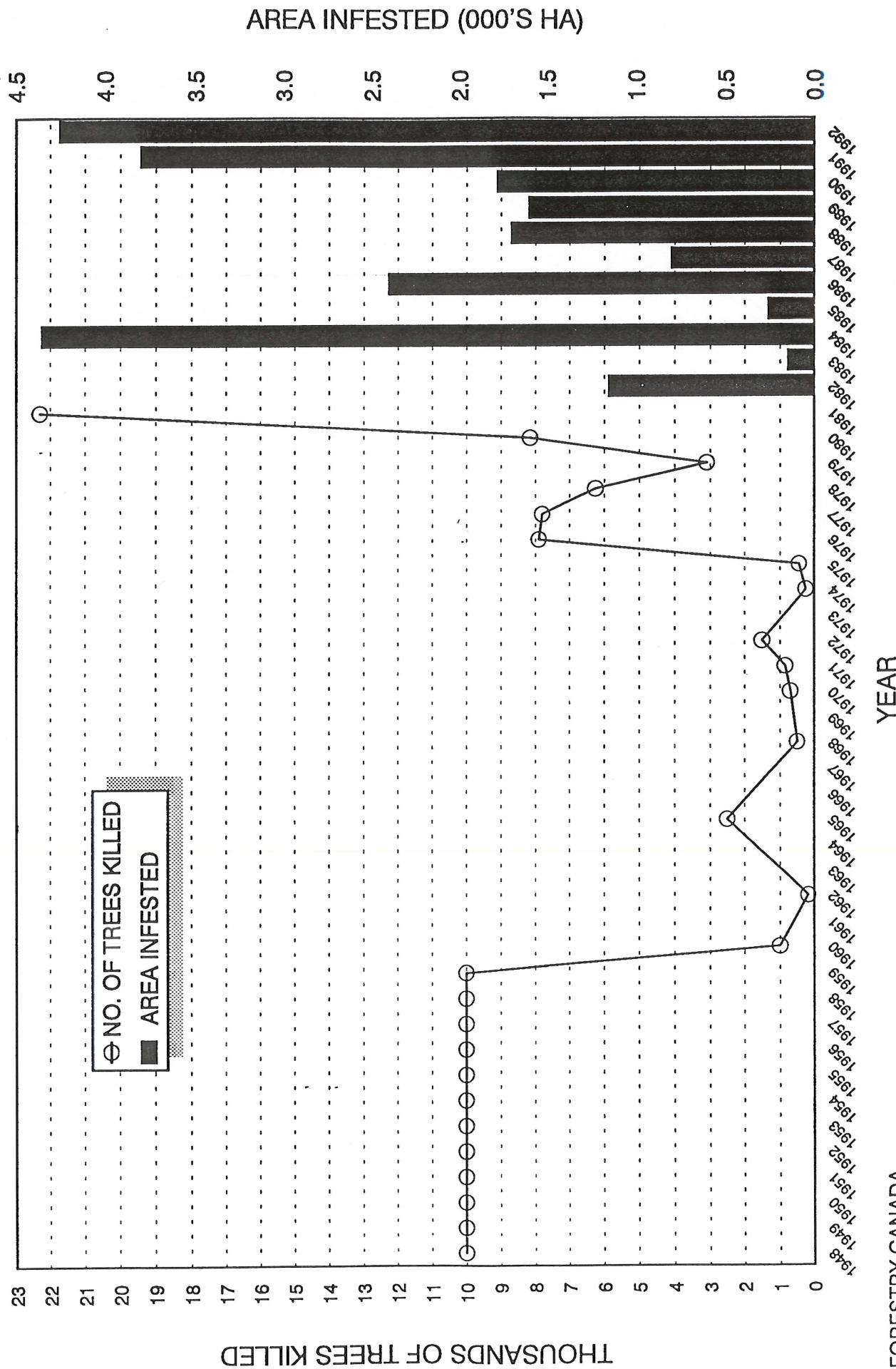


RECORDED OUTBREAKS OF TWO-YEAR-CYCLE SPRUCE BUDWORM, *Choristoneura bennisi*, IN THE NELSON FOREST REGION

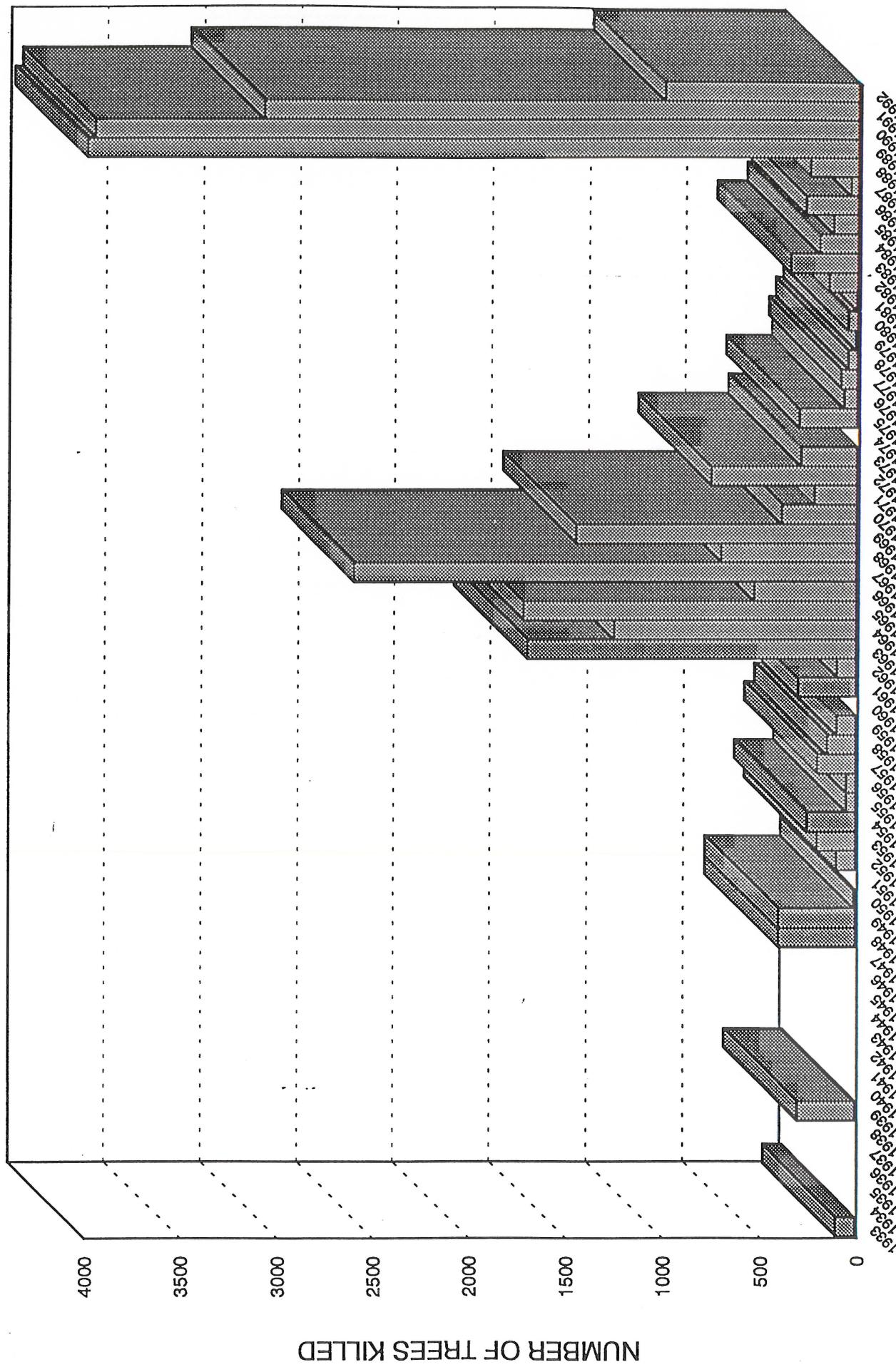


## RECORDED OUTBREAKS OF THE WESTERN BALSAM BARK BEETLE, *Dryocoetes confusus*, IN THE NELSON FOREST REGION

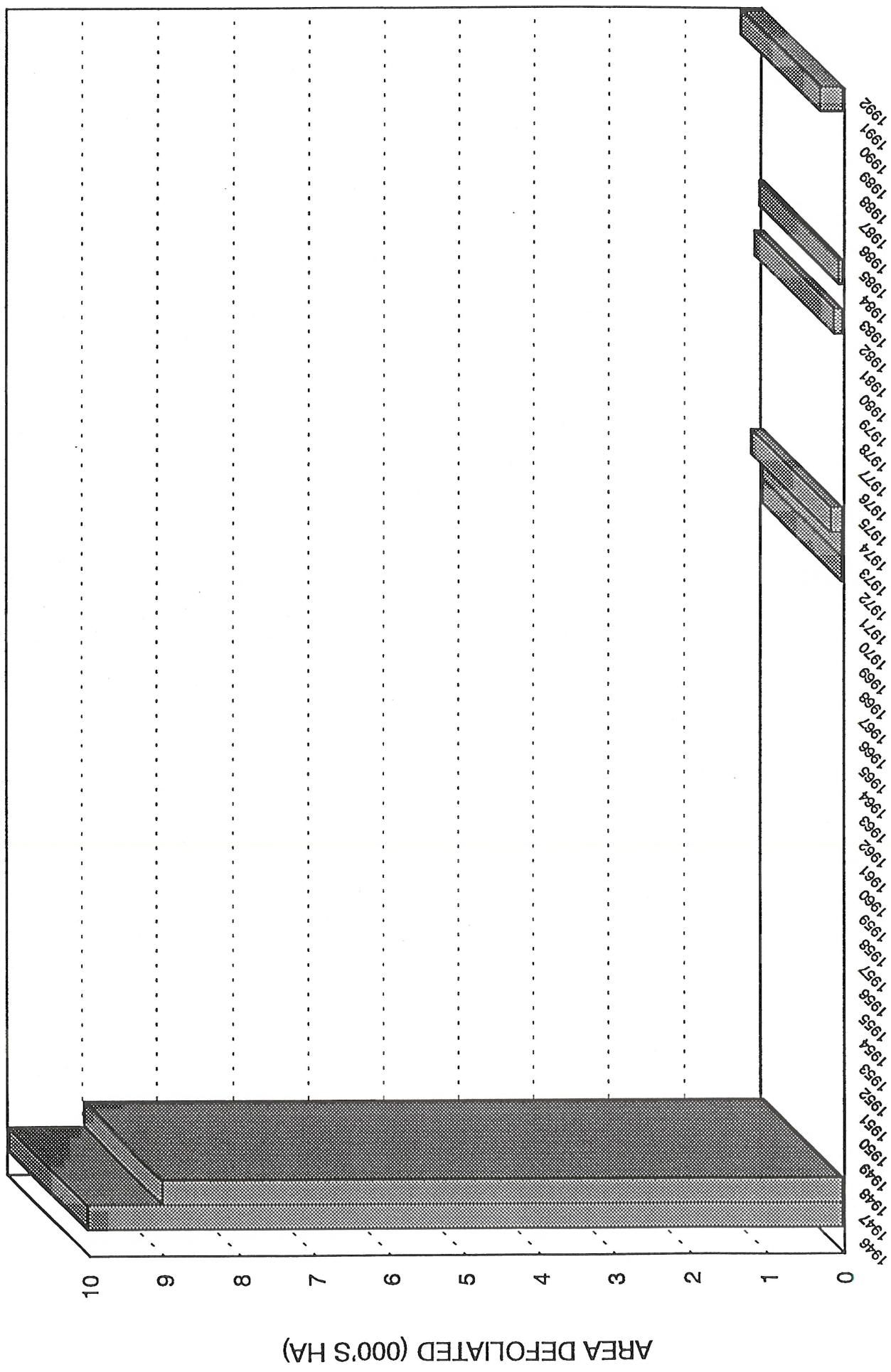
Note: Variable aerial survey coverage of higher elevation stands and retention of red needles for up to 5 years have resulted in an inconsistent infestation profile. However, a general trend of increasing activity is evident and consistent with observations in adjacent jurisdictions.



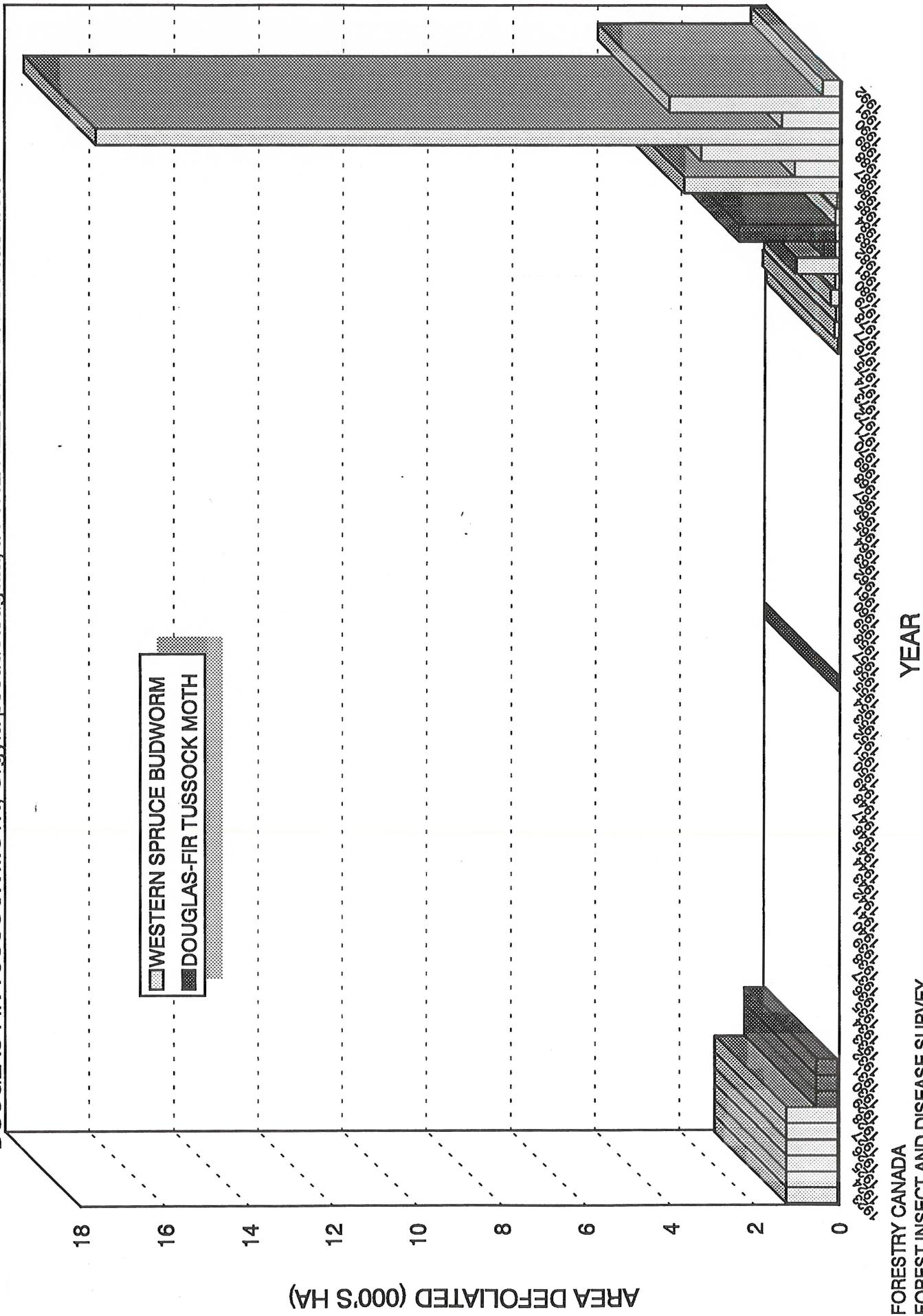
RECORDED OUTBREAKS OF THE DOUGLAS-FIR BEETLE, *Dendroctonus pseudotsugae*, IN THE NELSON FOREST REGION



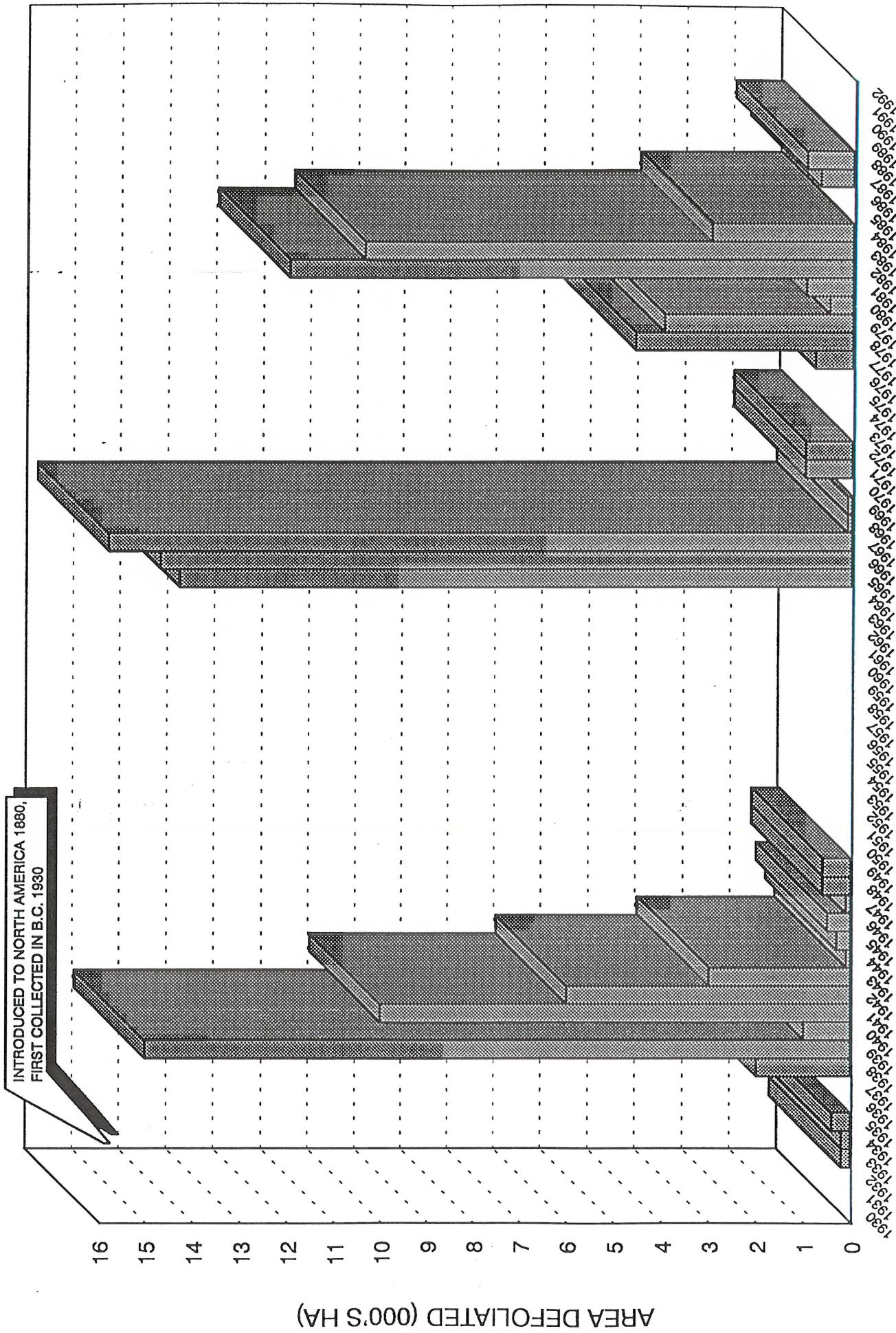
RECORDED OUTBREAKS OF THE WESTERN FALSE HEMLOCK LOOPER, *Nepytia freemani*, IN THE NELSON FOREST REGION



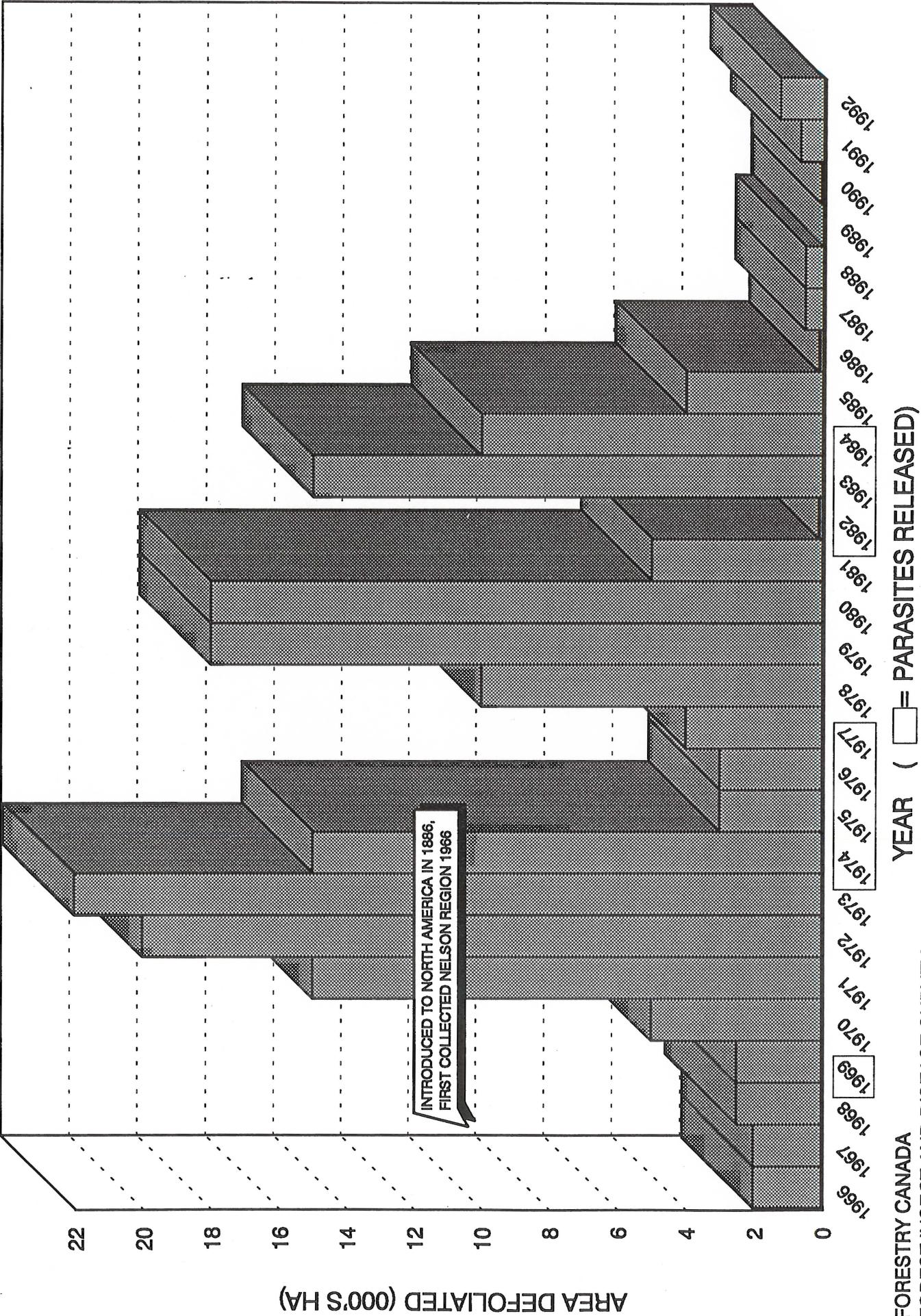
RECORDED OUTBREAKS OF THE WESTERN SPRUCE BUDWORM, *Choristoneura occidentalis*, AND  
DOUGLAS-FIR TUSSOCK MOTH, *Orgyia pseudotsugata*, IN THE NELSON FOREST REGION



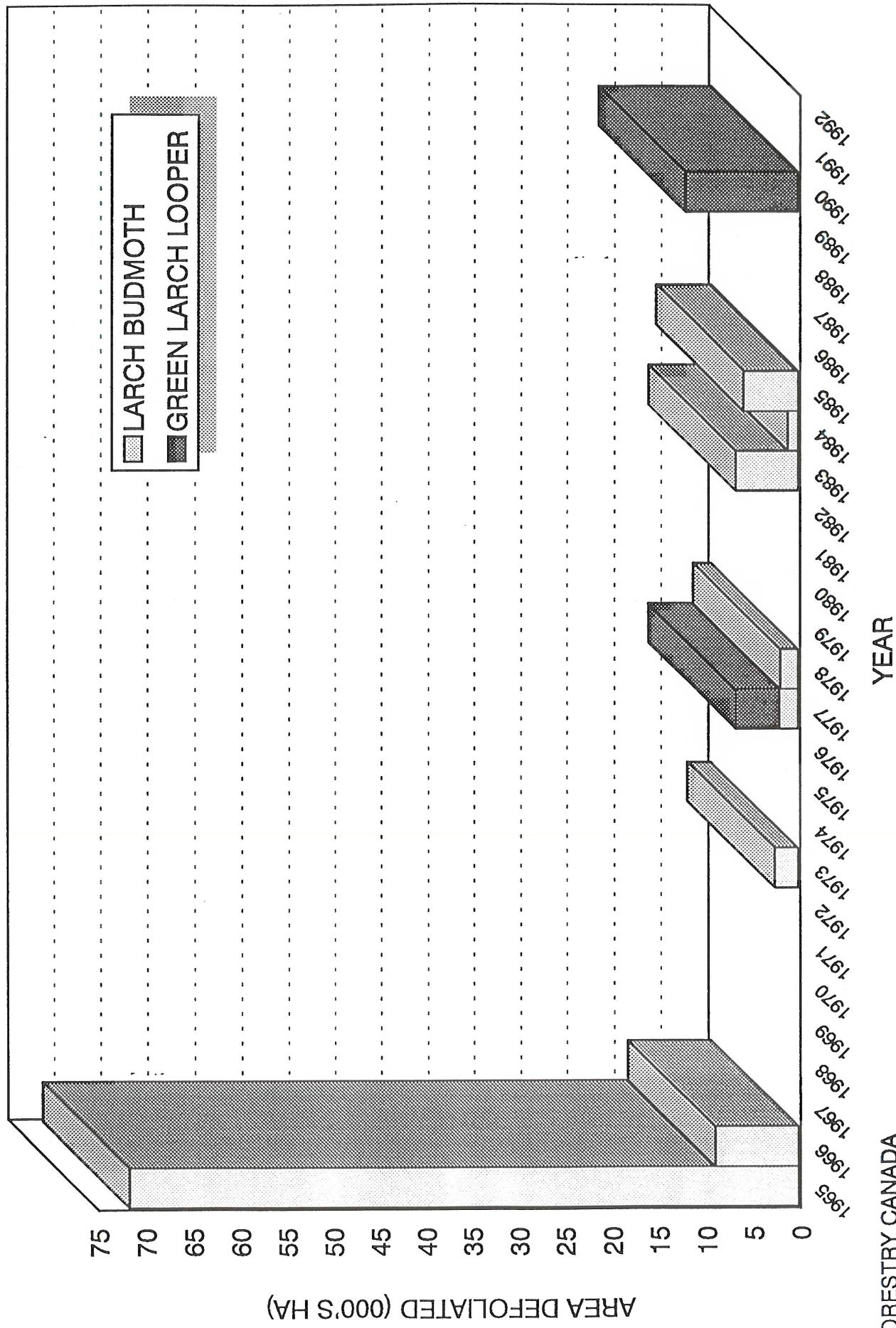
# RECORDED OUTBREAKS OF THE LARCH SAWFLY, *Pristiphora erichsonii*, IN THE NELSON FOREST REGION



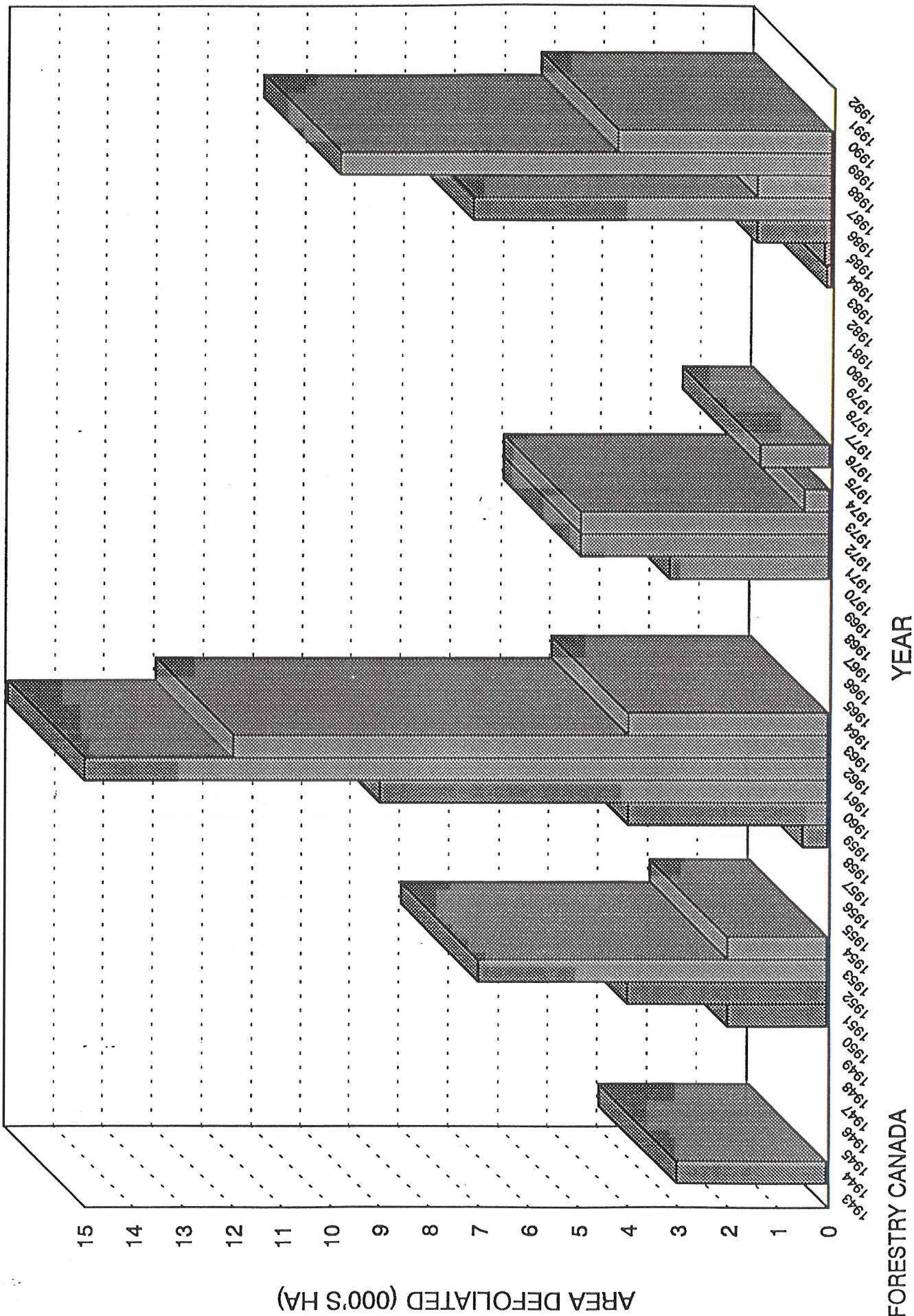
RECORDED OUTBREAKS OF THE LARCH CASEBEARER, *Coleophora laricella*, IN THE NELSON FOREST REGION



RECORDED OUTBREAKS OF THE LARCH BUDMOTH, *Zeiraphera improbana*, AND GREEN  
LARCH LOOPER, *Semiothisa sexmaculata*, IN THE NELSON FOREST REGION



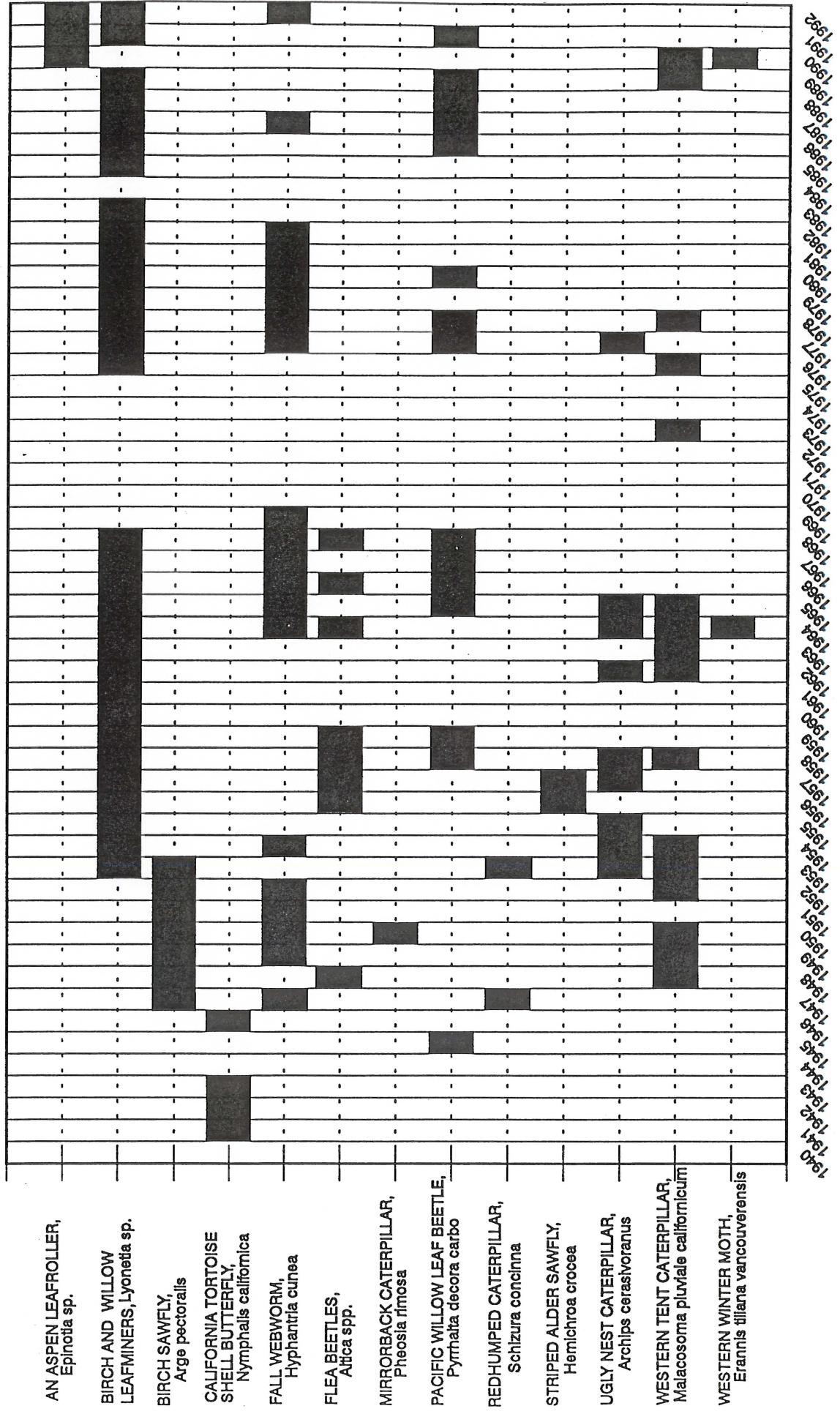
RECORDED OUTBREAKS OF THE FOREST TENT CATERPILLAR, *Malacosoma disstria*, IN THE NELSON FOREST REGION



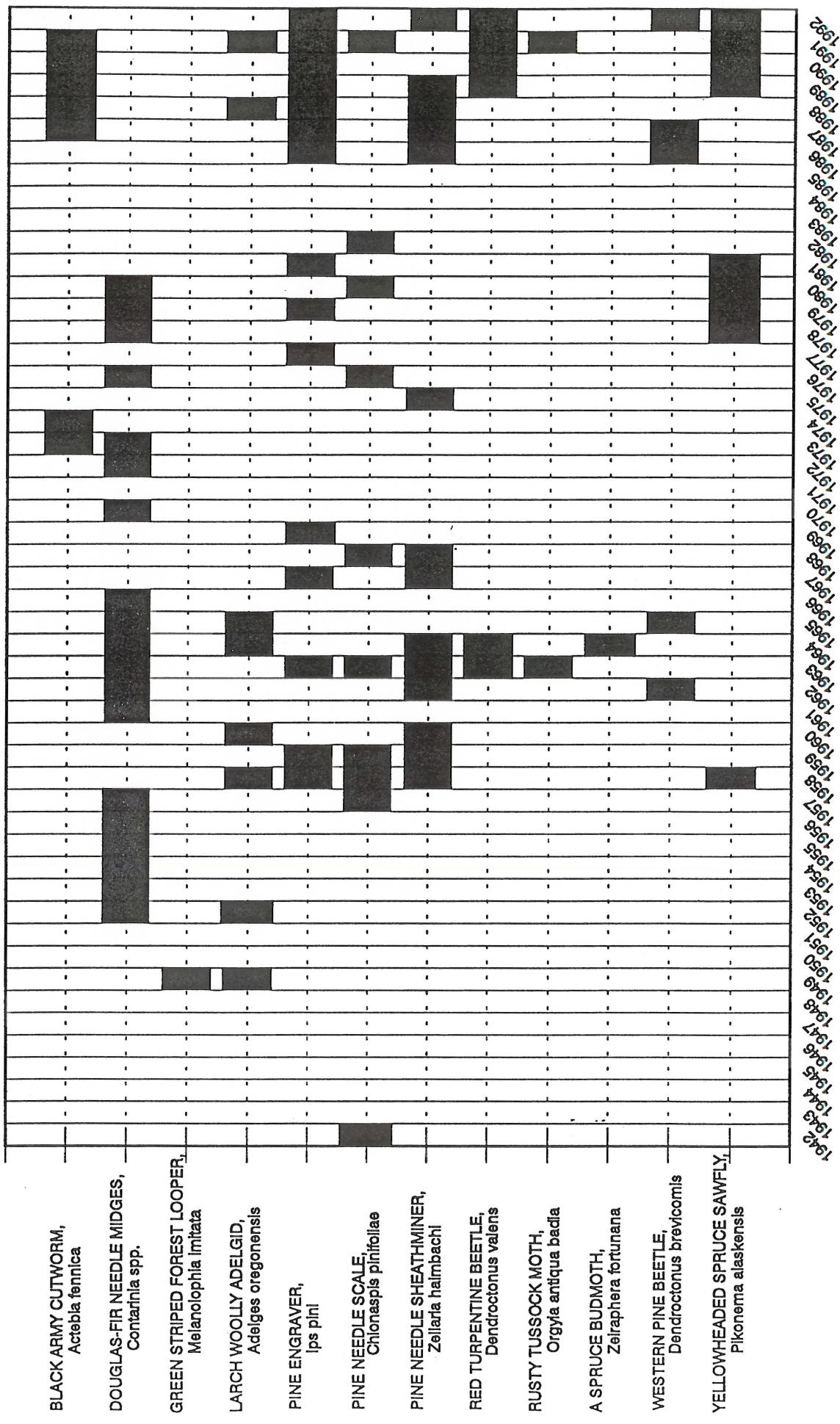
## RECORDED OUTBREAKS OF THE SATIN MOTH, *Leucoma salicis*, IN THE NELSON FOREST REGION



RECORDED INSECT OUTBREAKS CAUSING MODERATE TO SEVERE DEFOLIATION OF DECIDUOUS  
TREES, NOT USUALLY QUANTIFIED BY AREA, IN THE NELSON FOREST REGION



RECORDED INSECT OUTBREAKS ON CONIFERS, NOT USUALLY QUANTIFIED BY AREA, IN THE NELSON FOREST REGION



FORESTRY CANADA  
FOREST INSECT AND DISEASE SURVEY

YEAR