WORKING PAPER

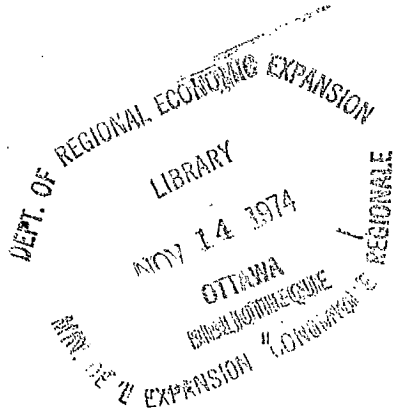
MINING INDUSTRY EMPLOYMENT FORECAST
NEW BRUNSWICK AND PRINCE EDWARD ISLAND
1971 - 1981

ECONOMIC ANALYSIS BRANCH
PLANNING DIVISION

REGIONAL ECONOMIC EXPANSION CANADA
EXPANSION ÉCONOMIQUE RÉGIONALE CANADA

WORKING PAPER

MINING INDUSTRY EMPLOYMENT FORECAST NEW BRUNSWICK AND PRINCE EDWARD ISLAND 1971 - 1981



A. Robertson
Natural Resource Studies Section
Economic Analysis Branch

November 1972

CONTENTS

TABLES

FIGURES

NEW BRUNSWICK MINING INDUSTRY EMPLOYMENT FORECAST 1971 to 1981

I. FORECAST PROCEDURE

This paper contains employment forecasts for the mining industry in New Brunswick for the period 1971-81. It is based upon employment forecasts that have been made for each company that was in production in 1970, for companies that have announced their intentions to bring mines into production and for "significant mineral deposits" that may be brought into production. Individual company forecasts are contained in a data bank that has been created in the Economic Analysis Branch. The data bank is used for continuous analysis of the Canadian mining industry.

Data are obtained from a wide range of sources. These include company reports and statements, provincial and federal government reports, personal contacts and press articles. The reliability of the information varies but it can be used with confidence because data problems generally occur in respect of the smaller and less significant companies.

The definition of the mining industry in this report corresponds to that of Statistics Canada as used in Division 4 - Mines (including Milling), Quarries and Oil Wells. Thus, the forecasts can be used in conjunction with data from Statistics Canada.

Employment forecasts are presented in three categories, namely upper, realistic and lower. These reflect a range of employment levels that may occur if different combinations of economic and marketing factors come into play. Aggregate mining industry group employment figures have been derived, and are shown in Tables 3, 4 and 5 as well as in Figure 1.

Each of the major mineral industry groups is briefly reviewed in this report. Forecasts have also been aggregated by Census Division in order to show those areas where mining industry activity is expected to change. These figures are shown in Table 6. Figure 2 shows a map of Census Divisions in New Brunswick where mining activity occurs.

No specific method has been employed in making the employment forecasts for individual mines. However, a wide range of current and historical information has been consulted and used, and those factors of greatest significance have been given their appropriate weighting. Thus, for a very large low grade open pit copper mine, the metal price will be a

critical factor concerning its viability, whereas for a small high grade underground silver mine, the maintenance of adequate ore reserves is frequently the critical factor. The man-year employment forecasts shown here provide one uniform method of presenting the expectations that result from an analysis of each mine.

Seasonal changes of employment in the mineral industry occur frequently. The fluctuations within the year can be substantial. Therefore, all employment figures shown in this report are in terms of man-years of paid employment per year. Thus, due to seasonal fluctuations of the work force, the employment shown in this report will be less than the peak employment experienced during the year.

As in all forecasts, the possibility of unforeseen events affecting the figures increases over time. For the most part, considerable confidence can be placed in the forecast to 1976 because company intentions are generally indicated and sometimes specified for up to five years in the future. Beyond 1976, the forecasts become increasingly judgemental. Consequently, they should be viewed with caution for this latter period.

In making the forecasts a number of important assumptions have been made. These are listed below:-

(a) That both Federal and Provincial legislation concerning taxation, royalities, land tenure,etc. remains constant throughout the forecast period with the exception of already announced changes. These changes have been taken into account.

(b) That the supplies of labour, capital and materials to the industry in terms of price and availability will be adequate throughout the forecast period.

(c) That the markets for minerals will not change dramatically in terms of volume, relative price and location throughout the forecast period, and

(d) That end-use substitution between different minerals or between minerals and other non-mineral products is not great throughout the forecast period.

It should be noted that all forecasts have been made by the same person, and that where possible they have been reviewed by specialists in the minerals sector. By this means, it is to be hoped that large errors have been eliminated and that any bias in the forecasts will be small and consistent.

II. SUMMARY OF MINING INDUSTRY EMPLOYMENT IN NEW BRUNSWICK 1971-81

The general increase in mining industry employment that New Brunswick experienced in the 1960's is forecast to continue through the 1970's. Thus, mining employment that stood at about 2,400 in 1970 is anticipated to rise by almost 1,200 to exceed 3,600 in 1981. This represents an average expansion in mining employment of about 4 percent annually.

While the realistic forecast suggest a 4 percent annual employment increase, the upper forecast indicates that a rate of over 6 percent could be achieved if the market demand and metal price situation moved in favour of New Brunswick's relatively narrow mineral resource base. On the other hand, the lower forecast indicates that stagnation will occur if upward pressure on metal prices is countered by increased production elsewhere in the world.

This fairly wide divergence in the employment forecasts reflects the vulnerability of the New Brunswick minerals sector to external forces. With zinc representing almost 50 percent of the total value of mineral production in the Province, it is clear that the prosperity of the mineral industry depends heavily upon the market situation for zinc. This vulnerability is further accentuated by the fact that the second, third and fourth most

important minerals produced in New Brunswick (namely lead, copper and silver) are generally produced in conjunction with zinc from complex metallic areas. New Brunswick is fortunate to have strong metallic mineral producing companies operating the most important mines in the Province. A good metallic mineral resource base and powerful internationally oriented management in this sector are factors that can go a long way towards reducing New Brunswick's seeming vulnerability.

Table 7 and Figure 3 at the end of this paper have been included to indicate the names of companies involved in mining activity, and the location of active mines and development prospects in 1970.

An Accelerated Mineral Development Agreement between Canada and New Brunswick was signed in 1970. The objective of this three year agreement is to accelerate and compliment the programs of the Province in order to improve the minerals knowledge base. This is intended to stimulate the private sector to undertake more detailed exploration work that may lead to the development of new mines in the Province.

The Agreement includes four major projects. These are: (a) to perform detailed geological surveys in specified areas, (b) to evaluate industrial minerals in specified areas, (c) to construct drill core storage facilities, and (d) to compile an inventory of mineral deposits in Northeast New Brunswick. The Agreement has already achieved a considerable measure of success. Notable examples have been the discovery of commercial deposits of potash and salt at Sussex and the staking rush in the Caledonian Mountain area.

An extension to the Agreement is being sought that will prolong the life of the Agreement by an additional two years. It is proposed that the area for detailed geological surveys should be increased and that more extensive evaluation should be made of industrial and structural mineral resources. Two new projects are proposed. One would concern mineral resource planning and promotion and the other would evaluate the economic viability of establishing increased smelting and refining capacity in New Brunswick.

III. THE NEW BRUNSWICK MINING INDUSTRY IN 1970

The New Brunswick mining industry experienced a good year in 1970, recording a 7 percent increase in the value of mineral production from $94.6 million to $101.2 million. This increase was achieved in spite of a five week strike at the operations of the largest producer in the Province.

Metallic minerals generated some 87 percent of the value of production and over 80 percent of the employment. In the metallic sector the most important mineral was zinc which accounted for over 55 percent of the value of production. The structural materials sector contributed 8 percent of the value of production whilst the fuels and non-metallic sectors accounted for 3 percent and 2 percent respectively. The most important mineral commodities produced and their value in 1968, 1969 and 1970 are shown in Table I on the following page.

TABLE 1

VALUE OF MAJOR MINERAL COMMODITIES PRODUCED

IN NEW BRUNSWICK 1968 TO 1970

Year / Commodities	1968	1969	1970 (p)
	($ million)		
Zinc	38	47	50
Lead	15	16	20
Copper	8	7	9
Silver	8	7	8
Coal	7	5	3
Cement	3	4	3

(p): preliminary

Source: Department of Energy, Mines and Resources

TABLE 2

MINING INDUSTRY EMPLOYMENT IN NEW BRUNSWICK
1961-1981*

Year	Past Mining Employment	Forecast Mining Employment
1961	1,460	-
1962	1,536	-
1963	1,498	-
1964	1,865	-
1965	2,060	-
1966	2,348	-
1967	2,300	-
1968	2,596	-
1969	2,405	-
1970	NA	-
1971	-	2,485
1972	-	2,305
1973	-	2,615
1974	-	3,175
1975	-	3,305
1976	-	3,505
1977	-	3,675
1978	-	3,705
1979	-	3,615
1980	-	3,625
1981	-	3,655

NA - Not available

* All employment figures are shown in man-years of paid employment.

IV. MINING INDUSTRY EMPLOYMENT FORECASTS BY COMMODITY GROUP

In this chapter, the realistic employment forecasts are analysed for each major sector of the mining industry. In Tables 3, 4 and 5, that follow, the upper, realistic and lower forecasts by commodity group are summarized. The tabulations are followed by a series of more detailed descriptions of each mineral commodity group. Table 2 on the previous page shows total past employment and the realistic total forecast of mining employment.

At the start of each commodity group summary, a sub-table is included that indicates the realistic employment forecast for that group and its relative importance as an employer in the mining sector. The sub-tables have been derived by taking the realistic commodity group forecast from Table 4.

Table 3

NEW BRUNSWICK MINERALS EMPLOYMENT FORECAST*
1971-1981
UPPER ESTIMATE

Commodity Group	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Metallic minerals	2,100	2,220	2,650	3,000	3,500	3,630	3,630	3,630	3,630	3,630	3,300
Non-metallic minerals	115	115	315	415	415	415	415	415	415	415	415
Structural materials	100	100	105	105	105	110	110	110	115	115	120
Fuels	225	225	225	225	230	225	210	200	190	190	210
Other Services	140	140	140	160	160	160	160	160	180	180	180
Contingency	-	50	75	100	150	200	250	300	350	400	450
TOTAL	2,680	2,850	3,510	4,005	4,560	4,740	4,775	4,815	4,880	4,930	4,675

* All employment figures are shown in man-years of paid employment.

TABLE 4

NEW BRUNSWICK MINERALS EMPLOYMENT FORECAST*
1971-1981
REALISTIC ESTIMATE

Commodity Group	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Metallic minerals	2,000	1,820	2,000	2,420	2,520	2,720	2,870	2,870	2,770	2,770	2,770
Non-metallic minerals	85	85	185	285	285	285	285	285	285	285	285
Structural materials	90	90	90	90	90	80	80	80	80	80	80
Fuels	210	210	210	210	210	190	180	170	150	130	130
Other Services	100	100	100	110	110	110	110	120	120	120	120
Contingency	-	-	30	60	90	120	150	180	210	240	270
TOTAL	2,485	2,305	2,615	3,175	3,305	3,505	3,675	3,705	3,615	3,625	3,655

* All employment figures are shown in man-years of paid employment.

TABLE 5

NEW BRUNSWICK MINERALS EMPLOYMENT FORECAST*

1971-1981

LOWER ESTIMATE

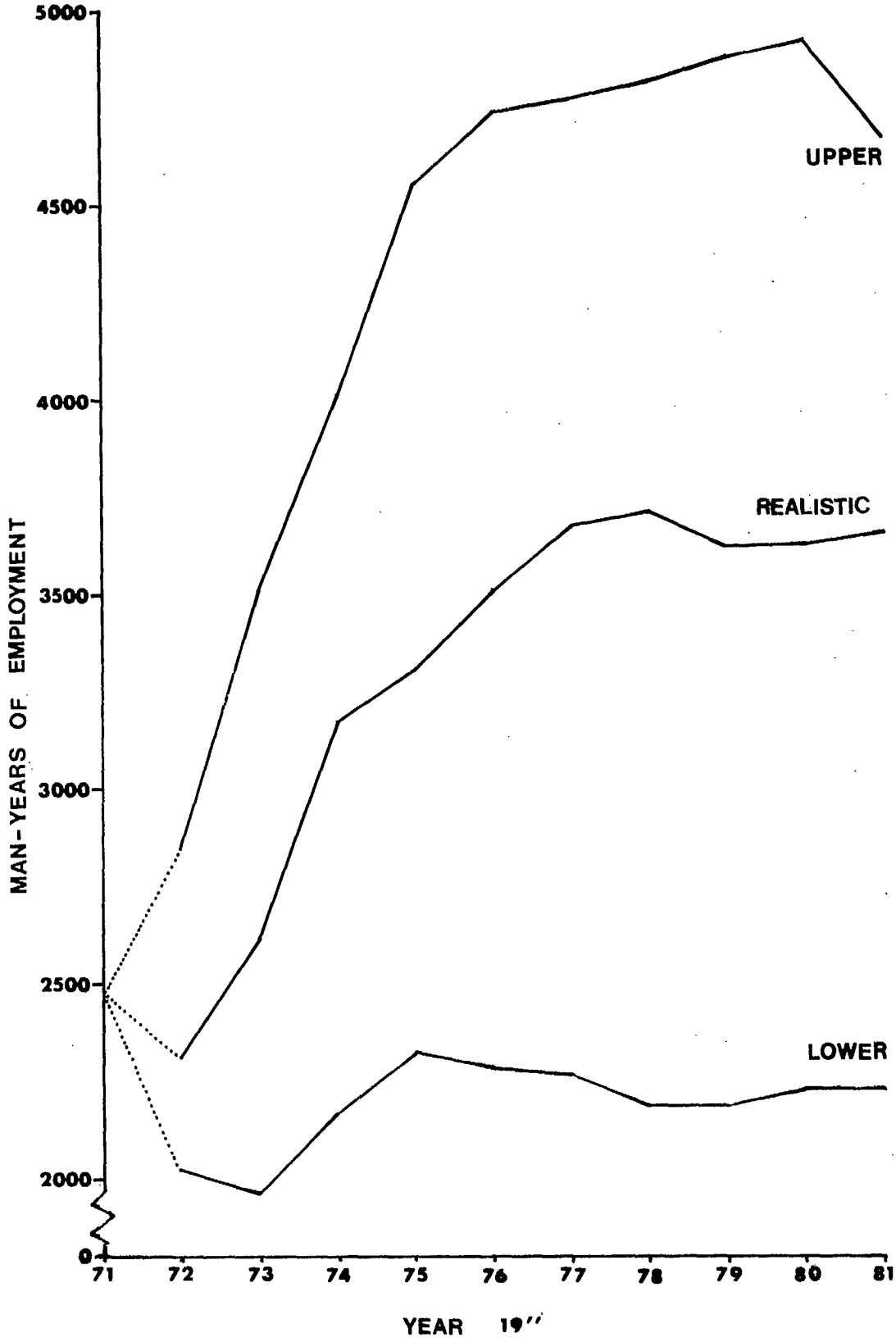
Commodity Group	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Metallic minerals	1,880	1,650	1,570	1,680	1,780	1,780	1,780	1,780	1,780	1,780	1,780
Non-metallic minerals	60	60	60	160	210	210	210	210	210	210	210
Structural materials	80	80	80	80	80	80	80	80	80	80	80
Fuels	190	190	190	190	190	110	90	-	-	-	-
Other Services	60	60	60	60	60	60	60	60	60	60	60
Contingency	-	-	-	-	-	50	50	50	50	100	100
TOTAL	2,270	2,040	1,960	2,170	2,320	2,290	2,270	2,180	2,180	2,230	2,230

* All employment figures are shown in man-years of paid employment.

FIGURE 1

NEW BRUNSWICK

PERMANENT MINING INDUSTRY EMPLOYMENT FORECASTS 1971 - 1981



(a) Metallic Minerals

At the end of 1970, there were five metal mines in production in New Brunswick, of which four operated continuously throughout the year and one opened late in the year.

Realistic Forecast of Employment	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
No. of employees	2,000	1,820	2,000	2,420	2,520	2,720	2,870	2,870	2,770	2,770	2,770
% of forecast total	81	79	77	76	76	78	78	77	77	76	75

The metallic sector dominates both production and employment in New Brunswick. The major producers are all situated in the northeastern part of the province and constitute a vital source of employment in the area.

The producers all appear to enjoy a strong ore reserve position with the exception of the Nigadoo River Mine. Production problems, marketing costs, and below average wage rates have made for a relatively unstable position at Nigadoo, which caused the mine to close recently with the loss of some 300 jobs. It is forecast that some mining activity may be started again at Nigadoo in 1974 but that it will be of limited duration.

The problems facing the metallic-mineral industry in northeast New Brunswick are primarily centred upon recoveries of metal concentrates from complex ores. The general recoveries of zinc, lead, copper and silver are well below the national average, resulting in sales returns of about 10 percent below potential sales at national recovery rates. For existing producers this represents lost revenue, but the situation is expected to continue for many years. Poor recoveries due to complex metallurgical problems constitute a major barrier to entry of new base metal mines in New Brunswick.

A solution to the recovery problems may emerge in the future, but it could prove to be a mixed blessing. Present indications are that recoveries may be improved through the use of hydrometallurgical techniques. Such methods tend to require fairly low labour inputs. Thus, solving the metallurgical problem could serve to increase recoveries, improve sales, increase the number of operations and yet might not increase total employment in this region where serious unemployment already exists.

A recent announcement, that has not been specifically covered in the forecast procedure, is the somewhat unexpected expansion at Heath Steele Mines Ltd. This expansion of operations is expected to create some 140 new

jobs by 1975. On the other hand, extremely serious marketing problems have been encountered by the Anaconda-Caribou Mine. Since the mine opened, it has proved very difficult to produce a commercially acceptable copper concentrate and operations have been suspended. Fortunately, the copper mining operations were scheduled to be of short duration, to be followed by a larger lead/zinc mining operation. This larger venture is still expected to begin production in mid-1974, and therefore, this particular loss of employment will be relatively short lived.

Another recent addition to mineral production in New Brunswick has been an antimony mine at Lake George. This mine has encountered financial problems, but it is anticipated that production and employment will continue for some years at the property. There are a number of other known but undeveloped base metal mineral deposits in northeast New Brunswick, the more promising of which have been included in this forecast. The Chester property is clearly the most likely to be brought to production, although at the present time development has been deferred due to difficulties in meeting acceptable water quality standards.

The metallic sector will continue to be the mainstay of the mineral industry in New Brunswick in years to come. All the expansion in employment shown in this forecast is based upon the future exploitation of already known mineral deposits. It is hoped that the Federal/ Provincial Accelerated Mineral Reconnaissance Agreement may lead to the discovery of metallic mineral deposits that could result in the development of new mines in New Brunswick. Thus, there is a possibility that the forecast increase in metallic mining employment from 2000 to 2770 may be exceeded.

. . . 20

(b) Non-Metallic Minerals

The addition of potash and salt mining to this sector of the New Brunswick mineral economy will create some 200 new jobs in the province.

Realistic Forecast of Employment	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
No. of employees	85	85	185	285	285	285	285	285	285	285	285
% of forecast total	3	4	7	9	9	8	8	8	8	8	8

In the past, activity in this group was confined to one gypsum producer and a number of small seasonal peat moss operations. The gypsum mine is an efficient producer whose small labour force will not increase significantly if demand for gypsum increases during the 1970's. Peat moss production comes from a number of small seasonal operations in the northeastern part of the province. Greater efficiencies in peat moss production operations, and a continued increase in demand are anticipated to result in relatively stable employment.

Of greatest significance in this sector is the potential employment that will be created by a new potash and salt mining industry in New Brunswick*. Substantial

Note

*The forecast shown in this report indicates that some 200 jobs may be created by 1974. Later information than that used in making the forecasts indicates that production is unlikely before 1976.

. . . 21

reserves were discovered near Sussex during the first Accelerated Mineral Reconnaissance Agreement between the Province and the Federal Government. As of late 1972, the Province was still in the process of selecting a company that will develop the resource in such a way as to maximize the benefits to the Province and its economy.

. . . 22

(c) Structural Materials

Employment in the structural materials sector is forecast to decline marginally during the 1970's.

Realistic Forecast of Employment	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
No. of employees	90	90	90	90	90	80	80	80	80	80	80
% of forecast total	4	4	3	3	3	2	2	2	2	2	2

Activity in this sector of the mineral industry is mainly determined by the demands of the provincial construction industry. The major commodities in this group are, sand, gravel, stone and cement. None of these operations is sufficiently large to be individually included in the company forecasts.

Sand, gravel and stone operations exist at various strategic points in the Province. The majority of employment in structural materials mining is not reported by Statistics Canada under mining activity but appears under construction industry employment. For this reason, it is estimated that perhaps 250 man-years of employment are not reported in the mining sector for New Brunswick.

No account is taken in the forecasts of the possible Prince Edward Island causeway. If this project does proceed, then a large boost will be given to the structural materials sector during the construction phase.

(d) Fuels

The coal mining industry in New Brunswick is in decline although activity will continue through the 1970's.

Realistic Forecast of Employment	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
No. of employees	210	210	210	210	210	190	180	170	150	130	130
% of forecast total	8	9	8	7	6	5	5	5	4	4	4

Coal mining is confined to the Minto coal area at the north end of Grand Lake. All operations are controlled by the Government of New Brunswick. Federal assistance in the form of grants to the coal industry in New Brunswick ceased with the final payment in April 1972. However, employment in coal mining is forecast to continue at about 200 until 1975 after which it will decline to about 100 by 1980. It would appear that all the coal production is used for thermal power generation at Grand Falls.

In addition to coal mining there is minimal employment in the production of oil and natural gas in Albert County. This employment is forecast to continue through the decade. Of greater importance is the possibility of future employment in oil and gas production from offshore areas in the Bay of Fundy or in the Gulf of St. Lawrence. It is however most unlikely that any significant impact on employment will be experienced before the end of the decade.

(e) Other Mineral Industry Activity

Realistic Forecast of Employment	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
No. of employees	100	100	130	170	200	230	260	300	330	360	390
% of forecast total	4	4	5	5	6	7	7	8	9	10	11

This sector is composed of the "Other Services" and the "Contingency" groups. The other services to the mineral industry include items such as contract drilling, but this grouping is very small. The contingency grouping is intended to account for developments that cannot be specifically forecast, and yet can be anticipated to occur in the Province. Any increase in the "Other Services" group is accounted for in the "Contingency" group.

V. MINING INDUSTRY EMPLOYMENT FORECASTS BY CENSUS DIVISION

While it is useful to have employment forecasts on a provincial or on a commodity group basis, many planning functions require a more detailed disaggregation of mining industry employment in order to evaluate the impact of that employment on a specific area. Figure 2 shows the Census Divisions in New Brunswick. A breakdown of the upper, realistic and lower employment forecasts by Census Division is shown in Table 6. Figure 2 also shows the realistic forecast of mining industry employment in diagrammatic form. It is not possible to disaggregate some of the industry sectors such as sand and gravel that are characterized by a number of small operators. These have been included in the "Other" groupings, which also contains "Fuels", "Other Services" and the "Contingency".

It can be seen from Figure 2 that between 1971 and 1981, the level of mining employment will change significantly in most of the Census Divisions in which mining activity takes place. The Northeast part of the Province is where the greatest concentration of mining employment presently occurs, and it is the area where the largest absolute gains in mining employment will be experienced during the decade. The forecasts by Census Division shown in this report are based upon present knowledge. However,

the Federal/Provincial Accelerated Mineral Reconnaissance Agreement is intended to stimulate increased exploration activity in the Northeast (CDs 4, 8 and 10) and in the Caledonian Mountains area (CDs 6 and 11). This program could result in mineral based developments and the creation of new employment opportunities.

Census Division 15 will experience an expansion and decline in mining employment during the forecast period as employment rises to 100 and then terminates at the end of the decade. In four other Census Divisions (CDs 3, 6, 8 and 10) mining employment is forecast to rise, whilst it is forecast to decline in two others (CDs 4 and 9) and remain steady in one (1).

It is perhaps fortunate that the strongest growth in New Brunswick's mining employment is forecast to occur in the Northeastern part of the Province - despite a decline in Census Division 4. This area does suffer from high levels of unemployment and a lack of stable employment opportunities. Therefore, the relative stability of the mining sector will continue to be an important feature of the local economy.

. . . 27

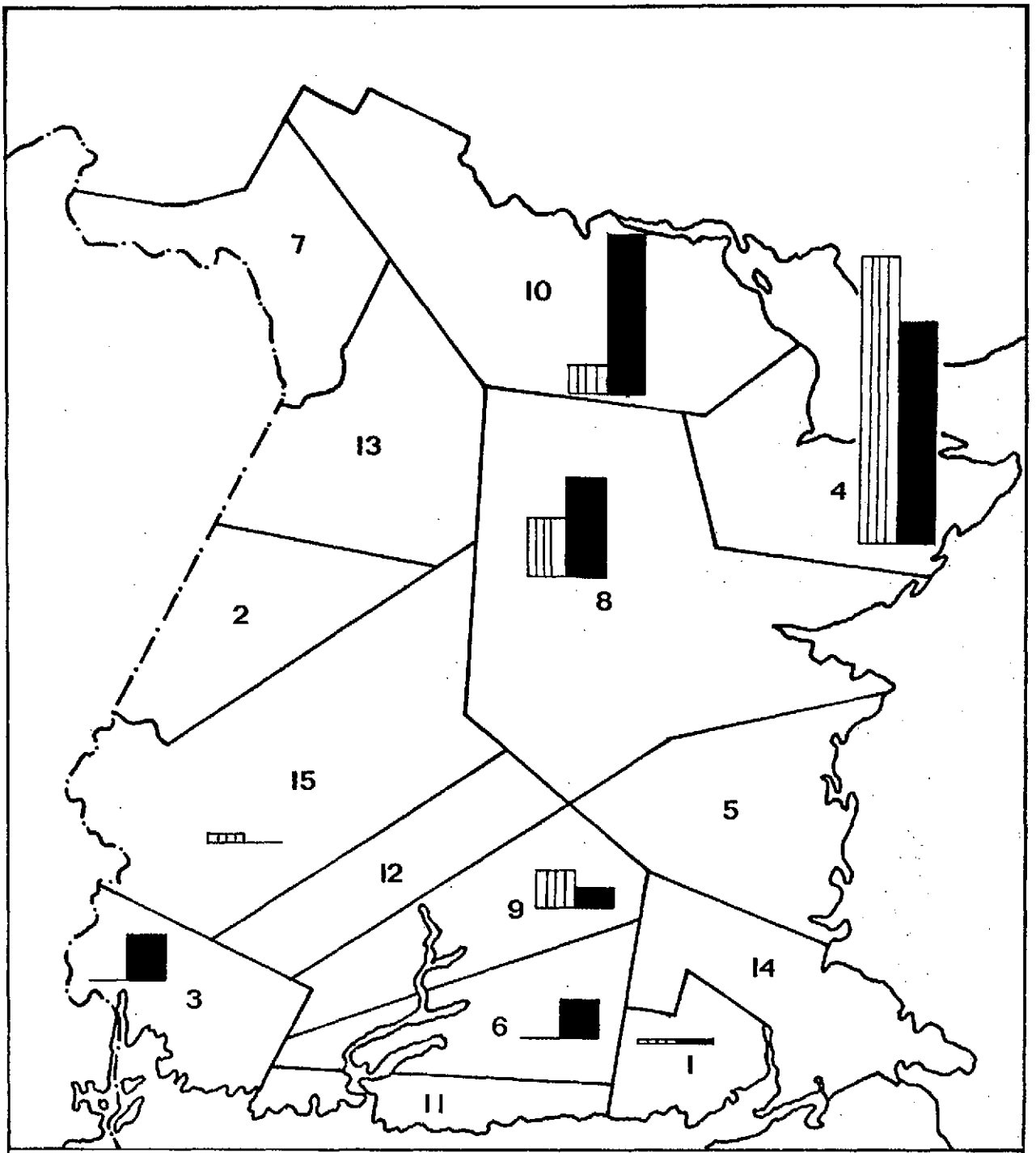


FIGURE 2

NEW BRUNSWICK

Mining Employment by Census Division 1971&81

TABLE 6

FORECAST PERMANENT MINING INDUSTRY EMPLOYMENT*
IN NEW BRUNSWICK 1971-1981
BY CENSUS DIVISION

Census Division	Estimate Class**	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1	U	15	15	15	15	15	15	15	15	15	15	15
	R	10	10	10	10	10	10	10	10	10	10	10
	L	10	10	10	10	10	10	10	10	10	10	10
3	U	-	-	-	100	300	300	300	300	300	300	300
	R	-	-	-	-	100	100	250	250	250	250	250
	L	-	-	-	-	-	-	-	-	-	-	-
4	U	1580	1580	1580	1580	1580	1580	1580	1580	1580	1580	1250
	R	1500	1330	1180	1280	1280	1280	1180	1180	1180	1180	1180
	L	1410	1210	1110	1110	1110	1110	1110	1110	1110	1110	1110
6	U	-	-	200	300	300	300	300	300	300	300	300
	R	-	-	100	200	200	200	200	200	200	200	200
	L	-	-	-	100	150	150	150	150	150	150	150
8	U	320	320	520	620	620	700	700	700	700	700	700
	R	310	310	410	510	510	510	510	510	510	510	510
	L	300	300	300	300	300	300	300	300	300	300	300
9	U	210	210	210	210	210	200	180	160	140	120	110
	R	200	200	200	200	200	180	160	140	120	100	100
	L	180	180	180	180	180	100	90	-	-	-	-

(Cont'd)

TABLE 6(Cont'd)

Census Division	Estimate Class**	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
10	U	160	200	430	580	880	930	930	930	930	930	930
	R	160	80	310	530	530	730	830	830	830	830	830
	L	150	60	100	210	370	370	370	370	370	370	370
15	U	40	120	120	120	120	120	120	120	120	120	120
	R	30	100	100	100	100	100	100	100	-	-	-
	L	20	80	80	80	-	-	-	-	-	-	-
SUB-TOTAL	U	2325	2445	3075	3525	4025	4145	4125	4105	4085	4065	3725
	R	2210	2030	2310	2830	2930	3110	3240	3220	3100	3080	3080
	L	2070	1840	1780	1990	2120	2040	2030	1940	1940	1940	1940
OTHER***	U	355	405	435	480	535	595	650	710	795	865	950
	R	275	275	305	345	375	395	435	485	515	545	575
	L	200	200	180	180	200	250	240	240	240	290	290
TOTAL	U	2680	2850	3510	4005	4560	4740	4775	4815	4880	4930	4675
	R	2485	2305	2615	3175	3305	3505	3675	3705	3615	3625	3655
	L	2270	2040	1960	2170	2320	2290	2270	2180	2180	2230	2230

* All employment figures are shown in man-years of paid employment.

** The identifying letters U, R and L stand for Upper, Realistic and Lower Estimates respectively.

*** The "Other" classification shown here contains commodity groups that are province wide and cannot be split by census division. This also contains the "contingency" grouping.

APPENDIX A

Company Names, Locations and Commodities Produced in New Brunswick 1970

TABLE 7

COMPANY NAMES, LOCATIONS AND COMMODITIES MINED 1970
NEW BRUNSWICK

Map Reference	Company Name	Property Name	Mineral(s)	Latitude	Longitude
				o '	o '
(1)	Restigouche Mining Corp. Ltd.	Restigouche Property*	Zinc/Lead/Silver	47 32	66 33
(2)	Kennco Explorations (Canada) Ltd.	Murray Brook Property*	Copper/Zinc/Lead	47 33	66 26
(3)	Anaconda Co.	Caribou Mine	(a) Copper/Zinc/Lead (b) Zinc/Lead/Copper	47 34	66 18
(4)	Nigadoo River Mines Ltd.	Nigadoo Mine	Zinc/Lead/Copper	47 44	65 48
(5)	Brunswick Mining & Smelting Corp. Ltd.	No. 12 Mine	Zinc/Lead/Copper	47 29	65 53
(6)	Brunswick Mining & Smelting Corp. Ltd.	No. 6 Mine	Zinc/Lead/Copper	47 25	65 49
(7)	Heath Steele Mines Ltd.	Heath Steele Mine	Zinc/Lead/Copper	47 17	66 05
(8)	Chester Mines Ltd.	Chester Property*	Zinc/Copper/Lead	47 07	66 14
(9)	Canadian Gypsum Co. Ltd.	Hillsborough Quarry	Gypsum	45 54	64 39
(10)	Government of New Brunswick	Plumweseep Prospect*	Salt/Potash	45 44	65 27
(11)	New Brunswick Coal Ltd.	New Brunswick Coal Properties	Coal	46 07	66 02
(12)	Brunswick Tin Mines Ltd.	Mount Pleasant Property*	Copper/Zinc/Tin	45 26	66 49
(13)	Consolidated Durham Mines and Resources Ltd.	Lake George Mine*	Antimony	45 51	67 02

* Not in production in 1970

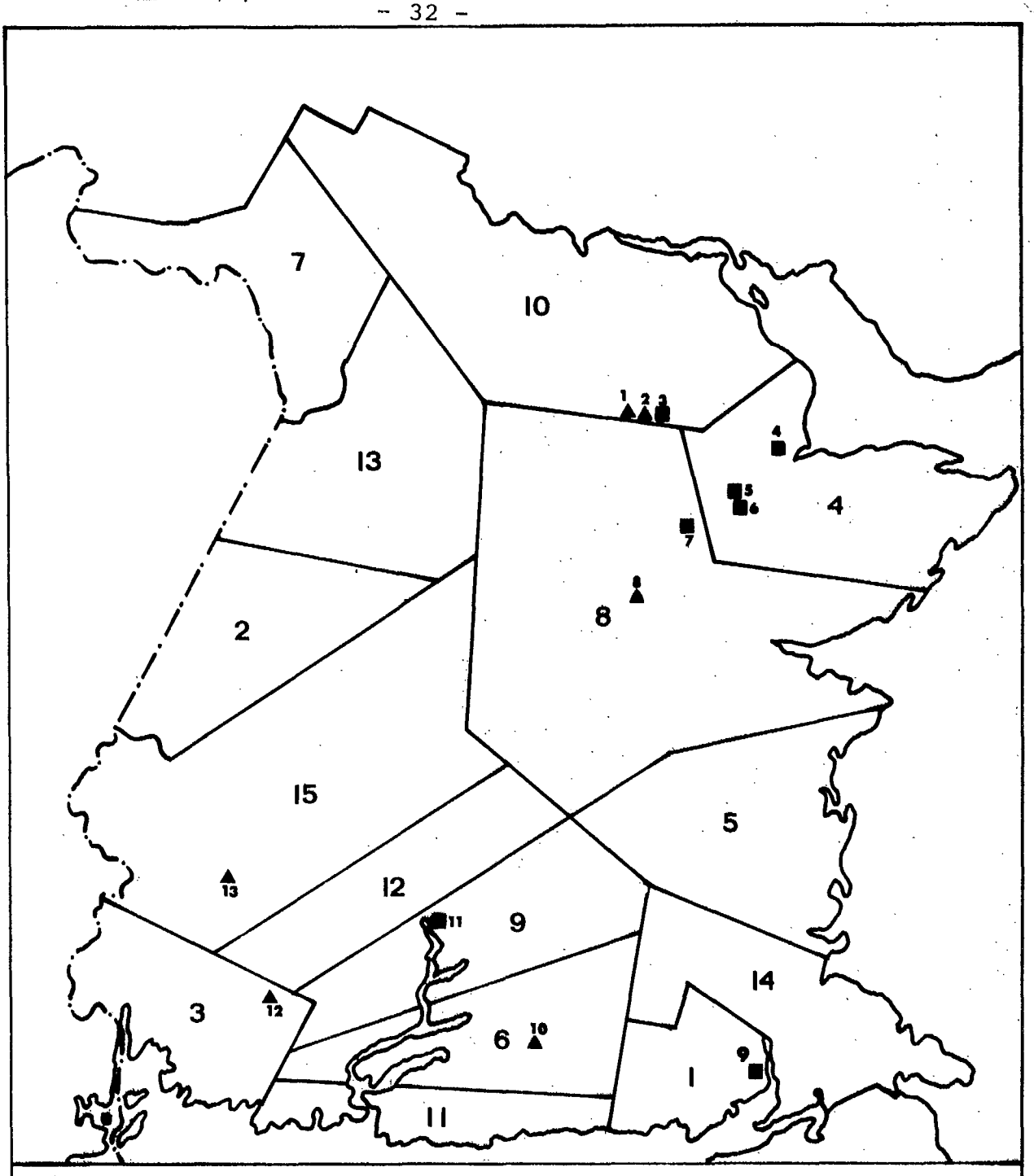


FIGURE 3

NEW BRUNSWICK

MINE LOCATIONS

APPENDIX B

The Mineral Industry Of Prince Edward Island

. . . 34

THE MINERAL INDUSTRY OF PRINCE EDWARD ISLAND

Prince Edward Island does not have a mineral industry of any significance in terms of either value of production or employment. The total value of mineral production in Prince Edward Island has fluctuated for the past few years from $0.5 million to $1.0 million. This is entirely composed of sand and gravel production for use in the provincial construction industry. Employment is somewhat difficult to estimate but would probably approximate to between 10 and 20 employees.

On the basis of current expectations, it is not likely that the level of mining industry employment will change in the 1970's. At this time, any expansion in mining employment is only likely to come either from the discovery of oil or gas in the Gulf of St. Lawrence, or from the construction of a causeway to the mainland. Table 8 on the following page indicates the upper, realistic and lower forecasts of mining employment in Prince Edward Island for the period 1971-1981.

. . . 35

Table 8

Prince Edward Island Minerals Employment Forecast*
1971 - 1981
Upper, Realistic and Lower Estimates

Year	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Upper Forecast	20	20	20	25	30	35	40	40	40	50	60
Realistic Forecast	15	15	15	15	15	15	20	20	20	20	20
Lower Forecast	10	10	10	10	10	10	10	10	10	10	10

* All employment figures are shown in man-years of paid employment