

## **SEGREGATION OF WOMEN AND ABORIGINAL PEOPLE WITHIN CANADA'S FOREST SECTOR BY INDUSTRY AND OCCUPATION**

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### **Abstract / Résumé**

This study examines employment segregation by gender and by Aboriginal ancestry within Canada's forest sector in 2001. Results show that while gender segregation was principally by occupation, segregation by Aboriginal ancestry was principally by industry sub-sector. White women were over represented in clerical occupations and Aboriginal men were over represented in woods based industries. Patterns of employment for Aboriginal women differed from those of both Aboriginal men and white women.

Cette étude examine la ségrégation d'emploi par le sexe et l'ascendance Aborigène dans le secteur forestier au Canada en 2001. Les résultats démontrent que la ségrégation par le sexe était principalement par profession tandis que la ségrégation liée à l'ascendance Aborigène était surtout par sous-secteur d'industrie. Les femmes blanches occupaient les postes administratifs de façon disproportionnée et les hommes Aborigènes se trouvaient plutôt dans les emplois de l'industrie du bois. De plus, les modèles d'emploi pour les femmes Aborigènes différaient de ceux d'hommes Aborigènes et de femmes blanches.

## Introduction

Forestry continues to be an important industry for Canada and an important source of employment for residents of rural and remote forested regions in the provincial norths. Historically however, jobs in the forest industry have not been equally distributed across the population. Several studies have demonstrated that women and Aboriginal people have not been equally represented in many forms of forest employment (Teskey and Smyth, 1975, Hopwood *et al.*, 1993, Merkel *et al.*, 1994, Rossiter, 1995). Due to the variability in employment conditions and wages among jobs in the forest sector, the existence of unequal representation might easily result in income inequity among groups in regions with high forest sector employment. Over the past decade there has been widespread acknowledgement of the need for forest companies to develop hiring and management practises that support the employment of both women and Aboriginal people in forest work at all levels (Anderson, 1999). Despite the political and social importance of diversity in forest employment there has been no recent examination of the degree of occupational and industry segregation within the forest industry across Canada. This paper addresses the need for a better understanding of employment inequities by presenting recent data on employment segregation by Aboriginal identity and gender in the forest sector.

## Literature Review

Employment segregation is the tendency for groups of people to be differentially represented across a particular set of occupations and/or industries. Differences in group representation across jobs is often linked to social inequality since jobs in different occupations and industries are variable in terms of wages, benefits, degree of stability and other qualitative attributes. In this paper I distinguish horizontal segregation, the separation of groups into different occupations and industries without distinguishing whether the difference follows a hierarchy of power and opportunity, from vertical segregation, where the differential representation of groups is hierarchical and demonstrates inequality among groups in terms of wages, stability and job quality.

Gender segregation in the work force has been the focus of sociological inquiry for almost half a century. While segregation in the work force has declined over the past half century, gender continues to be a strong determinant of occupation (Robinson, 1998). Since women's work has often been devalued occupational gender segregation has resulted in economic disadvantage for women in the paid work force (Cohen and Huffman, 2003). Women have typically been over represented in white

and pink collar professions while they have been under represented in higher status white collar professions and in many blue collar jobs.

There has been a general decrease in occupational segregation by gender in many countries, including Canada from the 1950s through to the 1990s (Brooks *et al.*, 2003). Although women have continued to be over represented in service and clerical occupations, these occupations have become more integrated. Women have also increasingly entered male dominated managerial and professional occupations. Disadvantages faced by women as a result of vertical occupational segregation by gender may be declining, yet women have remained under represented in the trades and in primary sector employment, which includes work in forestry, fishing and mining.

Studies of occupational gender segregation in Canada have often examined women as a homogenous group (Brooks *et al.*, 2003; Fortin and Huberman, 2002). Studies outside of Canada have shown, however, that when patterns of gender segregation are examined among different ethnic groups, observed patterns of occupational segregation by gender are more complex (Blackwell, 2003, Cassirer, 1996). For example, occupational gender segregation within an ethnic group may be lower in situations where men take less desirable 'female' jobs due to racial discrimination, or when occupations dominated by an ethnic group are integrated by gender. Alternatively, occupational segregation may be high in ethnic groups where men are advantaged and able to attain high status occupations. Studies comparing ethnic segregation with gender segregation have typically found that occupational gender segregation within a given ethnic group is greater than occupational ethnic or racial segregation (Blackwell, 2003, Kaufman, 2001). In addition, since there is also typically more variability in the occupations of men, there is often more potential for occupational segregation by ethnicity for men than for women (King, 1992).

In this paper I examine employment segregation by gender and Aboriginal ancestry.<sup>1</sup> Aboriginal ancestry is not an ethnicity but a term used to recognise the inherent difference of Canada's first peoples from the non-Indigenous population of Canada. While the term ethnicity presumes within group cultural similarity the group Aboriginal does not describe one homogenous culture but rather encompasses many Nations with distinct cultures. Aboriginal people are a group demarked as the descendants of the original occupants of the territory known as Canada and as such possess a special relationship to this space. Aboriginal people should not be discussed as an ethnicity abstracted from their distinct history and relationship to the land and to newcomers.

Several studies have demonstrated that labour force characteristics

of Aboriginal peoples in Canada differ from those of Canada's population as a whole (Lautard, 1982, George and Kuhn, 1994, Voyageur, 1997, Kuhn and Sweetman, 2002; Dore and Kulshreshtha, 2003). Employment data suggests that Aboriginal people face both exclusion and occupational segregation within Canada's labour market (Satzewich and Wotherspoon, 2000). Labour market exclusion is shown through employment and unemployment figures for Canada's Aboriginal and non-Aboriginal populations. The percent of single origin Aboriginal males employed in 1991 was 25 percent lower than the percent of non-Aboriginal males employed while unemployment levels were approximately twice as high for Aboriginal men and women than for non-Aboriginal men and women (Kuhn and Sweetman, 2002). In addition, job retention rates have been found to be substantially lower for Aboriginal people than for non-Aboriginal people. These differences in labour force characteristics suggest that Canada's Aboriginal people participate in a different labour market from the non-Aboriginal population.

The few studies that have examined occupational segregation of Canada's Aboriginal population have found a high degree of occupational segregation between Aboriginal and non-Aboriginal people (Lautard, 1982, Satzewich and Wotherspoon, 2000). In Lautard's study using census data from 1971, males and females were found to hold different occupations from non-Aboriginal Canadians and from one another. Aboriginal women were more likely to have service occupations while Aboriginal men were more likely to hold occupations in fishing, hunting and trapping, farming and other primary industries. Both male and female Aboriginal people were less likely to be employed in professional or clerical work than non-Aboriginal Canadians. According to Lautard, this high horizontal occupational segregation, translated into strong vertical segregation, leading to economic disadvantage among Aboriginal peoples. Satzewich and Wotherspoon's (2000) analysis using data from the 1986 census has further supported the patterns outlined by Lautard, showing that the distribution of occupations for Aboriginal men and women differed from the distribution for all Canadian men and women. Aboriginal men were less likely than non-Aboriginal men to hold white collar jobs and among blue collar jobs Aboriginal men were over represented in construction and primary occupations and under represented in production, fabrication and processing jobs. Occupations of Aboriginal women were more similar to those of non-Aboriginal women than to those of Aboriginal men, however compared to non-Aboriginal women, Aboriginal women were over represented in service sector positions which are typically lower paid. The over representation of Aboriginal men in primary industries in both studies is indicative of the long

history of Aboriginal people's participation in wage employment in primary industries such as agriculture, fishing and logging (Knight, 1978). From the above studies of occupational segregation, it is impossible to determine the quality of the jobs available to Aboriginal peoples within primary industries due to the use of broad occupational categories over all industries.

Qualitative studies examining the participation of Aboriginal peoples in primary industries suggest that within these industries Aboriginal people have historically been relegated to poorly paid employment in undesirable and unstable occupations. For example, from the 1950s to the early 1980s, Aboriginal workers from northern Saskatchewan were recruited for work in the sugar beet industry in southern Alberta (Laliberte, 1993-1994). Since this seasonal work was deemed agricultural work, provincial labour laws did not apply and the migrant workers were badly exploited (Laliberte and Satzewich, 1999). Similarly, in British Columbia Aboriginal women provided seasonal cheap labour in canneries (Muszynski, 1988). In both of these situations, the partial dependence on a subsistence economy allowed survival between times of wage employment allowing Aboriginal people to act as a reserve army of inexpensive labour. Within the forest sector a Saskatchewan government report from 1975 suggests strong occupational segregation. In 1972, Aboriginal people were three percent of the employees in pulp and paper mills, and nine percent of employees in large sawmills, both forms of employment offering the greatest stability, and the highest pay. In contrast the percent of loggers who were Aboriginal ranged from 20-73 percent, and the percentage of seasonal workers in small sawmills who were Aboriginal was 27 percent. Both of these types of work entailed greater physical danger. More recently, The Aboriginal Forestry Training and Employment Review (Hopwood *et al.*, 1993), using data from the 1986 census reported similar patterns, with Aboriginal people representing 7% of the total forestry and logging work force, 4% of the wood processing work force, and 2% of the total pulp and paper mill work force. This report also found that the proportion of Aboriginal people employed in forest related activities had decreased as a result of a move towards large scale forest operations which are often centered in larger centers.

While there have been no reports calculating segregation indices in the forest sector in Canada by gender there have been several qualitative studies examining the barriers faced by women in different areas of forest employment (Preston *et al.*, 2000, Reed, 2003).

Many qualitative studies on women in forestry have identified barriers to women's employment in forestry and have attempted to link the

cultural portrayal of forestry work as masculine, with the continued low representation of women in this sector (Tripp-Knowles, 1999, Brandth and Haugen, 2000). Women working in forestry have faced overt discrimination and have been barred from advancement (Tripp-Knowles, 1999). For rural women, who have few employment options outside of the primary sector, this occupational segregation has resulted in economic inequality between women and men. Studies examining labour force characteristics of resource based communities typically show higher than average gender gaps in income (Sinclair, 2002, Parkins and Beckley, 2000) and that women in resource communities are more likely to be underemployed than women in urban areas (Jensen *et al.*, 1999). Thus occupational segregation in rural primary industries may become transferred into regional labour market patterns. Forsberg (1998) identified how forest communities in Sweden have a higher degree of occupational segregation by gender and fewer women present in political life.

A neglected area of inquiry within this literature is, however, the exploration of how gender segregation in rural labour markets is negotiated with other identities. In light of the continuing importance of primary industry employment to Aboriginal people, and the title that many First Nations assert on forested lands that are presently leased for harvest by large forest companies, examining how gender and Aboriginal ancestry intersect in employment segregation in the forest sector has political importance.

My objective with this paper is to present more recent, and industry specific data on the segregation of Aboriginal people and women within the forest sector in Canada. I will use these data to compare segregation by gender with segregation according to Aboriginal ancestry and to examine segregation by Aboriginal ancestry within the male and female forestry labour force within industry and occupational categories of the forest sector.

## **Methodology**

In this paper I defined segregation as the degree of evenness of the distribution of a group among categories. This definition, although suitable to assess the integration of groups in occupational or industry categories, is not sufficient if one wishes to infer power differences between examined groups and may be understood as a measure of horizontal segregation. To examine how measured segregation may translate into economic advantage or disadvantage (vertical segregation), results following from the calculations below were discussed in the context of additional information including industry characteristics and mean

incomes for occupations within each industry.

### Indices of Segregation

The Duncan index (D), also termed the index of Dissimilarity, is commonly used to measure segregation (Duncan and Duncan, 1955). The Duncan index measures the proportion of the population of a group that would need to change categories in order for two exclusive groups of interest (A & B) to be equally distributed across all categories. D is calculated as (1.) the sum of the differences between the relative occurrence of each interest group in each category (in this case occupation) where  $A_i$  = the number of people from group of interest A in occupation  $i$ ,  $A_T$  = the total number of people from group A across occupations,  $B_i$  = the number of people from group B in occupation  $i$  and  $B_T$  = the total number of people from group B across occupations.

$$1. \quad D = 0.5 \sum |A_i / A_T - B_i / B_T|$$

The popularity of D when compared with other indices has arisen from the fact that it was thought to meet several criteria indicative of a good index (Duncan and Duncan, 1955). These include: compositional invariance, that the index is not affected by a proportional increase in  $A_T$  or  $B_T$  in all  $i$  categories or by an increase of all groups within the  $i^{\text{th}}$  category; organisational equivalence, that the index is not affected by the number or combination of categories examined (provided they are similar in level and direction of segregation); and, principle of transfers, that an individual's movement from one category to another affects the index. Gorard and Taylor (2002) have demonstrated, however that D does not meet criteria for strong compositional invariance since it is affected by changes in either  $A_T$  or  $B_T$  when their proportional distribution amongst categories remains constant. In addition, others have demonstrated that in cases of where one group of interest is small relative to the number of categories  $i$ , D index values will be biased upwards due to the greater likelihood of random segregation when numbers are small (Peach, 1996). Each of these criticisms posed a challenge for the interpretation of occupational segregation in this paper due to the small number of Aboriginal women in the forest industry and due to the varying labour force participation by respective groups among industries.

I addressed the weak compositional invariance of D by also using the segregation index (S) proposed by Gorard and Taylor (2002). S meets the condition of strong compositional invariance, and is given by (2.), where  $T_i$  = the total number of people (from both groups A and B) in occupation  $i$  and  $T_T$  = the total number of people (from both groups A and B) across occupations.

$$2. \quad S = 0.5 \sum |A_i / A_T - T_i / T_T|$$

The principal disadvantage of  $S$  is that it is not symmetrical, that the index will differ according to which group is examined. In addition, due to the sensitivity of both indices to occupational structure, comparisons of occupational segregation among industry sub sectors that differ in occupational sub structure will be made only if differences are large and with caution.

In this paper I used both the Duncan index and the Segregation index to calculate industry segregation by gender within the total population,<sup>2</sup> and within the total population with North American Indian ancestry. Further, Duncan and Segregation indices were calculated for industry segregation by Aboriginal ancestry<sup>3</sup> within the total population and total males and females. Last, Duncan and Segregation indices were calculated as a measure of occupational segregation within industry categories by gender and by Aboriginal ancestry.

In order to increase the interpretive value of analyses, for each of the above analyses percentage distributions among industries and occupations were presented for women and people of Aboriginal ancestry and differences in the distributions of groups of interest (for example males and females) among categories (industries or occupations) were computed. Differences were calculated as the proportion of group A's total population in a given category, minus the proportion of group B's total population in category  $x$ . If the resulting number is positive, it indicates that group A has a relatively higher representation in category  $x$ , than group B, while a negative number indicates that group B has a relatively higher representation in category  $x$  than group A.

To assess whether horizontal segregation as calculated by the above measures has resulted also in vertical segregation, mean incomes for the total population in selected industries and occupations were also examined.

### **Data**

Data were ordered as special runs from the 2001 census from Statistics Canada and included all labour force participants 15 years of age and over, living in Canada who reported having an occupation in a forest industry.<sup>4</sup> In this paper, forest industries include both woods based activities that included activities related to regeneration and logging and manufacturing industries, which included the processing or manufacturing of wood products. North American Industry Classification System (NAICS) categories were used to classify forest industries. Woods based forest activities included 1131 Timber tract operations, 1132, For-

est nurseries and gathering of forest products, 1133 Logging and 1153 Support activities for forestry. Manufacturing industries included industrial classifications 3211 Sawmills and wood preservation, 3212 Veneer, plywood, and engineered wood product manufacturing and 3221 Pulp, paper and paperboard mills. The manufacturing industry 3219 Other wood product manufacturing represents a range of occupations that are more removed from forest extraction (for example furniture manufacture). Since the majority of these jobs were located in urban centres and they are not representative of what is normally considered forest employment, this industry was excluded from analysis.

Occupational categories include all broad occupational categories of the National Occupation Classification System (NOCS), except for categories D. Health Occupations, E. Occupations in Social Science, Education, Government Services and Religion and F. Occupations in Arts, Culture, Recreation and Sport since these occupational groupings represented less than 3000 labour force participants in the selected forest sectors. I presented income and labour force data for more narrow occupational categories when a more narrow division of broad occupational categories facilitated an increased understanding of the participation of Aboriginal peoples and women in the forest sector.

To assess industry segregation by gender among Aboriginal peoples in industries and occupations, I used the Aboriginal origin group Total North American Indian (NAI) from Statistics Canada. This group included all respondents who reported having at least some ancestors as belonging to a NAI group, thus both single and multiple response respondents. I did not include Métis respondents since multiple response NAI data would not preclude an individual being of both Métis and NAI ancestry, a situation that would violate index requirements for exclusivity. The population of people without Aboriginal ancestry was calculated by subtracting the population with NAI ancestry from the total population for each occupation/industry.

## **Results**

### **Segregation Among Forest Industries**

Results demonstrate that for the examined industry classifications within the forest sector of Canada, segregation of individuals with Aboriginal ancestry from those with no Aboriginal ancestry was greater than segregation between men and women.

The degree of segregation by gender among forest industries in Canada did not differ between the Aboriginal population and the non-Aboriginal population (Table 1). The industries over represented by men

Table 1

Industry	Total		NAI		Non-NAI	
	Dif.	%Fem	Dif.	%Fem	Dif.	%Fem
1131 Timber Tract Operations	0.00	0.73	0.00	0.45	0.00	0.75
1132 Forest Nurseries and Gathering of Forest Products	0.02	2.74	0.03	3.58	0.02	2.69
1133 Logging	-0.05	20.65	-0.11	22.82	-0.04	20.52
1153 Support Activities for Forestry	0.07	16.31	0.04	23.94	0.08	15.85
3211 Sawmills and Wood Preservation	-0.06	24.46	-0.03	24.16	-0.07	24.48
3212 Veneer, Plywood, Eng. Wood Prod. Man.	0.03	11.53	0.06	11.19	0.03	11.55
3221 Pulp, Paper and Paperboard Mills	-0.02	23.58	0.02	13.87	-0.02	24.16
<b>Duncan Index</b>	<b>0.13</b>		<b>0.14</b>		<b>0.13</b>	
<b>Segregation Index</b>	<b>0.11</b>		<b>0.13</b>		<b>0.11</b>	
<b>Female share of labour force</b>	<b>13.44</b>		<b>12.47</b>		<b>13.50</b>	

Differences in the distributions of males and females (Dif.) and percent distribution of females working in the forest sector amongst industry sub sectors (% Fem) for total population, population with Aboriginal ancestry (NAI) and population without Aboriginal ancestry (Non-NAI) in Canada in 2001. Negative signs indicate that the proportion of males in a particular industry exceeds the proportion of females. Man.=Manufacturing, Eng.=Engineered, Prod.=Products.

versus women were also similar except for pulp, paper and paperboard mills. In this industry sub-sector men were over represented in the non-Aboriginal population while in the Aboriginal population, women were over represented. Within both groups women were over represented with respect to men in timber tract operations, forest nurseries and gathering of forest products, support activities for forestry, and veneer plywood and engineered wood product manufacturing while men were over represented in logging, and sawmills and wood preservation sub-sectors. This division may reflect a difference between the gender stereotypes of jobs in what may be constituted as traditional forest industries and forest industries that are portrayed as support industries, or that have emerged more recently such as veneer, plywood and engineered wood product manufacturing. The latter industries became more prominent in the 1980s as new technologies allowed the economic use of, and thus harvest of less valued hard wood tree species to produce manufactured wood products.

The distribution of Aboriginal women among industries differed from the distribution of all women described above. Of all women of Aboriginal ancestry working in Canada's forest industries, the majority were employed in sawmills and wood preservation and in support activities for forestry. In this industry category 13% of all labour force participants were of Aboriginal ancestry, 2% of which were female.

Indices of industry segregation by Aboriginal ancestry revealed segregation among industry sub-sectors for both males and females (Table 2). Both males and females with Aboriginal ancestry were over represented in woods based forest activities and under represented in manufacturing sectors when compared with the non-Aboriginal population. The segregation of people with Aboriginal ancestry into select forest industries was more pronounced for men than for women. Within woods based industry categories, people with Aboriginal ancestry comprised 13% of the work force in support activities for forestry, 9% of the workforce in forest nurseries and gathering of forest products and 8% of the work force in logging and timber tract operations respectively (Table 3). Within the sub-sector sawmills and wood preservation, Aboriginal men represented 5% of the total workforce while Aboriginal women represented <1%. Both men and women of Aboriginal descent were under represented in pulp and paperboard mills (Aboriginal men represented 2% of the workforce and Aboriginal women represented <1%).

### **Segregation Among Occupations Within Forest Industries**

The main outcomes of analyses of occupational segregation within industry categories were: 1. Patterns of occupational segregation by

Table 2

Industry	Total		Males		Females	
	Dif.	%NAI	Dif.	%NAI	Dif.	%NAI
1131 Timber Tract Operations	0.00	0.59	0.00	0.61	0.00	0.45
1132 Forest Nurseries and Gathering of Forest Products	0.00	1.34	0.00	1.02	0.01	3.58
1133 Logging	0.08	32.30	0.09	33.65	0.02	22.82
1153 Support Activities for Forestry	0.11	20.63	0.12	20.16	0.08	23.94
3211 Sawmills and Wood Preservation	-0.03	27.05	-0.04	27.46	0.00	24.16
3212 Veneer, Plywood, Eng. Wood Prod. Man.	-0.03	6.25	-0.03	5.55	0.00	11.19
3221 Pulp, Paper and Paperboard Mills	-0.14	11.84	-0.15	11.55	-0.10	13.87
<b>Duncan Index</b>	<b>0.20</b>		<b>0.20</b>		<b>0.11</b>	
<b>Segregation Index</b>	<b>0.19</b>		<b>0.19</b>		<b>0.11</b>	
<b>Female share of labour force</b>	<b>6.05</b>		<b>6.11</b>		<b>5.62</b>	

Differences in the distributions of people with and without Aboriginal ancestry (Dif.) and percent distribution of people with Aboriginal ancestry working in the forest sector amongst industry sub sectors (%NAI) for the total population, males and females in Canada 2001. Negative signs indicate that the proportion of people without Aboriginal ancestry exceeds the proportion of people with Aboriginal ancestry in a particular industry. Man.=Manufacturing, Eng.=Engineered, Prod.=Products.

gender and Aboriginal ancestry within industries differed from patterns of segregation among industries. 2. Occupational segregation by gender was greater than occupational segregation by Aboriginal ancestry within all but one industry sub-sector, and 3. The degree of occupational segregation by gender and Aboriginal ancestry differed among industry categories (Table 3).

Segregation by gender among occupations within industry sub-sectors was greater than gender segregation calculated among industries. The finding that gender segregation among occupations is greater than gender segregation among industries is consistent with other studies that have found women to be concentrated in a small number of occupations throughout all industries (Frances *et al.*, 1996). The occupational categories where women were over represented in all industries were business, finance and administrative occupations. The concentration of women into gender specific occupations is even more pronounced when selected sub categories of this occupational classification are examined; 95% of secretaries were women (Table 4). In all other occupation groups women were the minority comprising 35% of the work force in sales and service and less than 20% of the work force in all remaining occupations. Women were particularly underrepresented in the occupational category trades and transportation and equipment as well as in logging and forestry machine operators, workers and supervisors.

For people of Aboriginal ancestry, a different pattern emerged. Segregation between people with and without Aboriginal ancestry was greater among industries than among occupations within industries (Table 3; Table 4). Moreover, occupations where women were dominant were amongst those where the proportion of Aboriginal people present was lowest. Aboriginal people comprised <3% of the workforce in the occupational categories secretaries, clerical, professional occupations and management. Similarly, the highest concentrations of people with Aboriginal ancestry were found in the male dominated occupations unique to primary industry, where people of Aboriginal ancestry represented 11% of the labour force. Within these occupations, Aboriginal people were more likely to be employed as labourers or logging and forestry workers than as machine operators or supervisors. Although the low number of women of Aboriginal ancestry participating in the forest industry may partially explain these trends, the negligible presence of Aboriginal women in clerical and secretarial work suggests that Aboriginal women are not participating in the forest sector in the same way as non-Aboriginal women.

Occupational segregation was more pronounced among women and men than among people with and without Aboriginal ancestry. Duncan

**Table 3**

Occupations	1131 Timber Tract Operations		1132 Forest Nurseries and Gathering of Forest Products		1133 Logging		1153 Support Activities for Forestry		3211 Sawmills and Wood Preservation		3212 Veneer, Plywood, Eng. Wood Prod. Man.		3221 Pulp, Paper and Paperboard Mills	
	Gender	NAI	Gender	NAI	Gender	NAI	Gender	NAI	Gender	NAI	Gender	NAI	Gender	NAI
A. Management	-0.04	-0.07	-0.03	0.01	-0.01	-0.02	-0.03	-0.03	-0.01	-0.02	-0.03	-0.05	0.01	-0.02
B. Business, Finance & Admin.	0.39	-0.10	0.08	-0.06	0.58	-0.04	0.27	-0.05	0.38	-0.03	0.26	-0.03	0.41	-0.01
C. Natural & Applied Sciences	-0.01	-0.08	-0.07	-0.08	0.02	-0.01	-0.06	-0.12	0.01	-0.01	0.00	-0.01	-0.01	-0.04
G. Sales & Service	0.02	-0.06	0.01	0.01	0.06	0.00	0.05	0.01	0.03	0.00	-0.01	-0.02	0.04	0.02
H. Trades, Transpor, Equip. Oper.	-0.06	0.06	-0.05	-0.05	-0.19	-0.05	-0.07	-0.04	-0.19	-0.03	-0.21	-0.02	-0.28	-0.03
I. Occ. Unique to the Primary Industry	-0.27	0.31	0.06	0.14	-0.44	0.12	-0.15	0.22	-0.02	0.02	-0.01	-0.01	-0.01	0.03
J. Occ. Unique to Pro., Man. & Uti.	-0.02	-0.06	0.01	0.01	-0.02	0.00	-0.01	0.01	-0.21	0.08	0.00	0.14	-0.17	0.06
<b>Duncan Index</b>	<b>0.41</b>	<b>0.38</b>	<b>0.15</b>	<b>0.18</b>	<b>0.66</b>	<b>0.13</b>	<b>0.31</b>	<b>0.24</b>	<b>0.42</b>	<b>0.10</b>	<b>0.26</b>	<b>0.14</b>	<b>0.46</b>	<b>0.10</b>
<b>Segregation Index</b>	<b>0.32</b>	<b>0.35</b>	<b>0.09</b>	<b>0.17</b>	<b>0.59</b>	<b>0.12</b>	<b>0.24</b>	<b>0.21</b>	<b>0.38</b>	<b>0.10</b>	<b>0.22</b>	<b>0.14</b>	<b>0.40</b>	<b>0.10</b>
<b>Share of labour force (women, NAI)</b>	<b>22.05</b>	<b>7.98</b>	<b>40.90</b>	<b>9.01</b>	<b>11.20</b>	<b>7.88</b>	<b>22.21</b>	<b>12.65</b>	<b>10.95</b>	<b>5.45</b>	<b>17.48</b>	<b>4.26</b>	<b>12.59</b>	<b>2.85</b>

Differences in the percent employed among males and females (gender) and among people with and without Aboriginal ancestry (NAI) in each forest industry classification in Canada 2001. In the analysis of occupational segregation by gender, negative signs indicate that the proportion of males in a given occupation exceed the proportion of females in a given occupation. In the analysis of occupational segregation among individuals with and without Aboriginal ancestry, negative signs indicate that the proportion of people without Aboriginal ancestry in a given occupation exceed the proportion of people with Aboriginal ancestry.

indices measuring occupational segregation by gender ranged from 0.14 to 0.66 while Duncan indices measuring occupational segregation by Aboriginal ancestry ranged from 0.10 to 0.38. This finding is analogous to comparisons of occupational gender segregation with segregation among ethnic and racial minorities, which have consistently found higher gender segregation among occupations. The logging industry sector had the highest occupational segregation by gender while support activities for forestry had the highest occupational segregation between Aboriginal and non-Aboriginal people. Within support activities for forestry Aboriginal people were under represented in management, business and finance and professional occupations and over represented as labourers and manufacturing workers.

### **Vertical Segregation - Income**

When examined in light of annual income data for respective occupational and industry categories, Aboriginal people and women were concentrated in lower paying occupations and industries to a greater extent than non-Aboriginal people and men. Aboriginal people in particular were concentrated in less stable occupations.

There are two ways in which occupational and industry segregation within the forest sector might adversely affect a social group. The first, by limiting the number of jobs offered on the market for social group x, occupational segregation may exclude participation of an individual from group x in the sector. In this study, I propose that women are disadvantaged in rural areas because of exclusion from the forest sector as a whole. Women only made up 13% of the total labour force in the forest sector, and were only the majority in clerical and secretarial positions. The low female share of the forestry labour force is likely the result of the sex typing of most jobs in the forest sector as male. A second way in which occupational segregation may lead to economic disadvantage for social group x is through concentrating the employment of group x in less desirable jobs. Upon examining results using income as a proxy, occupational segregation translated into economic disadvantage (vertical segregation) for Aboriginal people as people of Aboriginal ancestry were concentration in lower paid industry sub-sectors in the forest sector.

Some industry segregation by gender was vertical while some was horizontal. Vertical segregation was present in the over representation of women in support activities for forestry and in forest nurseries and gathering of forest products, industries where employees have the lowest annual incomes (Table 5). Horizontal segregation by gender was evident in the over representation of women in veneer, plywood, engineered

Table 4

Percent Labour Force Share			A. Management	B. Business, Finance, Admin. B2 Secretaries B5 Clerical			C. Natural & Applied Science	C0 Professional Occupations	C1 Technical
1131 Timber Tract Operations	NAI	F	0	0	0	0	0	0	0
		M	0	0	0	0	0	0	0
	non-NAI	F	11	96	100	89	20	0	18
		M	89	4	0	11	80	100	82
1132 Forest Nurseries and Gathering of Forest Products	NAI	F	0	0	0	0	0	0	0
		M	13	0	0	0	0	0	0
	non-NAI	F	19	73	83	57	16	20	17
		M	69	27	17	43	84	80	83
1133 Logging	NAI	F	0	4	4	3	1	1	1
		M	5	0	0	1	5	3	6
	non-NAI	F	9	83	95	79	14	12	15
		M	86	13	1	18	80	84	78
1153 Support Activities for Forestry	NAI	F	1	5	4	2	1	2	1
		M	3	0	0	1	6	3	7
	non-NAI	F	8	82	94	85	17	18	16
		M	88	13	2	12	77	77	76
3211 Sawmills and Wood Preservation	NAI	F	0	2	3	2	1	0	1
		M	2	1	-1	1	2	1	4
	non-NAI	F	9	71	94	71	13	11	13
		M	88	26	4	26	84	88	82
3212 Veneer, Plywood, Eng. Wood Prod. Man.	NAI	F	0	1	0	0	1	3	1
		M	1	1	0	1	2	0	2
	non-NAI	F	10	63	100	61	15	15	15
		M	89	34	0	37	81	83	82
3221 Pulp, Paper and Paperboard Mills	NAI	F	0	1	3	1	0	0	0
		M	1	1	0	2	1	1	2
	non-NAI	F	14	57	93	55	12	11	13
		M	84	40	4	42	87	88	85
All Forest Industries	NAI	F	0	2	3	2	1	1	1
		M	3	1	0	1	3	2	4
	non-NAI	F	10	71	95	71	14	13	14
		M	87	25	2	27	82	85	80

Percent composition of male and female, Aboriginal and non-Aboriginal forest workers in Canada in select industry categories and occupations. M = Males; F = Females; Man. = Manufacturing; Equip. = Equipment; Oper.= Operators;

	G. Sales & Service	H. Trades, Transport, Equip. Oper.	I. Occ. Unique to Primary Ind.	11 Super. Logging, Forestry	15 Logging Machinery Oper.	16 Logging, Forestry Workers	2 Labourers, Primary Prod.	J0cc. Unique to Pro., Man., Uti.	J0 Supervisors, Man.	J1 Machine Oper., Man.	J3 Labourers, Man.	Total - All occupations
	0	0	1	0	0	0	7	0	0	0	0	<b>1</b>
	0	14	11	0	17	13	7	0	0	0	0	<b>8</b>
	27	9	13	0	0	7	30	14	0	0	0	<b>20</b>
	73	77	75	100	83	79	57	86	100	100	100	<b>71</b>
	13	0	4	0	0	3	6	0	0	0	0	<b>3</b>
	0	0	7	0	0	20	8	13	0	0	0	<b>6</b>
	38	9	39	0	57	30	21	47	75	0	0	<b>37</b>
	50	91	50	100	43	47	64	40	25	100	100	<b>54</b>
	4	0	0	0	0	0	1	0	0	1	0	<b>1</b>
	4	6	9	8	8	9	12	8	8	6	15	<b>7</b>
	42	2	3	3	2	2	8	4	0	4	5	<b>11</b>
	50	93	87	90	90	89	79	87	92	89	79	<b>81</b>
	9	0	2	1	2	2	2	4	0	4	6	<b>2</b>
	8	6	15	9	15	23	9	15	0	18	9	<b>11</b>
	59	4	16	8	1	8	24	10	29	7	6	<b>21</b>
	25	90	67	83	82	67	65	71	71	71	79	<b>67</b>
	1	0	0	0	0	1	1	1	0	0	1	<b>1</b>
	4	4	7	4	6	6	9	6	3	5	7	<b>5</b>
	21	2	7	4	4	6	13	7	3	6	9	<b>10</b>
	75	93	86	91	90	87	77	87	94	89	84	<b>84</b>
	0	1	0	0	0	0	0	1	0	1	2	<b>1</b>
	2	3	2	0	8	0	0	4	3	4	5	<b>3</b>
	15	4	11	0	8	21	14	16	4	20	18	<b>17</b>
	83	92	86	100	84	79	86	78	92	75	76	<b>79</b>
	2	0	2	0	0	0	0	0	0	0	0	<b>0</b>
	2	2	8	0	12	9	14	3	3	3	3	<b>2</b>
	26	2	6	5	0	0	24	8	5	6	11	<b>12</b>
	70	96	85	95	88	91	62	89	91	91	86	<b>85</b>
	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>
	<b>3</b>	<b>4</b>	<b>10</b>	<b>7</b>	<b>8</b>	<b>13</b>	<b>10</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>5</b>
	<b>33</b>	<b>3</b>	<b>9</b>	<b>4</b>	<b>3</b>	<b>8</b>	<b>17</b>	<b>8</b>	<b>4</b>	<b>7</b>	<b>10</b>	<b>14</b>
	<b>62</b>	<b>93</b>	<b>80</b>	<b>89</b>	<b>89</b>	<b>79</b>	<b>71</b>	<b>86</b>	<b>92</b>	<b>88</b>	<b>83</b>	<b>79</b>

Pro. = Processing; Rel. = Related; Admin. + Administrative; Uti. = Utilities; Ind. = Industry; Prod. = Production; Super. = Supervisor.

Table 5

	1131 Timber Tract Operations	1132 Forest Nurseries and Gathering of Forest Products	1133 Logging	1153 Support Activities for Forestry	3211 Sawmills and Wood Preservation	3212 Veneer, Plywood, Eng. Wood Prod. Man.	3221 Pulp, Paper and Paperboard Mills
Total - All Occupations	26,416	20,777	36,374	26,341	38,249	39,009	55,236
A. Management	44,975	56,343	63,299	54,676	84,610	89,078	96,749
B. Business, Finance, Admin.	31,566	27,804	31,803	28,833	38,367	37,119	45,540
B2 Secretaries	25,930	20,574	28,880	25,264	28,612	33,478	38,565
B5 Clerical	25,961	25,618	27,428	26,309	32,321	32,781	40,657
C. Natural & Applied Science	36,747	40,416	42,509	37,800	46,539	43,168	59,147
C0 Professional Occupations	40,585	62,213	50,787	49,135	58,776	51,564	64,061
C1 Technical	33,468	25,854	37,993	33,194	38,393	39,492	55,455
G. Sales & Service	44,581	18,180	28,174	16,258	30,431	38,648	42,671
H. Trades, Transport, Equip.	32,747	30,075	42,562	35,102	42,899	40,483	56,603
I. Occ. Unique to Primary Ind.	19,244	16,538	32,232	18,904	36,734	39,161	43,663
I11 Super, Logging, Forestry	24,806	29,690	46,888	32,791	55,402	70,068	61,078
I15 Logging Machinery Oper.	34,433	32,132	38,893	28,100	38,138	43,957	49,576
I16 Logging, Forestry Workers	16,843	15,627	27,801	20,539	30,910	22,455	32,066
I2 Labourers, Primary Prod.	11,767	12,306	27,177	14,148	30,503	31,678	32,205
J. Occ. Unique to Pro., Man., Uti.	26,585	23,191	31,735	21,551	33,269	32,903	51,680
J0 Supervisors, Man.	0	30,872	48,933	25,504	53,802	49,034	69,304
J1 Machine Oper., Man.	24,118	37,669	33,197	24,098	34,217	34,500	53,373
J3 Labourers, Man.	22,365	8,743	22,634	20,403	28,079	30,841	43,739

Mean earnings of all individuals (Can. Dollars, 2001) in select industries and occupations, Man. = Manufacturing; Equip. = Equipment; Oper.= Operators; Pro. = Processing; Rel. = Related; Admin. + Administrative; Uti. = Utilities; Ind. = Industry; Prod. = Production; Super = Supervisor.

wood product manufacturing, a sub sector with wages comparable to the male dominated sawmill and wood preservation sector.

Non-Aboriginal women were concentrated in administrative occupations, particularly secretarial work. The occupations women held in this industry sub-sector included business, finance and administration and sales and service occupations, both occupations with low average incomes relative to other occupations within forestry. Clerical work however is typically viewed as a stable form of employment and within larger manufacturing industries clerical positions are often unionized. The average incomes of people with occupations as secretaries ranged from \$20,574 to \$38,565.

In the forest sector as a whole, women only comprised 13.3% of the work force. This is significant in light of the fact that women living in rural areas often have limited employment options. Since employment in the forest sector is typically better paid than employment in other sectors, it is likely that the sex typing of the majority of forest sector jobs as male has negative implications for rural women who are not able to find employment in the forest sector.

Mirroring Teskey and Smyth's report in 1975, Aboriginal people were both excluded from jobs and industries near the high end of the income spectrum and concentrated in jobs and industries at the low end of the income spectrum. People of Aboriginal ancestry were almost completely excluded from the pulp, paper and paperboard mills, only making up 2% of the labour force. Pulp, paper and paperboard mills offer the highest wages of all forest industries and also offer the most stable employment since paper mills rarely have periodic shut downs as is common with sawmills. The industry sector where the share of the labour force of Aboriginal ancestry was highest was support activities for forestry followed by forest nurseries and gathering of forest products. Aboriginal people comprised 13% and 9% of the labour force in these sub-sectors respectively. Average annual incomes for individuals with occupations in these sub-sectors were lower than parallel occupational groups in all other sectors. Moreover, within each of these industry categories, Aboriginal men and women were more likely to be employed in the lowest paid occupations (primary production labourer and logging and forestry worker and sales and service) than non-Aboriginal people. Individuals in these occupations and industry sub-sectors had among the lowest mean annual incomes of all occupations in the forest industry, \$14,148 and \$20,539 respectively. Of all occupations in these sub-sectors however, Aboriginal women were most likely to be employed in sales and service occupations in sub-sectors where the mean annual incomes are \$16,253 and \$18,180. Aboriginal men were also well represented in occupations

unique to the primary industry, particularly in logging, where the average income was \$27,801. While the average income for people working in logging occupations approximated that of people working in sawmills, logging may constitute a less desirable job due to high injury rates, and financial instability.<sup>5</sup>

## Conclusion

Results from this study suggest that the outcomes of the intersection between gender and Aboriginal ancestry differed whether segregation was examined among industries or among occupations within industries. Similar to results from studies examining the intersection of ethnic minorities with gender, segregation by Aboriginal ancestry was greater among men than among women. While Aboriginal women's employment patterns in the forest sector had some similarity to those of non-Aboriginal women, their experiences were distinct in that they were more likely to be employed as labourers, and in the industry sub-sectors support activities for forestry and forest nurseries and gathering of forest products, than non-Aboriginal women. These results suggest that the experiences of Aboriginal women in the labour market are a result of a unique combination of feminization and racialisation that is particular to Aboriginal women. Within the forest sector, Aboriginal women were not only excluded from male dominated occupation/industry combinations, they were also excluded from the female dominated clerical and secretarial occupations.

In addition, this study points to the importance of industry category when examining segregation. While segregation between people with and without Aboriginal descent was greatest among industries, gender segregation was highest among occupations. Aboriginal people were under represented in manufacturing industries that offer more stable employment and higher wages. In contrast, within all industries non-Aboriginal women were employed in selected feminized occupations. These results confirm the results of previous studies which show that across industries, the employment of women is often limited to fewer 'feminine' occupations. The examination of both industry sub-sector and occupation in this study was necessary to understand processes of segregation in employment in the forest sector by Aboriginal ancestry and gender.

In the context of the distribution of benefits from forest sector developments, it is probable that women of Aboriginal ancestry have faced the greatest disadvantage as they have been excluded from both male and female dominated forms of employment.

### **Recommendations**

As policy developments continue to promote and encourage the participation of Aboriginal men and women in forestry, the specific processes of exclusion and segregation experienced by both Aboriginal men and Aboriginal women need to be considered. Future research should investigate supply and demand side labour market processes to determine their impact employment opportunities and outcomes for both Aboriginal men and women in the forest sector. This exploration would benefit from qualitative studies that explore employer behaviour and individual's employment trajectories, as well as from spatial analysis to examine whether patterns of residence impact employment of Aboriginal people in forest sub sectors.

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### **Notes**

1. The term Aboriginal ancestry is used in combination with the term Aboriginal people in this paper. The term Aboriginal ancestry is problematic since it implies that Aboriginal identity is the ethnic background of an individual and not an identity that is situated in the present, that invokes a feeling of belonging to a distinct Nation. Despite these problems I used the word Aboriginal ancestry to accurately reflect the data used in analyses which were results from the ethnicity and not the identity question in the 2001 census.
2. The total population consists of workers in Canada's forest sector as outlined in the methods.
3. In this paper Aboriginal ancestry is used to denote respondents who indicated having ancestors belonging to a North American Indian group in the 2001 census (see explanation in data sources). Although it is recognized that Métis and Inuit have Aboriginal ancestry, due to the requirement for groups to be exclusive, and limitations of data series used it was not possible to examine all groups.
4. Data used for this study was a special order run funded by a grant

from the Status of Women Canada for the project entitled "Hidden Actors, Muted Voices: The Employment of Rural Women in Canadian Forestry and Agri-food Industries," conducted by researchers, Diane Martz and Maureen Reed.

5. Individual logging contractors or small companies assume financial risk through the purchase of increasingly expensive equipment and the prospect of unemployment when wood prices decrease.

### References

- Anderson, Robert B.  
1999 *Economic Development Among the Aboriginal Peoples in Canada*. Captus Press, North York.
- Blackwell, Louisa  
2003 Gender and Ethnicity at Work: Occupational Segregation and Disadvantage in the 1991 British Census. *Sociology* 37(4): 713-731.
- Brandth, Berit and Marit S. Haugen  
2000 From Lumberjack to Business Manager: Masculinity in the Norwegian Forestry Press. *Journal of Rural Studies* 16:343-355.
- Brooks, Bradley, Jennifer Jarman and Robert M. Blackburn  
2003 Occupational Gender Segregation in Canada, 1981-1996: Overall, Vertical and Horizontal Segregation. *Canadian Review of Sociology and Anthropology* 40:197-213.
- Cassirer, Naomi  
1996 Race, Composition and Earnings: Effects by Race, Region, and Gender. *Social Science Research* 25:375-399.
- Cohen, Philip N. and Matt L. Huffman  
2003 Occupational Segregation and the Devaluation of Women's Work Across U.S. Labor Markets. *Social Forces* 81:881-908.
- Dore, Mohammed H.I., and Surendra Kulshreshtha  
2003 The Labor Market and Rural-Urban Differences Among First Nations: The Case of Saskatchewan. *The Journal of Socio-Economics* 32: 147-159.
- Duncan, Otis Dudley and Beverly Duncan  
1955 A Methodological Examination of Segregation Indices. *American Sociological Review* 20: 210-217.

- George, Peter and Peter Kuhn  
1994 The Size and Structure of Native-White Wage Differentials in Canada. *The Canadian Journal of Economics* 27(1):20-42.
- Gorard, Stephen and Chris Taylor  
2002 What is Segregation? A Comparison of Measures in Terms of 'Strong' and 'Weak' Compositional Invariance. *Sociology* 36: 875-895.
- Hopwood, Allen, John Mactavish, Andrew Moer, Grant Scott and Peggy Smith  
1993 *Aboriginal Forestry Training and Employment Review (AFTER). Final Report Phase 1*. Prepared for the AFTER Committee and the National Aboriginal Forestry Association. February 1993.
- Jensen, Lief, Jill L. Findeis, Wan-Ling Hsu, and Jason P. Schachter  
1999 Slipping Into and Out of Underemployment: Another Disadvantage for Nonmetropolitan Workers? *Rural Sociology* 64(3): 417-438.
- Kaufman, Robert L.  
2001 Race and Labor Market Segmentation. In: Berg, I & Kalleberg, A.L. (eds.) *Sourcebook of Labour Markets: Evolving Structures and Processes*. Kluwer Academic/Plenum Publishers: New York. p.645-668.
- King, Mary C.  
1992 Occupational Segregation by Race and Sex, 1940-88. *Monthly Labor Review* 115(4):30-38.
- Knight, Rolf  
1978 *Indians at Work*. 1<sup>st</sup> Edition. New Star Books, Vancouver.
- Kuhn, Peter and Arthur Sweetman  
2002 Aboriginals as Unwilling Immigrants: Contact, Assimilation and Labour Market Outcomes. *Journal of Population Economics* 15:331-355.
- Forsberg, Gunnel  
1998 Regional Variations in the Gender Contract: Gendered Relations in Labour Markets, Local Politics and Everyday Life in Swedish Regions. *Innovation* 11(2):191-209.
- Fortin, Nicole M. and Micheal Huberman  
2002 Occupational Gender Segregation and Women's Wages in Canada: An Historical Perspective. *Canadian Public Policy - Analyse de Politiques* 28: S11-S39.

- Frances, Raelene, Linda Kealey and Joan Sangster  
1996 Women and Wage Labour in Australia and Canada, 1880-1980. *Labour/Le Travail* 38:54-89.
- Laliberte, Ron F.  
1993-1994 Introduction to Documents Two and Three. *Native Studies Review* 9:116-122.
- Laliberte, Ron F. and Vic Satzewich  
1999 Native Migrant Labour in the Southern Alberta Sugarbeet Industry: Coercion and Paternalism in the Recruitment of Labour. *The Canadian Review of Sociology and Anthropology* 36:65-85.
- Lautard, E. Hugh  
1982 Occupational Segregation and Inequality Between Native and non-Native Canadians, 1971. *The Canadian Journal of Native Studies* 2: 305-520.
- Merkel, Garry, Frank Osendarp, and Peggy Smith  
1994 *Sectoral Study: Forestry and Analysis of the Forest Industry's Views of Aboriginal Participation*. Prepared for: The Royal Commission on Aboriginal Peoples. Peak Management Consultants British Columbia, KBM Forestry Consultants Inc. Ontario. February 1994
- Muszynski, Alicia  
1988 Race and Gender: Structural Determinants in the Formation of British Columbia's Salmon Cannery Labour Force. In: Kealey, G.S. (ed.) *Class, Gender and Region: Essays in Canadian Historical Sociology*. St John's. p.103-20.
- Parkins, John R. and Tom M. Beckley  
2001 *Monitoring Community Sustainability in the Foothills Model Forest. A Social Indicators Approach*. Atlantic Forestry Centre Information Report AFC M-X-211. Fredericton, NB: Canadian Forest Service.
- Peach, Ceri  
1996 Does Britain Have Ghettos? *Transactions of Institute of British Geographers* 21:216-235.
- Preston, Valerie, Damaris Rose, Glen Norcliffe and John Homes  
2000 Shift Work, Childcare and Domestic Work: Divisions of Labour in Canadian Paper Mill Communities. *Gender, Place and Culture* 7:5-29.

- Reed, Maureen  
2003 Marginality and Gender at Work in Forestry Communities of British Columbia. *Journal of Rural Studies* 19:373-389.
- Robinson, Derek  
1998 Differences in Occupational Earnings by Sex. In: Loutfi, M.F. (ed.) *Women, Gender and Work*. International Labor Office. Geneva. p.157-188.
- Rossiter, Margaret W.  
1995 *Women Scientists in America: Before Affirmative Action 1940-1972*. Baltimore: The Johns Hopkins University Press.
- Satzewich, Vic and Terry Wotherspoon  
2000 *First Nations: Race, Class and Gender Relations*. Regina: Canadian Plains Research Centre.
- Sinclair, Peter R.  
2002 Narrowing the Gaps? Gender, Employment and Incomes on the Bonavista Peninsula, Newfoundland 1951-1996. *Atlantis* 26(2):131-145.
- Teskey, A.G. and J. H. Smyth  
1975 *Saskatchewan's Forest Industry and its Economic Importance*. Information Report NOR-X140, Northern Forest Research Centre. Canadian Forest Service and Environment Canada: Edmonton, Canada.
- Tripp-Knowles, Peggy  
1999 The Feminine Face of Forestry in Canada. In: Smyth, E. (ed.) *Challenging Professions: Historical and Contemporary Perspectives on Women's Professional Work*. Toronto: University of Toronto Press.
- Voyageur, Cora Jane  
1997 *Employment Equity and Aboriginal People in Canada*. Ph.D. Thesis, University of Alberta, Edmonton, Alberta.

