

FEDERAL SCIENCE EXPENDITURES

1974/75 - 1976/77*

report no.
rapport no. 100-2E

JUNE 1976



Ministry of State Ministère d'Etat

Science and
Technology

Sciences et
Technologie

Research and
Information
Services

Services de
recherche et
d'information

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1974/75-
1976/77



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21630

*Note: Intramural expenditures do not include non-program costs.

Cette publication existe aussi en version française (MEST Rapport 100-2F)



prepared for
préparé pour

General Reference

SCIENCE
TECHNOLOGY

by
par

A. Smith

approved by
approuvé par

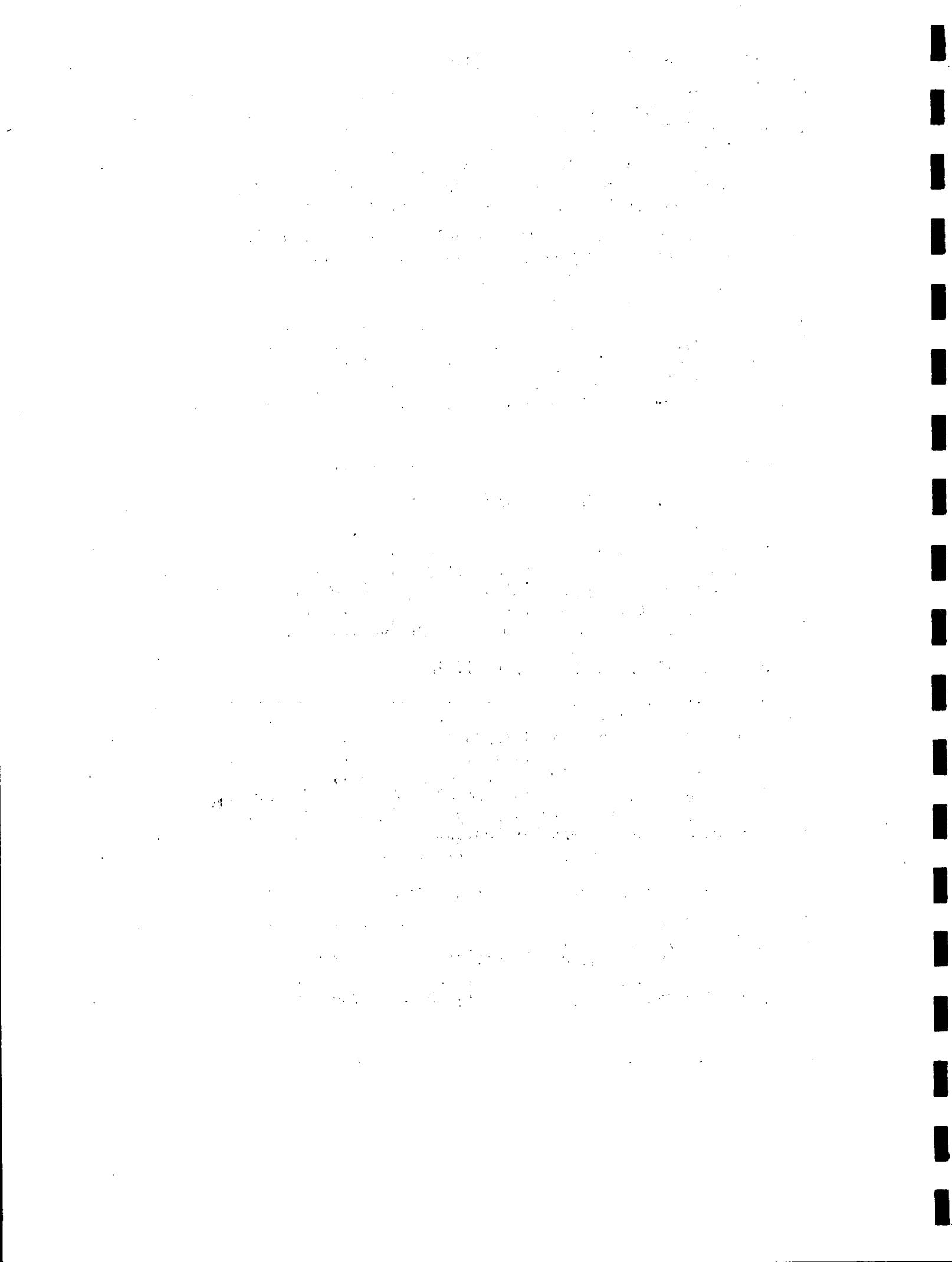
M. Lipsett

M. Lipsett

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INTRODUCTION

This document presents several tables displaying Federal Government expenditures in the natural and human sciences. As it is designed primarily for those with a knowledge of the nature of the government's scientific activities, a minimum of descriptive material is presented.

There are three main sections and an appendix. The sections present, in turn, data on the natural and human sciences combined, on the natural sciences, and on the human sciences. The appendix contains definitions of terms and limitations of the surveys. Readers are urged to examine this appendix before attempting to draw conclusions from the data.

In addition to the table of contents, two indices are provided to aid the user in locating the desired tables. The first groups the tables into those presenting data relating to three activity areas: Total Scientific Activities, Research and Experimental Development, and Related Scientific Activities, and for each lists the variables displayed. The second index lists the variables in turn, and for each of these, the variables against which they are tabulated. Thus, users interested in an activity area such as Research and Development or in a variable such as performers will be able to locate all relevant tables quickly.

The data in this report is taken from the 1976 Statistics Canada Surveys of Federal Science Expenditures in the Natural Sciences and in the Human Sciences. It updates the data presented in MOSST Report No.100-1, Federal Government Expenditures in the Natural & Human Sciences, 1974-75 to 1976-77.

Additional special tabulations or expansions of these tabulations to display more departments are available on request.

This document is also available in French (MOSST Report 100-2F).

Cette publication existe aussi en version française.(MEST Rapport I00-2F)

ABBREVIATIONS

AECB	Atomic Energy Control Board	INA	Dept. of Indian & Northern Affairs
AECL	Atomic Energy of Canada Limited	ITC	Dept. of Industry, Trade and Commerce
Agr	Department of Agriculture	Jus	Department of Justice
BofC	Bank of Canada	Lab	Department of Labour
CAL	Canadian Arsenals Ltd.	M & I	Department of Manpower and Immigration
CBC	Canadian Broadcasting Corp.	MOT	Ministry of Transport
CC	Canada Council	MRC	Medical Research Council
CCA	Consumer and Corporate Affairs	MOSST	Min. of State for Science and Technology
CDC	Canadian Dairy Commission	MUA	Min. of State for Urban Affairs
CIDA	Canadian International Development Corporation	NCC	National Capital Commission
CLFB	Canadian Livestock Feed Board	NFB	National Film Board
CMHC	Central Mortgage & Housing Corp.	NHB	National Harbours Board
COL	Comm. of Official Languages	NHW	Dept. of National Health & Welfare
CPDC	Canada Patent Development Corp.	NL	National Library
CRTC	Canadian Radio Television Comm.	NM	National Museum
CTC	Canadian Transport Commission	NR	Dept. of National Revenue
DND	Department of National Defence	NRC	National Research Council
DOC	Department of Communications	PA	Public Archives
DOE	Department of Environment	PCO	Privy Council Office
DPW	Department of Public Works	PO	Post Office Department
DREE	Dept. of Regional Economic Expansion	PSC	Public Service Commission
DSS	Dept. of Supply and Services	SC	Statistics Canada
DVA	Dept. of Veterans Affairs	ScC	Science Council
EA	Department of Energy, Mines and Resources	SG	Solicitor General
Fin	Department of Finance	SLSA	St. Lawrence Seaway Authority
FIRA	Foreign Investment Review Assoc.	SofS	Secretary of State Department
FPRB	Food Prices Review Board	TBS	Treasury Board Secretariat
IC	Information Canada	UIC	Unemployment Insurance Commission
IDRC	Intern'l Develop. Research Centre		

SYMBOLS

- nil or zero
 - - amount too small to be expressed

NOTES

1. Totals in this report may not add due to rounding. Percentages were calculated using unrounded figures.
2. Expenditure data cover the federal government fiscal year beginning April 1 of one year and ending March 31 of the following year.
3. The source of all data in this report is Statistics Canada unless otherwise indicated.

INDEX BY TYPE OF ACTIVITY

Federal Expenditures on...	<u>Natural and Human Sciences</u>		<u>Natural Sciences</u>		<u>Human Sciences</u>	
	Table	Page	Table	Page	Table	Page
Scientific Activities, Tabulated by.....						
Natural and Human Science.....	1	12	-	-	-	-
Natural and Human Science by..... Department	3	14	-	-	-	-
R&D and RSA.....	2	13	-	-	-	-
Performer.....	4	16	17	44	32	76
Performer by R&D and RSA.....	5	18	18	46	33	78
Department by R&D and RSA.....	6	20	19	48	34	80
Intramural and Extramural by..... Department	7	22	20	50	35	82
Performer by Funding Department,...	8	24	21	52	36	84
Research and Development, Tabulated by.....						
Performer.....	9	26	22	54	37	86
Type of Funding.....	10	28	23	56	38	88
Intramural and Extramural by..... Department	11	30	24	58	39	90
Performer by Funding Department....	12	32	25	60	40	92
in Universities and Non-Profit.....	13	34	26	62	41	94
Institutes by Type of Funding by Department						
in Industry by Type of Funding,... by Department	14	36	27	64	42	96
Related Scientific Activities, Tabulated by.						
Performer.....	15	38	28	66	43	98
Activity.....	-		29	68	44	100
Intramural and Extramural by..... Department	16	40	30	70	45	102
Activity by Department	-		31	72	46	104

INDEX BY VARIABLE

Federal Expenditures on Science tabulated by...	Type of Activity ¹	Natural and Human Sciences		Natural Sciences		Human Sciences	
		Table	Page	Table	Page	Table	Page
Natural and Human Sciences							
Totals.....	SA	1	12	-	-	-	-
by Department.....	SA	3	14	-	-	-	-
Intramural and Extramural							
by Department.....	SA	7	22	20	50	35	82
	R&D	11	30	24	58	39	90
	RSA	16	40	30	70	45	102
Performer							
Totals.....	SA	4	16	17	44	32	76
	R&D	9	26	22	54	37	86
	RSA	15	38	28	66	43	98
by R&D and RSA.....	SA	5	18	18	46	33	78
by Department.....	SA	8	24	21	52	36	84
	R&D	12	32	25	60	40	92
in Universities and Non-profit Institutes by Type of Funding	R&D	13	34	26	62	41	94
by Department							
in Industry by Types of Funding	R&D	14	36	27	64	42	96
by Department							
Type of Funding							
Totals.....	R&D	10	28	23	56	38	88
in Universities and Non-profit Institutes by Department	R&D	13	34	26	62	41	94
in Industry by Department	R&D	14	36	27	64	42	96
Activity							
Totals.....	SA	2	13	-	-	-	-
	RSA	-	-	29	68	44	100
by Performer.....	SA	5	18	18	46	33	78
by Department.....	SA	6	20	19	48	34	80
	RSA	-	-	31	72	46	104

¹. SA - Scientific Activities = R&D + RSA

R&D - Research and Experimental Development

RSA - Related Scientific Activities

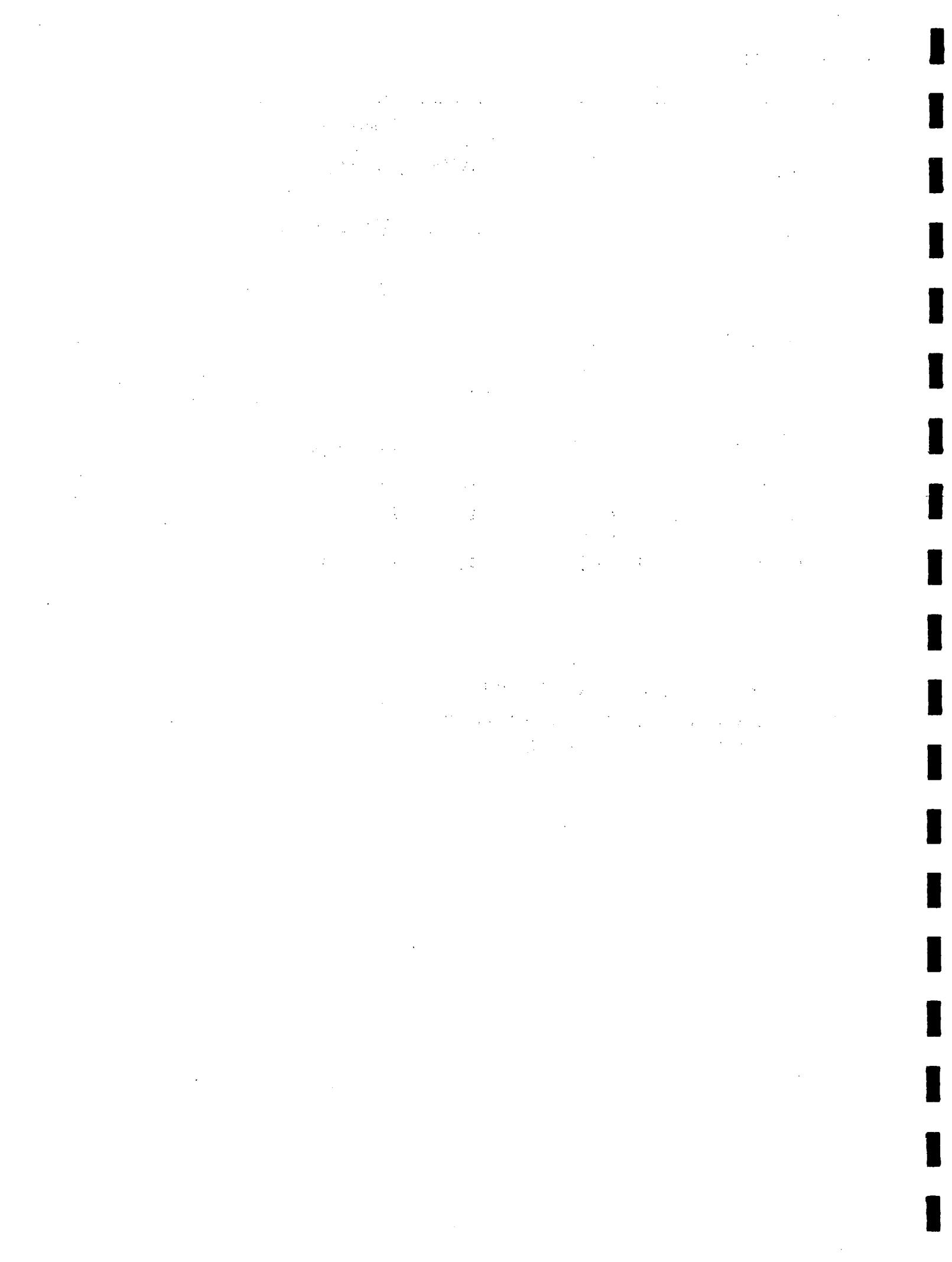
INDEX BY VARIABLE

Federal Expenditures on Science tabulated by...	Type of Activity	Natural and Human Sciences		Natural Sciences		Human Sciences	
		Table	Page	Table	Page	Table	Page
Department							
by Natural Science &....., Human Science	SA	3	14	-	-	-	-
by R&D and RSA.....	SA	6	20	19	48	34	80
by Intramural and Extramural....	SA	7	22	20	50	35	82
	R&D	11	30	24	58	39	49
	RSA	16	40	30	70	45	102
by Performer.....	SA	8	24	21	52	36	34
	R&D	12	32	25	60	40	92
by Activity.....	RSA	-	-	31	72	46	104
in Universities and Non-profit Institutes by Type of Funding	R&D	13	34	26	62	41	94
in Industry by Type of Funding	R&D	14	36	27	64	42	96

1. SA - Scientific Activities = R&D + RSA

R&D - Research and Experimental Development

RSA - Related Scientific Activities





Natural and Human Sciences

TABLE 1

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
NATURAL AND HUMAN SCIENCES, 1974-77

(\$ MILLIONS)

	1974-75		1975-76		1976-77		AVERAGE ANNUAL CHANGE
	\$	%	\$	%	\$	%	
NATURAL SCIENCES	977.6	(77.9)	1,089.9	(76.7)	1,198.2	(74.8)	10.7 %
HUMAN SCIENCES	278.0	(22.1)	330.6	(23.3)	403.8	(25.2)	20.5 %
TOTAL	1,255.6	(100.0)	1,420.5	(100.0)	1,602.1	(100.0)	13.0 %

** THESE FIGURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 2
NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY ACTIVITY, 1974-77
(\$ MILLIONS)

ACTIVITY	1974-75		1975-76		1976-77		AVERAGE ANNUAL CHANGE
	\$	%	\$	%	\$	%	
RESEARCH & DEVELOPMENT	802.1	(63.9)	910.8	(64.1)	976.9	(61.0)	10.4 %
RELATED SCIENTIFIC ACTIV.	453.5	(36.1)	509.7	(35.9)	625.1	(39.0)	17.4 %
TOTAL	1,255.6	(100.0)	1,420.5	(100.0)	1,602.1	(100.0)	13.0 %

** THESE FIGURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 3

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, NATURAL AND HUMAN SCIENCES, 1974-77
(\$ MILLIONS)

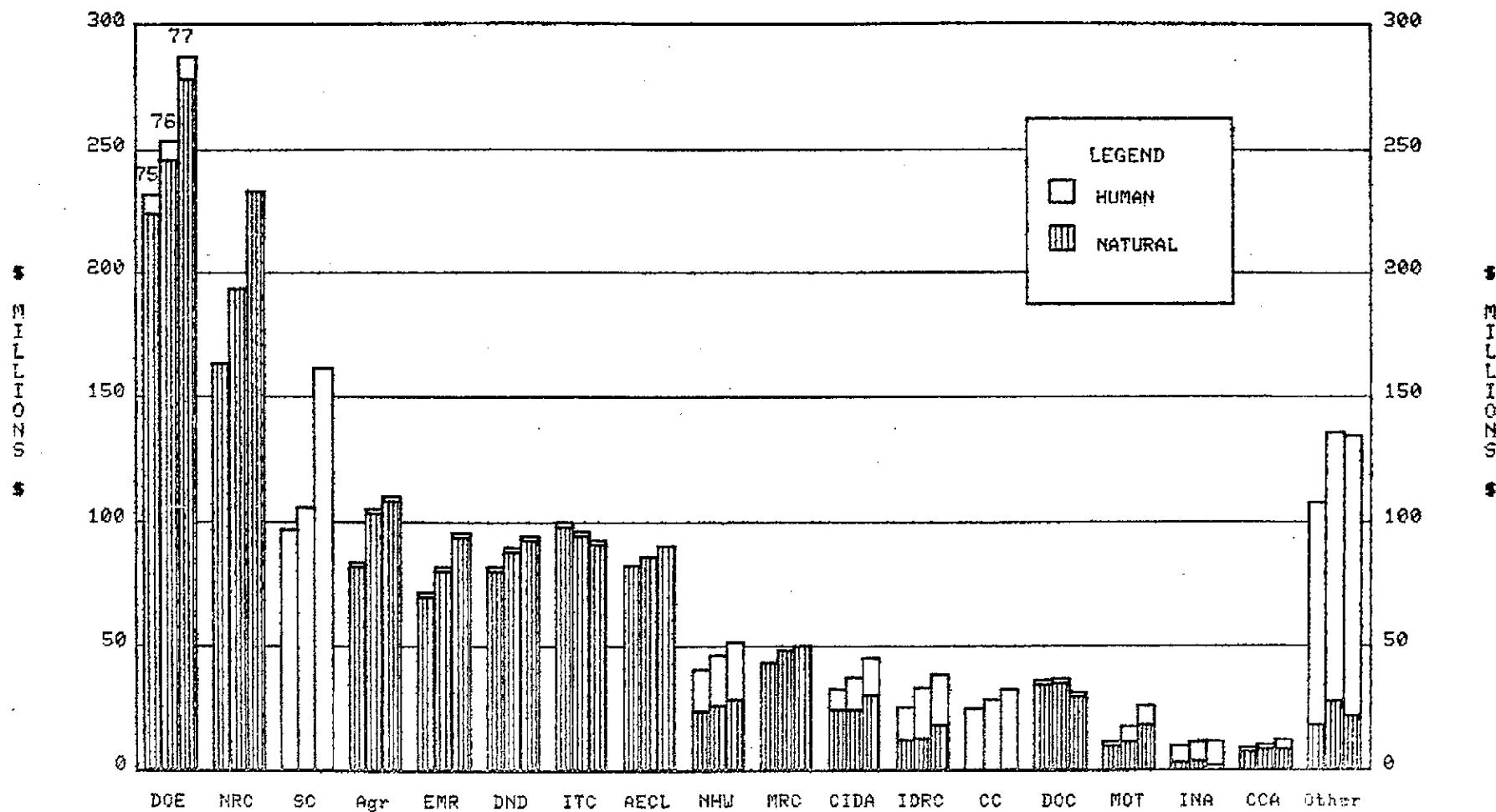
DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	NATURAL	HUMAN	TOTAL	NATURAL	HUMAN	TOTAL	NATURAL	HUMAN	TOTAL
DOE	223.8	8.0	231.8	245.8	7.8	253.7	278.9	8.5	287.4
NRC	163.5	—	163.5	193.5	—	193.5	233.0	—	233.0
SC	—	96.6	96.6	—	106.1	106.1	—	161.7	161.7
Agr	82.1	1.5	83.6	103.4	1.6	105.0	108.5	2.2	110.7
EMR	70.1	1.6	71.7	80.0	1.9	81.9	93.8	1.9	95.7
DND	80.3	1.9	82.2	88.2	1.9	90.1	92.5	2.0	94.4
ITC	98.0	1.3	99.3	94.4	2.0	96.4	91.1	1.0	92.1
AECL	82.3	—	82.3	85.9	—	85.9	90.6	—	90.6
NHW	23.8	17.0	40.8	26.1	20.3	46.4	28.8	23.1	51.9
MRC	43.7	—	43.7	48.4	—	48.4	50.1	—	50.1
CIDA	24.2	8.3	32.5	24.1	13.6	37.7	30.5	15.0	45.5
IDRC	12.0	13.6	25.6	13.0	20.6	33.5	18.5	20.4	38.9
CC	—	25.1	25.1	—	28.8	28.8	—	32.4	32.4
DOC	34.5	1.9	36.5	35.0	2.1	37.1	30.0	2.2	32.2
MOT	10.2	2.8	12.9	11.8	5.7	17.5	18.5	2.5	26.0
INA	3.2	6.6	9.8	3.8	7.7	11.5	2.8	9.7	12.4
CCA	7.8	2.1	9.8	8.5	2.7	11.2	8.9	3.3	12.2
DSS	1.8	0.2	2.0	10.0	0.5	10.6	10.1	0.5	10.6
NL	—	6.7	6.7	—	8.3	8.3	—	9.9	9.9
M&I	—	8.0	8.0	—	8.3	8.3	—	9.9	9.9
MUA	—	6.9	6.9	—	7.0	7.0	—	9.8	9.8
TBS	—	8.6	8.6	—	10.4	10.4	—	9.7	9.7
CMHC	0.7	3.0	4.0	1.2	3.9	5.1	1.9	5.4	7.3
Fin	—	4.3	4.3	—	5.0	5.0	—	6.1	6.1
PA	—	3.9	3.9	—	5.0	5.0	—	5.7	5.7
EA	—	3.2	3.2	—	4.2	4.2	—	5.1	5.1
NM	1.8	1.4	3.2	2.6	1.8	4.4	2.9	2.2	5.1
ECC	—	4.3	4.3	—	4.3	4.3	—	4.8	4.8
Jus	—	3.6	3.6	—	4.0	4.0	—	4.6	4.6
BoFC	—	3.6	3.6	—	4.3	4.3	—	4.5	4.5
SofS	—	3.3	3.3	—	4.3	4.3	—	4.4	4.4
FSC	—	2.6	2.6	—	3.7	5.7	—	4.1	4.1
MSST	0.1	3.3	3.4	—	2.8	2.8	—	3.4	3.4
DPW	1.2	—	1.2	2.3	—	2.3	3.0	—	3.0
UIC	—	1.7	1.7	—	2.6	2.6	—	3.0	3.0
COL	—	1.9	1.9	—	3.0	3.0	—	2.6	2.6
CTC	—	2.0	2.0	—	2.4	2.4	—	2.5	2.5
CBC	0.2	1.5	1.7	0.3	1.8	2.1	0.3	1.9	2.2
ScC	—	1.8	1.8	—	2.1	2.1	—	2.0	2.0
SG	—	0.6	0.6	—	1.4	1.4	—	1.6	1.6
DREE	—	0.9	0.9	0.2	1.0	1.2	1.1	0.6	1.7
Lab	—	2.8	2.8	—	3.1	3.1	—	1.7	1.7
NR	—	1.3	1.3	—	1.5	1.5	—	1.7	1.7
CPDL	1.1	—	1.1	1.3	—	1.3	1.3	—	1.3
PCO	—	2.7	2.7	—	5.9	5.9	—	0.9	0.9
FIRB	—	—	—	—	0.6	0.6	—	0.9	0.9
NCC	—	0.8	0.8	—	0.9	0.9	—	0.8	0.8
CRTC	—	0.6	0.6	—	0.7	0.7	—	0.6	0.6
AECB	10.4	—	10.4	9.1	—	9.1	0.6	—	0.6
HFB	0.3	0.2	0.5	0.6	0.2	0.8	0.6	—	0.6
PO	—	0.3	0.3	—	0.3	0.3	—	0.4	0.4
NHE	—	0.2	0.2	—	0.2	0.2	—	0.3	0.3
CLFB	—	0.1	0.1	—	0.1	0.1	—	0.1	0.1
CAL	0.1	—	0.1	0.2	—	0.2	0.1	—	0.1
DVA	0.3	—	0.3	0.4	0.1	0.4	—	—	—
IC	—	0.2	0.2	—	0.1	0.1	—	—	—
FPRB	—	1.9	1.9	—	1.9	1.9	—	—	—
Other	—	—	—	—	—	—	—	—	—
TOTAL	977.6	278.0	1,255.6	1,089.9	330.6	1,420.5	1,198.2	403.8	1,602.1

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 01

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, NATURAL AND HUMAN SCIENCES, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 4

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES

BY PERFORMER, 1974-77

(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	810.2	(64.5)	918.4	(64.7)	1,058.5	(66.1)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	189.0	(15.0)	211.4	(14.9)	223.4	(13.9)
INDUSTRY	179.6	(14.3)	196.6	(13.8)	213.2	(13.3)
FOREIGN	60.1	(4.8)	74.6	(5.3)	86.9	(5.4)
OTHER CANADIAN	16.7	(1.3)	19.4	(1.4)	20.2	(1.3)
TOTAL	1,255.6	(100.0)	1,420.5	(100.0)	1,602.1	(100.0)

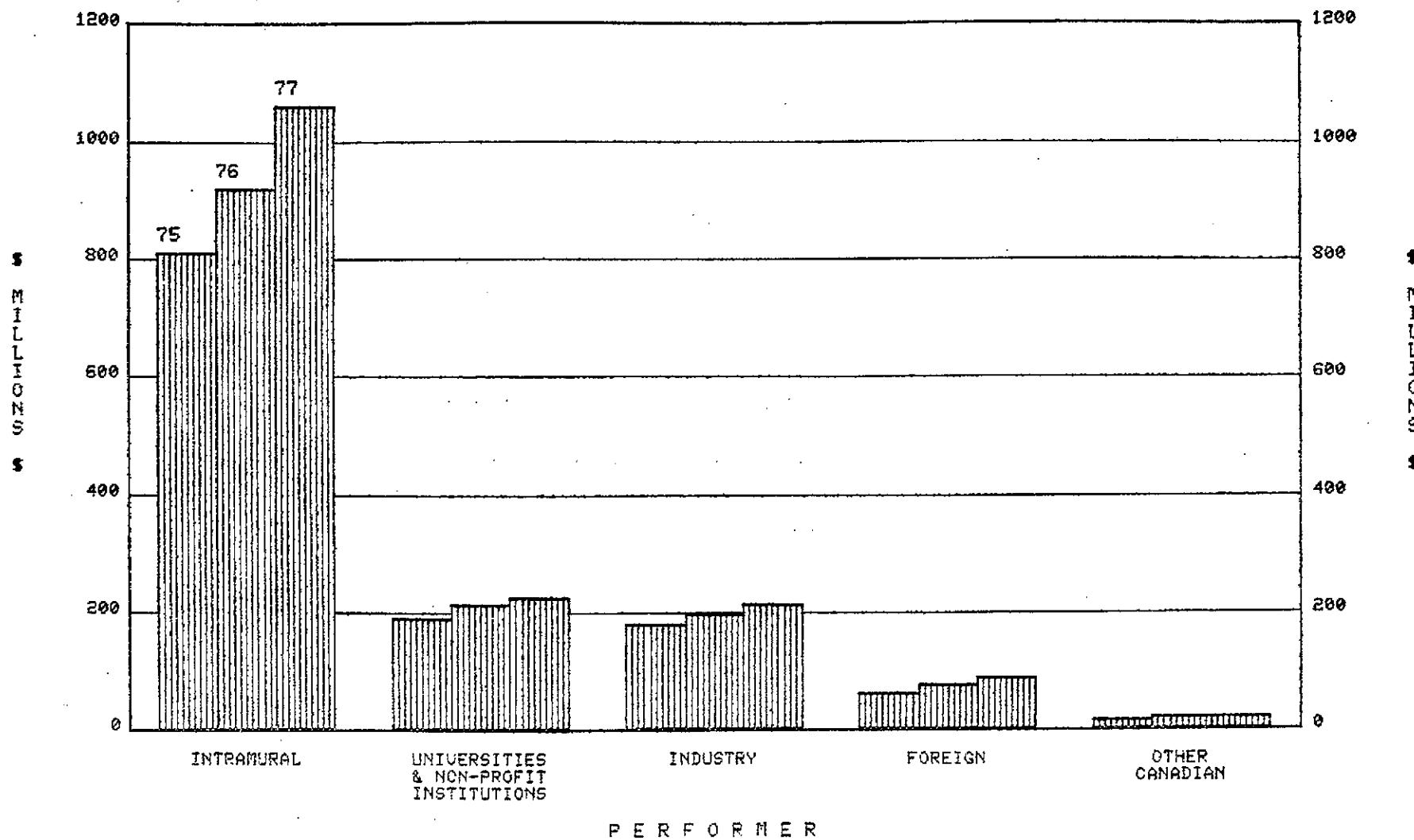
** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 4

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES

BY PERFORMER, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 5

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY ACTIVITY, 1974-77

(\$ MILLIONS)

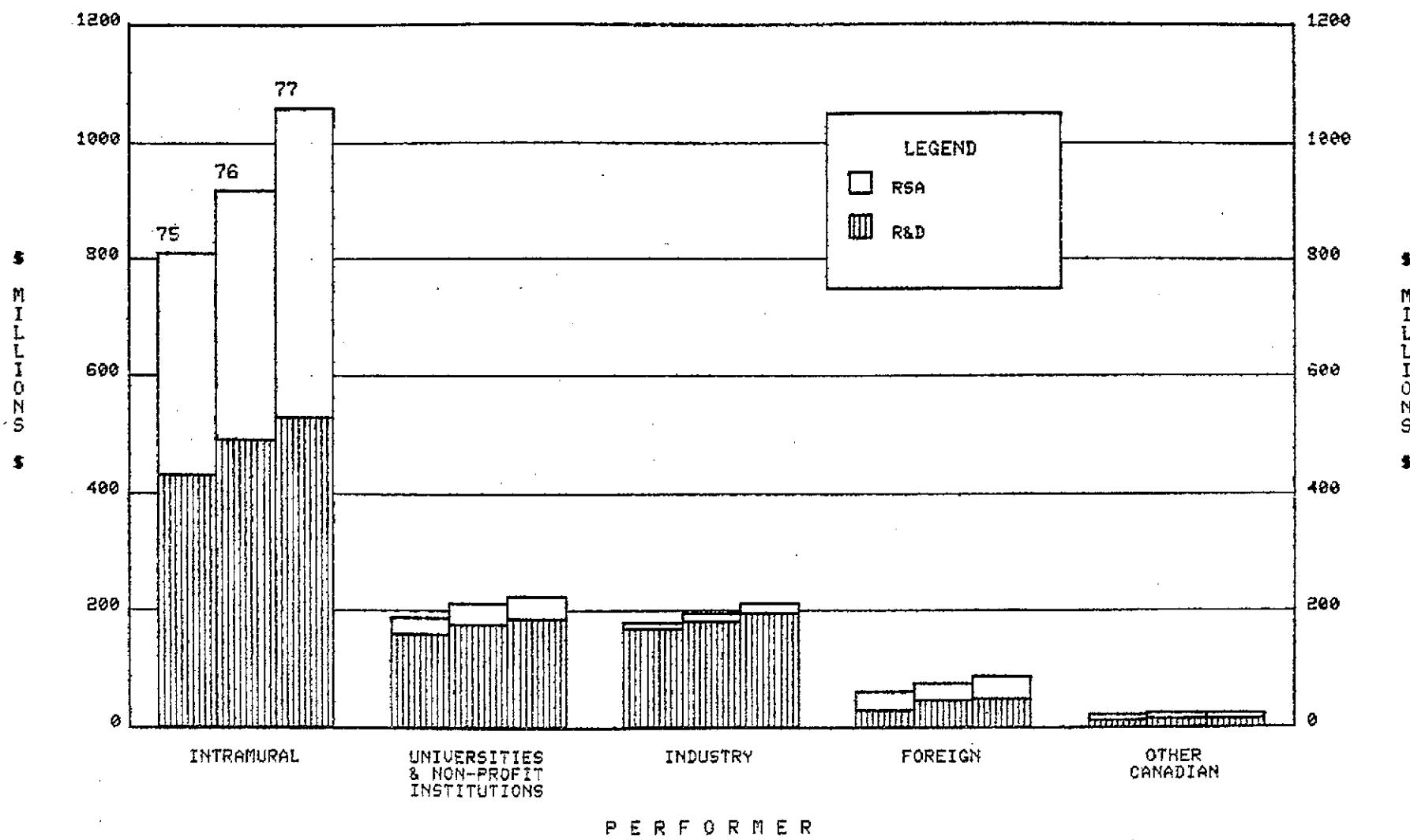
PERFORMER	1974-75			1975-76			1976-77		
	R&D	RSA	TOTAL	R&D	RSA	TOTAL	R&D	RSA	TOTAL
INTRAMURAL	431.1	379.1	810.2	490.6	427.9	918.4	529.0	529.5	1,058.5
UNIVERSITIES & NON-PROFIT INS	159.4	29.5	189.0	177.3	34.1	211.4	186.6	36.7	223.4
INDUSTRY	168.5	11.1	179.6	180.5	16.2	196.6	195.5	17.7	213.2
FOREIGN	30.1	30.0	60.1	47.1	27.5	74.6	49.8	37.1	86.9
OTHER CANADIAN	12.9	3.8	16.7	15.3	4.1	19.4	16.1	4.1	20.2
TOTAL	802.1	453.5	1,255.6	910.8	509.7	1,420.5	976.9	625.1	1,602.1

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 5

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY ACTIVITY, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 6

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, BY ACTIVITY, 1974-77
(\$ MILLIONS)

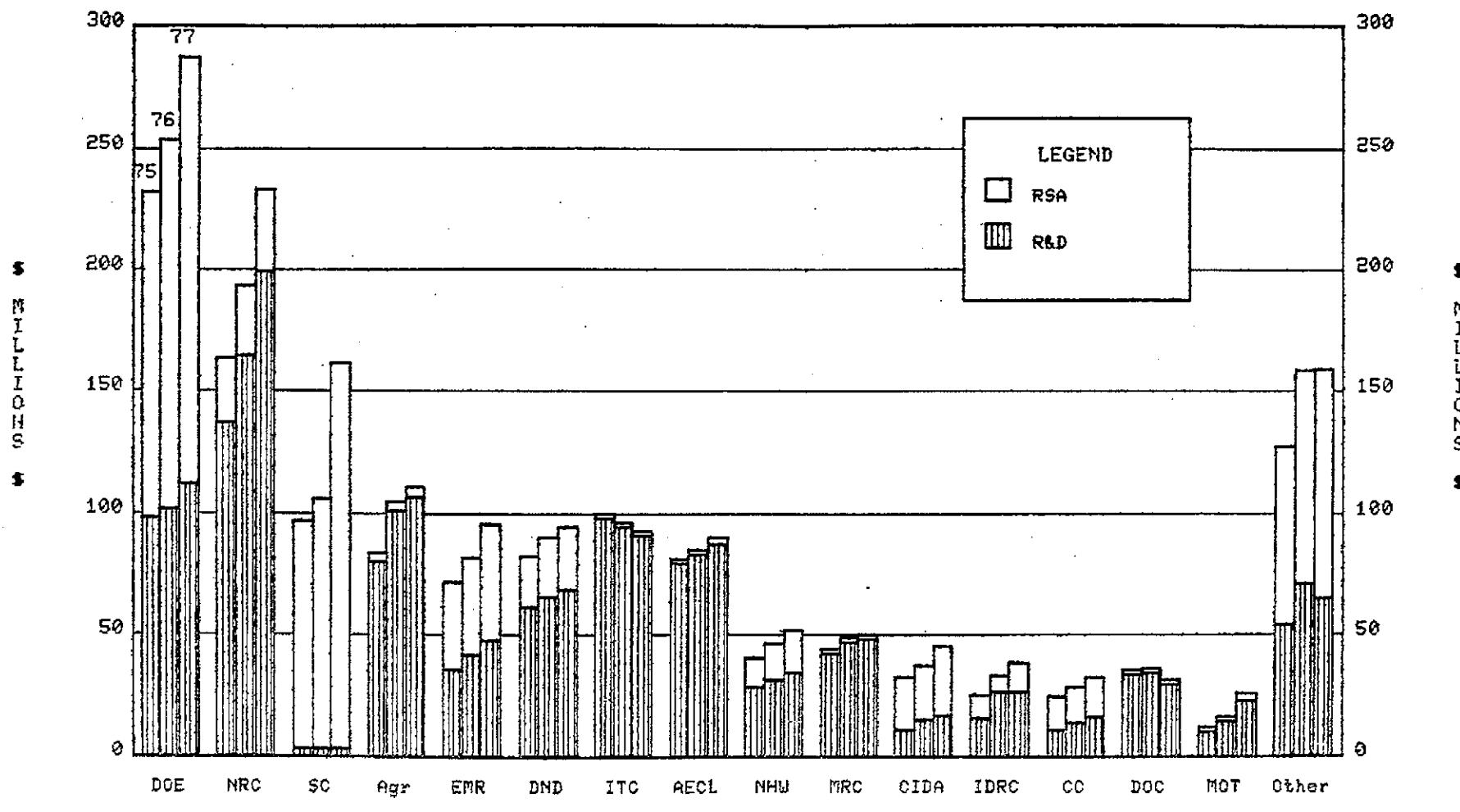
DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	R&D	RSA	TOTAL	R&D	RSA	TOTAL	R&D	RSA	TOTAL
DOE	98.2	133.6	231.8	101.8	151.9	253.7	111.9	175.5	287.4
NRC	137.0	26.5	163.5	164.6	28.9	193.5	199.4	33.6	233.0
SC	3.4	93.2	96.6	3.5	102.6	106.1	3.3	158.4	161.7
Agric	80.3	3.3	83.6	101.1	3.9	105.0	106.5	4.1	110.7
EMR	35.8	36.0	71.7	41.4	40.5	81.9	47.8	47.8	95.7
DND	61.6	20.6	82.2	65.7	24.4	90.1	68.7	25.7	94.4
ITC	98.2	1.1	99.3	94.7	1.7	96.4	90.8	1.4	92.1
AECL	79.6	2.7	82.3	83.1	2.8	85.9	87.4	3.1	90.6
NHW	28.7	12.1	40.8	31.4	15.0	46.4	34.6	17.3	51.9
MRC	42.1	1.6	43.7	46.8	1.6	48.4	48.6	1.5	50.1
CIDA	10.8	21.7	32.5	15.3	22.4	37.7	17.3	28.2	45.5
IDRC	16.2	9.4	25.6	26.7	6.9	33.5	26.4	12.5	38.9
CC	11.3	13.8	25.1	14.2	14.6	28.8	16.4	16.1	32.4
DOC	34.2	2.3	36.5	34.5	2.6	37.1	29.6	2.7	32.2
MOT	10.4	2.6	12.9	14.7	2.8	17.5	22.9	3.1	26.0
INA	7.2	2.5	9.8	8.8	2.8	11.5	9.3	3.1	12.4
CCA	1.9	8.0	9.8	2.4	8.7	11.2	3.1	9.1	12.2
DSS	1.6	0.4	2.0	8.0	2.6	10.6	7.7	2.9	10.6
NL	---	6.7	6.7	---	8.3	8.3	---	9.9	9.9
M&I	2.5	5.5	8.0	2.5	5.9	8.3	3.0	6.9	9.9
MJA	3.1	3.8	6.9	3.8	3.2	7.0	4.3	5.6	9.8
TBS	0.1	8.5	8.6	0.1	10.3	10.4	0.1	9.6	9.7
CMHC	1.8	2.8	4.6	1.7	3.3	5.1	2.7	4.6	7.3
Fin	---	4.3	4.3	---	5.0	5.0	---	6.1	6.1
PA	---	3.9	3.9	---	5.0	5.0	---	5.7	5.7
EA	---	3.2	3.2	---	4.2	4.2	---	5.1	5.1
NM	2.0	1.2	3.2	2.6	1.8	4.4	2.9	2.2	5.1
ECC	4.3	---	4.3	4.3	---	4.3	4.8	---	4.8
Jus	3.6	0.3	3.9	3.7	0.3	4.0	4.3	0.4	4.6
BofC	2.2	1.6	3.8	2.1	2.2	4.3	2.3	2.2	4.5
Other	24.1	20.3	44.4	31.2	23.7	54.9	20.7	20.9	41.6
TOTAL	802.1	453.5	1,255.6	910.8	509.7	1,420.5	976.9	625.1	1,602.1

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 06

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, BY ACTIVITY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 7

NATURAL AND HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON SCIENTIFIC ACTIVITIES

BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

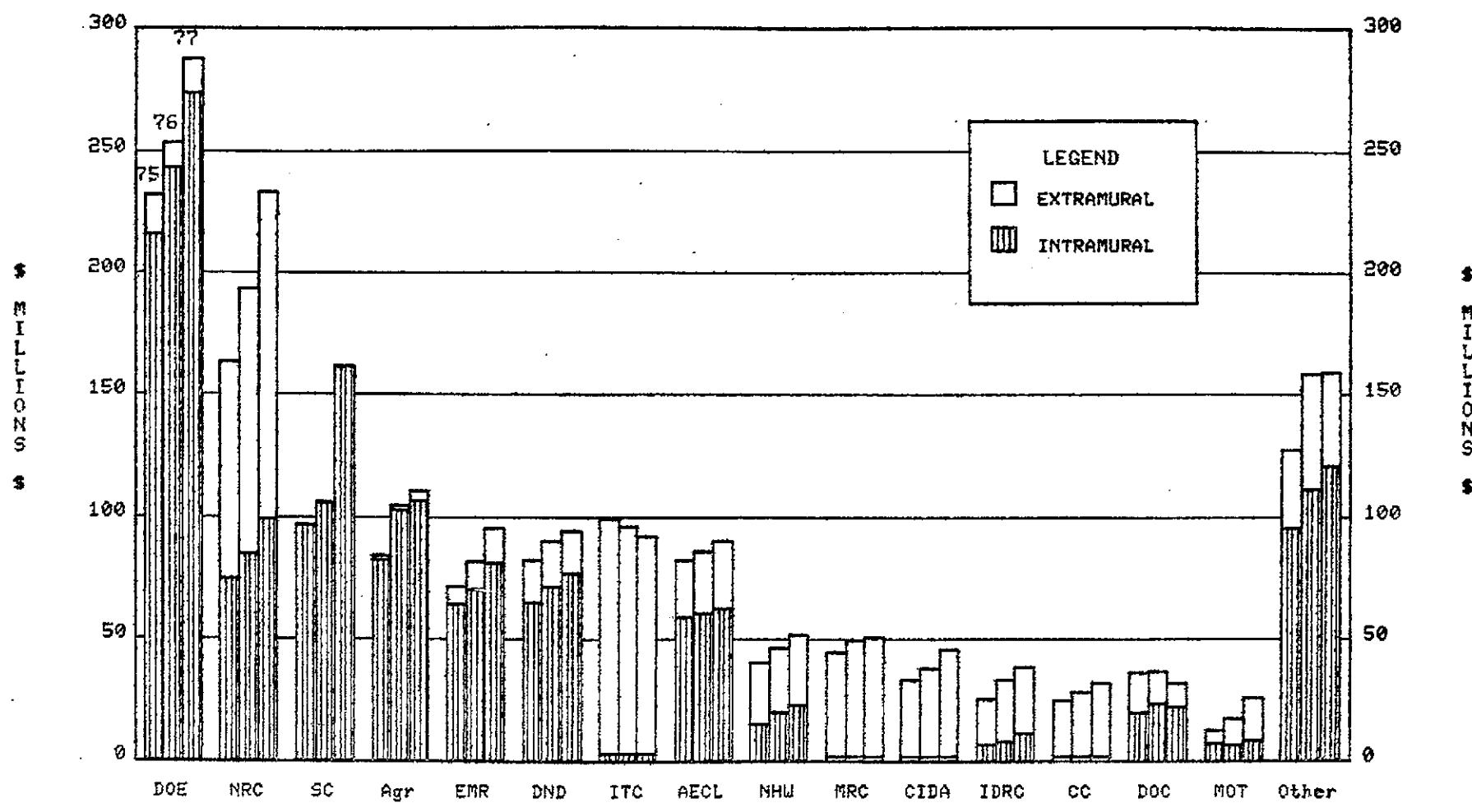
DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
DOE	215.7	16.1	231.8	243.0	10.6	253.7	274.1	13.3	287.4
NRC	74.9	88.6	163.5	84.8	108.7	193.5	99.3	133.7	233.0
SC	96.6	—	96.6	106.1	—	106.1	161.7	—	161.7
Agr	82.3	1.3	83.6	102.7	2.3	105.0	106.8	3.9	110.7
EMR	64.8	6.9	71.7	70.5	11.4	81.9	81.5	14.1	95.7
DND	65.0	17.3	82.2	72.0	18.1	90.1	77.3	17.1	94.4
ITC	3.5	95.9	99.3	3.4	93.0	96.4	3.3	88.9	92.1
AECL	59.0	23.2	82.3	61.1	24.8	85.9	62.8	27.8	90.6
NHW	15.0	25.8	40.8	20.4	26.0	46.4	23.2	28.7	51.9
MRC	0.8	42.9	43.7	1.0	47.4	48.4	1.2	48.8	50.1
CIDA	0.9	31.6	32.5	1.1	36.6	37.7	1.2	44.3	45.5
IDRC	6.9	18.7	25.6	8.2	25.3	33.5	11.7	27.2	38.9
CC	1.8	23.3	25.1	2.0	26.8	28.8	2.3	30.2	32.4
DOC	20.1	16.4	36.5	23.6	13.5	37.1	22.3	9.9	32.2
MOT	7.3	5.6	12.9	7.1	10.4	17.5	8.5	17.5	26.0
INA	7.6	2.2	9.8	8.6	2.9	11.5	9.4	3.1	12.4
CCA	9.4	0.5	9.8	10.6	0.6	11.2	11.3	0.9	12.2
DSS	0.2	1.9	2.0	0.6	10.0	10.6	0.6	10.0	10.6
NL	6.7	—	6.7	8.3	—	8.3	9.9	—	9.9
M&I	7.3	0.7	8.0	7.2	1.1	8.3	8.5	1.4	9.9
MUA	4.0	2.9	6.9	2.6	4.4	7.0	5.7	4.1	9.8
TBS	8.5	0.1	8.6	10.3	0.1	10.4	9.6	0.1	9.7
CMHC	2.2	2.4	4.6	2.6	2.5	5.1	3.6	3.7	7.3
Fin	4.3	—	4.3	5.0	—	5.0	6.1	—	6.1
PA	3.9	—	3.9	5.0	—	5.0	5.7	—	5.7
EA	3.1	0.1	3.2	4.1	0.1	4.2	4.9	0.2	5.1
NM	2.9	0.3	3.2	3.8	0.6	4.4	4.3	0.8	5.1
ECC	3.9	0.4	4.3	3.9	0.4	4.3	4.4	0.4	4.8
Jus	2.9	1.0	3.9	2.8	1.2	4.0	3.3	1.4	4.6
BofC	3.8	—	3.8	4.3	—	4.3	4.5	—	4.5
Other	25.0	19.4	44.4	31.7	23.2	54.9	29.4	12.2	41.6
TOTAL	810.2	445.4	1,255.6	918.4	502.1	1,420.5	1,058.5	543.6	1,602.1

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 87

NATURAL AND HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 8

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES

BY PERFORMER, BY FUNDING DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

PERFORMER	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
INTRAMURAL	DOE	215.7	(26.6)	243.0	(26.5)	274.1	(25.9)
*****	SC	96.6	(11.9)	106.1	(11.5)	161.7	(15.3)
	Agr	82.3	(10.2)	102.7	(11.2)	106.8	(10.1)
	NRC	74.9	(9.2)	84.8	(9.2)	99.3	(9.4)
	EMR	64.8	(8.0)	70.5	(7.7)	81.5	(7.7)
	DND	65.0	(8.0)	72.0	(7.8)	77.3	(7.3)
	AECL	59.0	(7.3)	61.1	(6.6)	62.8	(5.9)
	NHW	15.0	(1.9)	20.4	(2.2)	23.2	(2.2)
	DOC	20.1	(2.5)	23.6	(2.6)	22.3	(2.1)
	IDRC	6.9	(0.9)	8.2	(0.9)	11.7	(1.1)
	CCA	9.4	(1.2)	10.6	(1.2)	11.3	(1.1)
	NL	6.7	(0.8)	8.3	(0.9)	9.9	(0.9)
	TBS	8.5	(1.1)	10.3	(1.1)	9.6	(0.9)
	INA	7.6	(0.9)	8.6	(0.9)	9.4	(0.9)
	M&I	7.3	(0.9)	7.2	(0.8)	8.5	(0.8)
	Other	70.4	(8.7)	81.2	(8.8)	88.9	(8.4)
	TOTAL	810.2	(100.0)	918.4	(100.0)	1,058.5	(100.0)
EXTRAMURAL	NRC	67.6	(35.8)	77.2	(36.5)	89.7	(40.1)
*****	MRC	40.5	(21.4)	45.2	(21.4)	46.4	(20.8)
UNIVERSITIES	CC	20.0	(10.6)	23.5	(11.1)	26.5	(11.9)
& NON-PROFIT	NHW	21.9	(11.6)	21.2	(10.0)	23.1	(10.3)
INSTITUTIONS	DOE	4.9	(2.6)	4.5	(2.1)	5.6	(2.5)
	ITC	1.8	(0.9)	2.4	(1.1)	4.3	(1.9)
	CIDA	2.1	(1.1)	3.5	(1.7)	3.9	(1.8)
	Agr	1.2	(0.6)	1.6	(0.8)	2.7	(1.2)
	MOT	1.8	(1.0)	2.6	(1.2)	2.6	(1.2)
	MUA	1.7	(0.9)	2.0	(0.9)	2.5	(1.1)
	Other	25.5	(13.5)	27.7	(13.1)	15.9	(7.1)
	TOTAL	189.0	(100.0)	211.4	(100.0)	223.4	(100.0)

INDUSTRY	ITC	92.9	(51.8)	88.7	(45.1)	83.5	(39.2)
	NRC	16.3	(9.1)	23.5	(11.9)	37.1	(17.4)
	AECL	22.0	(12.3)	23.5	(12.0)	26.9	(12.6)
	MOT	3.3	(1.9)	6.9	(3.5)	13.6	(6.4)
	DND	12.4	(6.9)	13.1	(6.7)	13.3	(6.3)
	EMR	4.9	(2.7)	7.7	(3.9)	9.9	(4.7)
	DSS	1.6	(0.9)	8.2	(4.2)	8.1	(3.8)
	DOE	5.7	(3.1)	3.5	(1.8)	5.4	(2.6)
	DOC	13.7	(7.6)	10.4	(5.3)	3.2	(1.5)
	CMHC	0.5	(0.3)	0.7	(0.4)	1.3	(0.6)
	Other	6.3	(3.5)	10.3	(5.3)	10.6	(5.0)
	TOTAL	179.6	(100.0)	196.6	(100.0)	213.2	(100.0)

FOREIGN	CIDA	29.5	(49.1)	33.1	(44.3)	40.4	(46.4)
	IDRC	16.7	(27.8)	23.2	(31.1)	24.8	(28.5)
	NRC	4.1	(6.8)	7.4	(9.9)	6.3	(7.3)
	DOC	1.6	(2.7)	2.1	(2.7)	5.5	(6.3)
	CC	3.3	(5.4)	3.3	(4.4)	3.6	(4.2)
	DND	1.4	(2.3)	2.1	(2.8)	2.5	(2.8)
	MRC	2.4	(3.9)	2.2	(3.0)	2.4	(2.8)
	NHW	0.4	(0.6)	0.4	(0.6)	0.5	(0.6)
	MSST	0.2	(0.3)	0.2	(0.3)	0.3	(0.3)
	DOE	0.1	(0.2)	0.2	(0.2)	0.2	(0.3)
	Other	0.5	(0.8)	0.5	(0.6)	0.4	(0.5)
	TOTAL	60.1	(100.0)	74.6	(100.0)	86.9	(100.0)

OTHER CANADIAN	NHW	3.4	(20.2)	4.2	(21.4)	4.6	(23.0)
	EMR	0.4	(2.4)	2.1	(10.8)	2.3	(11.6)
	DOE	5.5	(32.9)	2.5	(12.6)	2.0	(9.9)
	DREE	0.6	(3.5)	0.8	(4.3)	1.3	(6.2)
	MOT	0.4	(2.1)	0.8	(4.2)	1.2	(6.1)
	ITC	1.1	(6.6)	1.8	(9.2)	1.0	(4.8)
	IDRC	0.4	(2.3)	1.0	(5.4)	0.9	(4.6)
	CMHC	0.7	(4.0)	0.6	(2.9)	0.8	(4.2)
	INA	0.6	(3.3)	0.7	(3.7)	0.8	(3.8)
	Jus	0.6	(3.7)	0.6	(3.3)	0.7	(3.7)
	Other	3.1	(18.8)	4.3	(22.1)	4.4	(22.0)
	TOTAL	16.7	(100.0)	19.4	(100.0)	20.2	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 9

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY PERFORMER, 1974-77

(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	431.1	(53.7)	490.6	(53.9)	529.0	(54.1)
INDUSTRY	168.5	(21.0)	180.5	(19.8)	195.5	(20.0)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	159.4	(19.9)	177.3	(19.5)	186.6	(19.1)
FOREIGN	30.1	(3.8)	47.1	(5.2)	49.8	(5.1)
OTHER CANADIAN	12.9	(1.6)	15.3	(1.7)	16.1	(1.6)
TOTAL	802.1	(100.0)	910.8	(100.0)	976.9	(100.0)

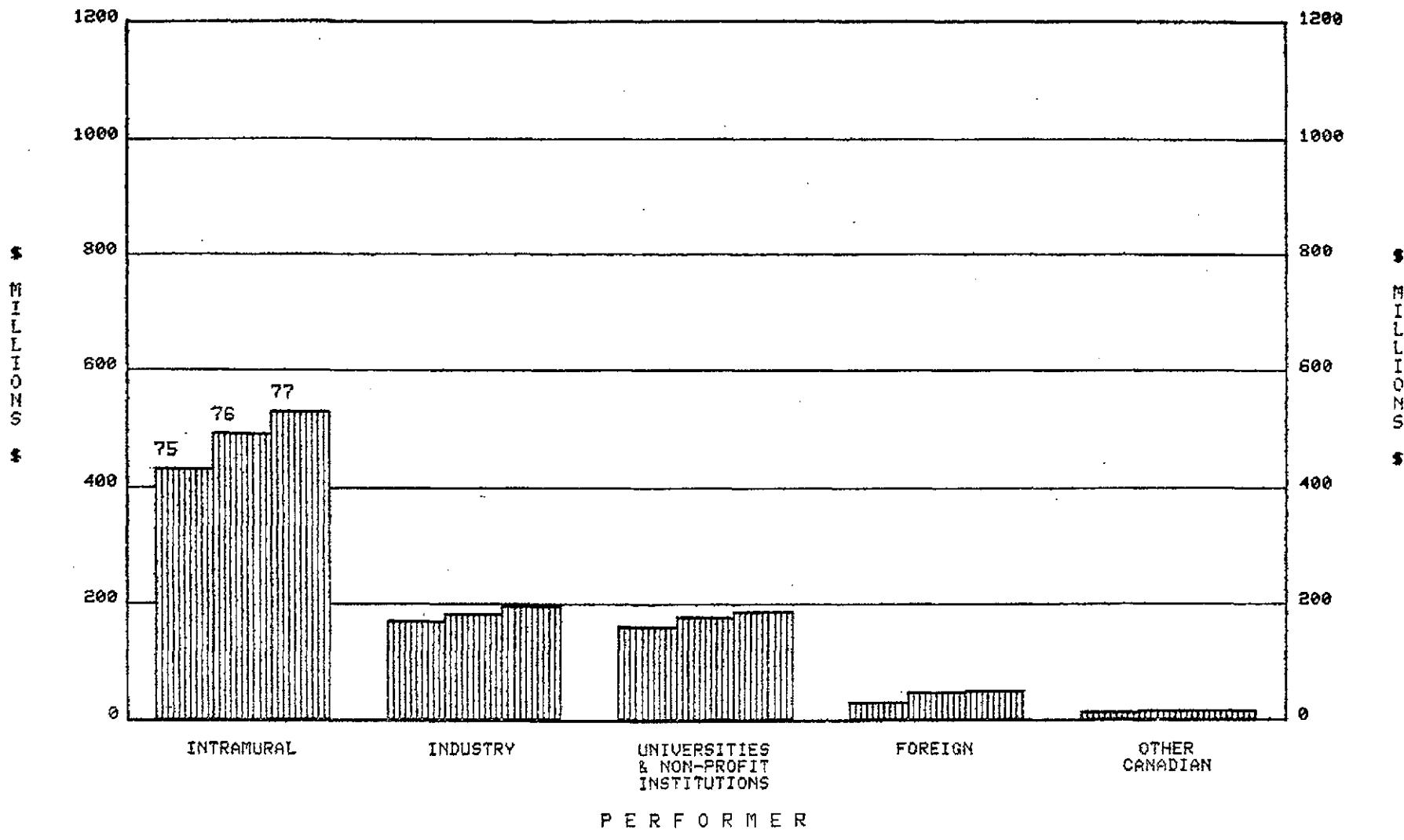
** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 9

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY PERFORMER, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 10

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY TYPE OF FUNDING, 1974-77

(\$ MILLIONS)

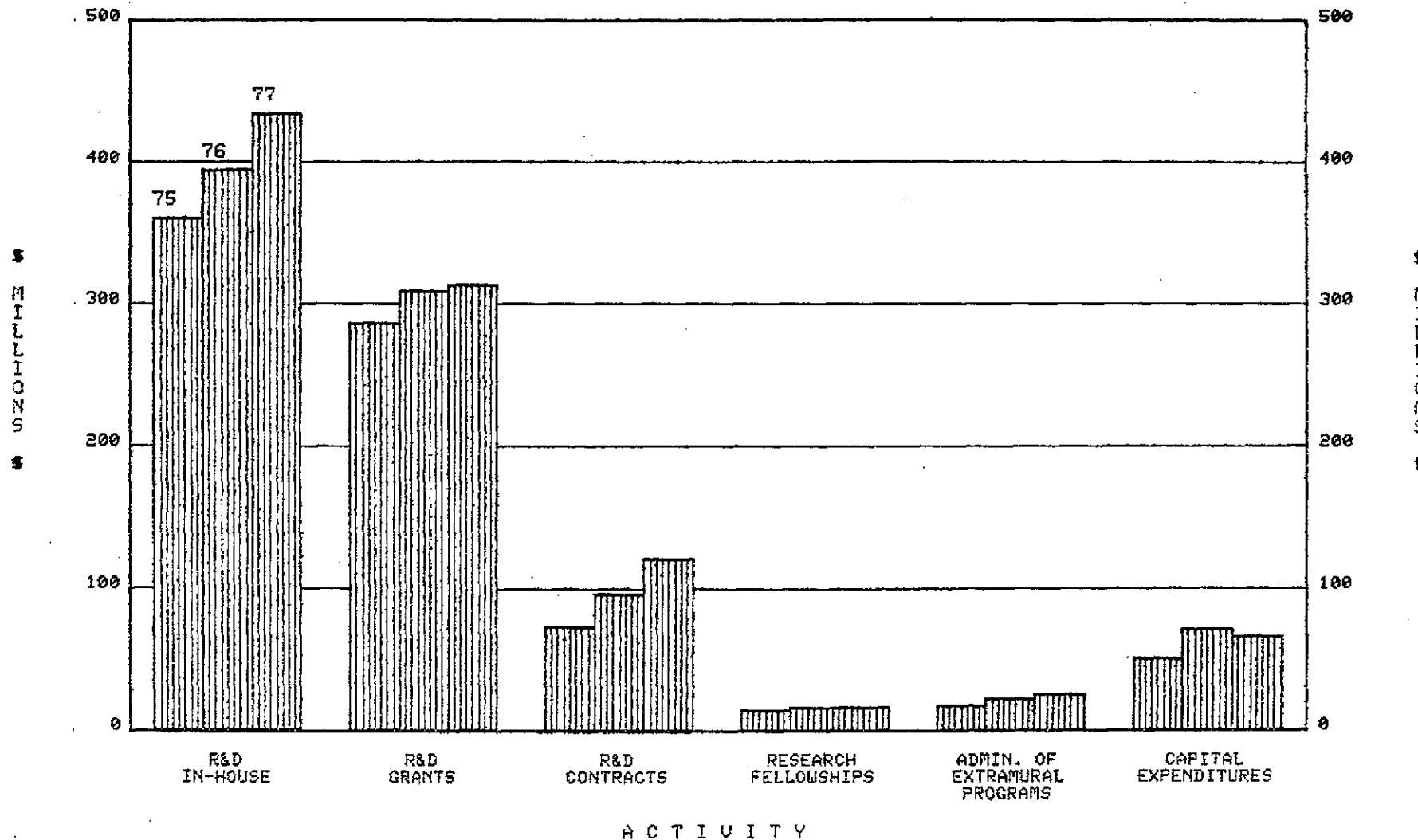
TYPE OF FUNDING	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
CURRENT	751.4	(93.7)	838.9	(92.1)	910.2	(93.2)
IN-HOUSE R&D	360.3	(44.9)	394.0	(43.3)	434.0	(44.4)
R&D GRANTS	286.5	(35.7)	309.9	(34.0)	313.3	(32.1)
R&D CONTRACTS	73.0	(9.1)	96.5	(10.6)	121.2	(12.4)
RESEARCH FELLOWSHIPS	14.6	(1.8)	16.4	(1.8)	16.2	(1.7)
ADMIN. OF EXTRAMURAL PROGRAMS	17.1	(2.1)	22.1	(2.4)	25.5	(2.6)
CAPITAL EXPENDITURES	50.7	(6.3)	71.9	(7.9)	66.8	(6.8)
TOTAL	802.1	(100.0)	910.8	(100.0)	976.9	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 10

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY TYPE OF FUNDING, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 11

NATURAL AND HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

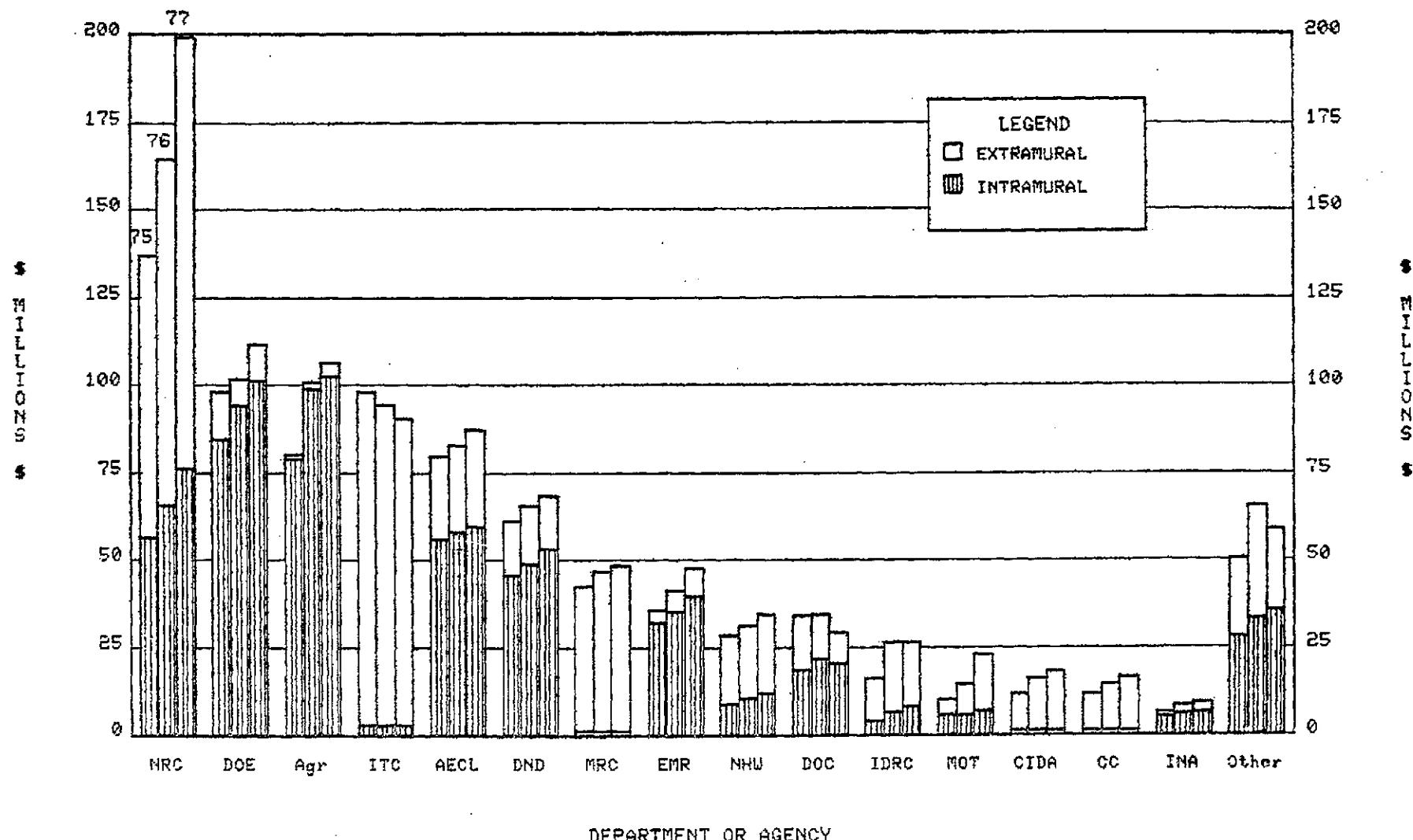
DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
NRC	56.5	80.5	137.0	65.6	99.0	164.6	76.1	123.2	199.4
DOE	84.7	13.6	98.2	94.0	7.8	101.8	101.6	10.4	111.9
Agri	79.0	1.3	80.3	98.8	2.3	101.1	102.6	3.9	106.5
ITC	3.1	95.1	98.2	3.0	91.6	94.7	2.9	87.9	90.8
AECL	56.4	23.2	79.6	58.3	24.8	83.1	59.7	27.8	87.4
DND	45.8	15.8	61.6	49.2	16.5	65.7	53.3	15.4	68.7
MRC	0.8	41.4	42.1	0.9	45.9	46.8	1.1	47.4	48.6
EMR	32.3	3.4	35.8	35.3	6.1	41.4	39.9	8.0	47.8
NHW	9.0	19.7	28.7	10.6	20.7	31.4	12.4	22.2	34.6
DOC	18.5	15.7	34.2	21.9	12.7	34.5	20.6	8.9	29.6
IDRC	4.4	11.8	16.2	6.5	20.2	26.7	8.1	18.4	26.4
MOT	5.9	4.4	10.4	5.6	9.1	14.7	6.9	16.1	22.9
CIDA	0.3	10.5	10.8	0.4	15.0	15.3	0.4	16.9	17.3
CC	0.8	10.5	11.3	0.8	13.3	14.2	1.0	15.4	16.4
INA	5.3	2.0	7.2	6.1	2.7	8.8	6.6	2.7	9.3
DSS	0.1	1.5	1.6	0.5	2.5	8.0	0.5	2.2	7.7
ECC	3.9	0.4	4.3	3.9	0.4	4.3	4.4	0.4	4.8
Jus	2.7	1.0	3.6	2.5	1.2	3.7	2.9	1.4	4.3
MJA	1.1	2.0	3.1	1.2	2.6	3.8	1.8	2.5	4.3
PSC	2.6	---	2.6	3.2	---	3.7	4.1	---	4.1
SC	3.4	---	3.4	3.5	---	3.5	3.3	---	3.3
CCA	1.5	0.4	1.9	2.0	0.4	2.4	2.3	0.8	3.1
M&I	1.7	0.7	2.5	1.3	1.1	2.5	1.6	1.4	3.0
NM	1.8	0.1	2.0	2.3	0.3	2.6	2.5	0.4	2.9
CMHC	0.7	1.1	1.8	0.8	1.0	1.7	1.1	1.6	2.7
BafC	2.2	---	2.2	2.1	---	2.1	2.3	---	2.3
DPW	0.5	---	0.5	1.2	0.2	1.4	2.0	0.2	2.2
UIC	0.5	0.5	1.0	0.7	1.0	1.6	1.0	1.1	2.1
CTC	0.7	0.7	1.4	0.9	0.8	1.7	1.0	0.8	1.8
SG	0.1	0.3	0.5	0.5	0.7	1.3	0.7	1.1	1.8
Other	4.8	13.4	18.2	6.2	15.4	21.6	4.3	4.5	8.8
TOTAL	431.1	371.0	802.1	490.6	420.2	910.8	529.0	448.0	976.9

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 11

NATURAL AND HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 12
NATURAL AND HUMAN SCIENCES
FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY PERFORMER, BY FUNDING DEPARTMENT OR AGENCY, 1974-77
(\$ MILLIONS)

PERFORMER	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
INTRAMURAL	Agr	79.0	(18.3)	98.8	(20.1)	102.6	(19.4)
*****	DOE	84.7	(19.6)	94.0	(19.2)	101.6	(19.2)
	NRC	56.5	(13.1)	65.6	(13.4)	76.1	(14.4)
	AECL	56.4	(13.1)	58.3	(11.9)	59.7	(11.3)
	DND	45.8	(10.6)	49.2	(10.0)	53.3	(10.1)
	EMR	32.3	(7.5)	35.3	(7.2)	39.9	(7.5)
	DOC	18.5	(4.3)	21.9	(4.5)	20.6	(3.9)
	NHW	9.0	(2.1)	10.6	(2.2)	12.4	(2.3)
	IDRC	4.4	(1.0)	6.5	(1.3)	8.1	(1.5)
	MOT	5.9	(1.4)	5.6	(1.1)	6.9	(1.3)
	INA	5.3	(1.2)	6.1	(1.2)	6.6	(1.2)
	ECC	3.9	(0.9)	3.9	(0.8)	4.4	(0.8)
	PSC	2.6	(0.6)	3.7	(0.7)	4.1	(0.8)
	SC	3.4	(0.8)	3.5	(0.7)	3.3	(0.6)
	Jus	2.7	(0.6)	2.5	(0.5)	2.9	(0.5)
	Other	20.8	(4.8)	25.0	(5.1)	26.4	(5.0)
	TOTAL	431.1	(100.0)	490.6	(100.0)	529.0	(100.0)
EXTRAMURAL	ITC	92.7	(55.0)	88.2	(48.9)	83.4	(42.7)
*****	NRC	16.3	(9.6)	23.5	(13.0)	37.1	(19.0)
INDUSTRY	AECL	22.0	(13.1)	23.5	(13.0)	26.9	(13.8)
	MOT	2.7	(1.6)	6.3	(3.5)	12.7	(6.5)
	DND	10.9	(6.5)	11.5	(6.4)	11.6	(5.9)
	DSS	1.3	(0.7)	6.0	(3.3)	5.6	(2.9)
	EMR	1.6	(1.0)	2.6	(1.4)	4.0	(2.0)
	DOE	4.3	(2.5)	2.2	(1.2)	3.9	(2.0)
	DOC	13.3	(7.9)	9.9	(5.5)	2.7	(1.4)
	UIC	0.4	(0.3)	0.9	(0.5)	1.1	(0.5)
	Other	3.2	(1.9)	6.0	(3.3)	6.5	(3.3)
	TOTAL	168.5	(100.0)	180.5	(100.0)	195.5	(100.0)

UNIVERSITIES & NON-PROFIT INSTITUTIONS	NRC	60.4	(37.9)	68.5	(38.6)	80.3	(43.0)
	MRC	39.0	(24.5)	43.6	(24.6)	45.1	(24.1)
	NHW	17.0	(10.6)	16.9	(9.5)	18.0	(9.6)
	CC	10.5	(6.6)	13.3	(7.5)	15.4	(8.2)
	DOE	4.8	(3.0)	4.3	(2.4)	5.4	(2.9)
	ITC	1.4	(0.9)	1.8	(1.0)	3.7	(2.0)
	Agr	1.2	(0.7)	1.6	(0.9)	2.7	(1.5)
	MOT	1.4	(0.9)	2.0	(1.1)	2.1	(1.2)
	EMR	1.4	(0.9)	1.5	(0.8)	1.7	(0.9)
	MUA	1.1	(0.7)	1.4	(0.8)	1.5	(0.8)
	Other	21.1	(13.2)	22.4	(12.6)	10.7	(5.7)
	TOTAL	159.4	(100.0)	177.3	(100.0)	186.6	(100.0)

FOREIGN	CIDA	10.4	(34.4)	14.8	(31.3)	16.6	(33.3)
	IDRC	10.0	(33.2)	18.2	(38.7)	16.1	(32.3)
	NRC	3.8	(12.5)	7.0	(14.8)	5.9	(11.8)
	DOC	1.6	(5.5)	2.1	(4.3)	5.5	(11.0)
	DND	1.4	(4.7)	2.1	(4.4)	2.5	(5.0)
	MRC	2.3	(7.6)	2.2	(4.7)	2.4	(4.7)
	NHW	0.2	(0.7)	0.3	(0.6)	0.3	(0.7)
	DOE	0.1	(0.3)	0.2	(0.4)	0.2	(0.4)
	NM	--	(--)	0.1	(0.1)	0.1	(0.2)
	Agr	--	(--)	--	(--)	0.1	(0.1)
	Other	0.3	(1.0)	0.3	(0.6)	0.2	(0.4)
	TOTAL	30.1	(100.0)	47.1	(100.0)	49.8	(100.0)

OTHER CANADIAN	NHW	2.4	(18.5)	3.4	(22.4)	3.8	(23.5)
	EMR	0.3	(2.3)	2.0	(12.8)	2.2	(13.7)
	DREE	0.6	(4.5)	0.8	(5.3)	1.3	(7.8)
	MOT	0.3	(2.5)	0.8	(5.0)	1.2	(7.4)
	IDRC	0.4	(3.0)	1.0	(6.8)	0.9	(5.8)
	DOE	4.4	(33.7)	1.1	(7.0)	0.9	(5.4)
	ITC	0.9	(7.0)	1.6	(10.4)	0.8	(5.2)
	Jus	0.6	(4.7)	0.6	(4.2)	0.7	(4.6)
	INA	0.5	(4.0)	0.7	(4.6)	0.7	(4.6)
	Agr	0.1	(0.7)	0.3	(2.0)	0.6	(3.4)
	Other	2.5	(19.1)	3.0	(19.4)	3.0	(18.6)
	TOTAL	12.9	(100.0)	15.3	(100.0)	16.1	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 13

NATURAL AND HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
 IN CANADIAN UNIVERSITIES AND NON-PROFIT INSTITUTIONS
 BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75		1975-76		1976-77	
	GRANTS	CONTRACTS	GRANTS	CONTRACTS	GRANTS	CONTRACTS
NRC	58.7	0.2	66.3	0.3	79.1	0.1
MRC	37.4	---	41.5	---	43.1	---
NHW	16.6	---	16.5	0.1	17.5	0.1
CC	6.5	0.3	8.7	0.4	10.9	---
DOE	2.5	2.2	2.5	1.8	3.2	2.1
ITC	1.4	---	1.8	---	3.7	---
Agr	0.9	0.2	0.9	0.7	1.4	1.3
MOT	0.4	0.8	0.9	0.9	0.8	1.0
EMR	0.9	0.5	1.0	0.5	1.2	0.5
MUA	1.0	0.2	1.0	0.3	1.1	0.4
DSS	---	0.2	---	1.2	---	1.3
DND	3.0	0.4	2.4	0.4	0.6	0.7
INA	0.4	0.6	0.4	0.7	0.4	0.9
IDRC	1.3	---	0.3	---	1.1	---
SG	0.1	0.2	0.1	0.4	0.1	0.6
DOC	---	0.8	---	0.7	---	0.7
SofS	0.7	0.1	0.7	0.1	0.7	---
PCO	0.5	0.1	3.5	0.1	0.5	0.1
AECI	---	0.8	---	0.9	---	0.6
AECB	10.4	---	8.9	0.1	---	0.5
Other	0.9	0.6	0.8	0.6	1.1	0.7
TOTAL	143.6	8.2	158.2	10.2	166.5	11.5

HISTOGRAM 13

NATURAL AND HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN UNIVERSITIES AND NON-PROFIT INSTITUTIONS
BY DEPARTMENT OR AGENCY, 1974-77

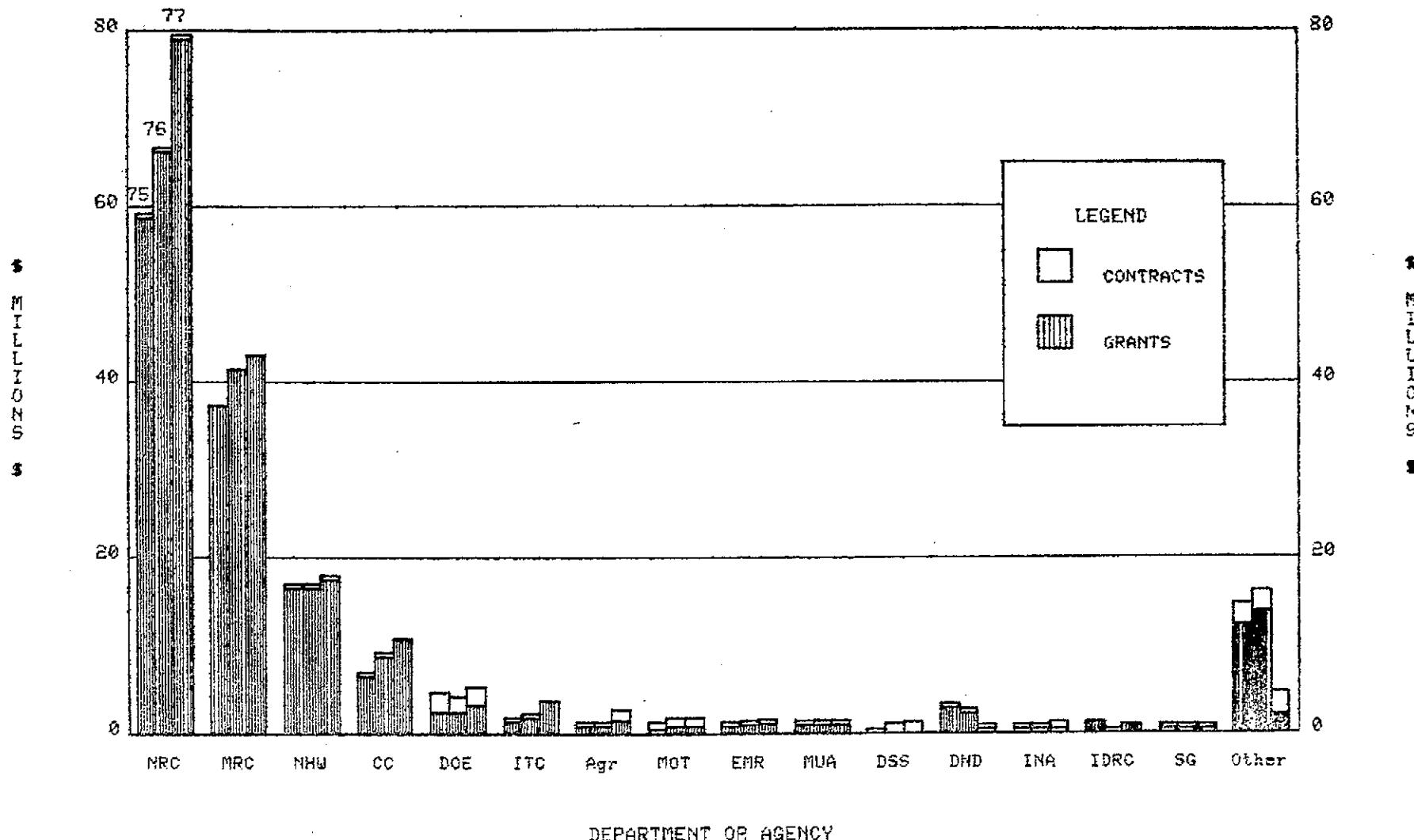


TABLE 14

NATURAL AND HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN INDUSTRY
BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75		1975-76		1976-77	
	GRANTS	CONTRACTS	GRANTS	CONTRACTS	GRANTS	CONTRACTS
ITC	92.6	0.1	88.0	0.2	83.3	0.1
NRC	13.8	1.7	14.2	8.4	16.9	19.7
AECL	---	22.0	---	23.5	---	26.9
MOT	---	2.7	---	6.3	---	12.7
DND	4.5	6.4	1.7	9.8	---	11.6
DSS	---	1.3	---	6.0	---	5.6
EMR	0.3	1.3	0.3	2.3	0.3	3.7
DOE	---	4.3	---	2.2	---	3.9
DOC	---	13.3	---	9.9	---	2.7
UIC	---	0.4	---	0.9	---	1.1
M&I	---	0.6	---	0.8	---	1.0
CMHC	0.1	0.2	0.1	0.4	0.1	0.8
CTC	---	0.5	---	0.7	---	0.7
INA	---	0.4	---	0.8	---	0.7
Agr	---	-	---	0.3	---	0.5
MUA	---	0.4	---	0.7	---	0.5
CCA	---	0.1	---	0.2	---	0.3
IDRC	0.1	---	0.6	---	0.3	---
Jus	---	0.1	---	0.3	---	0.3
SG	---	0.1	---	0.1	---	0.2
Other	---	0.4	0.2	0.7	0.3	0.7
TOTAL	111.5	56.2	105.1	74.5	101.2	93.7

HISTOGRAM 14

NATURAL AND HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN INDUSTRY
BY DEPARTMENT OR AGENCY, 1974-77

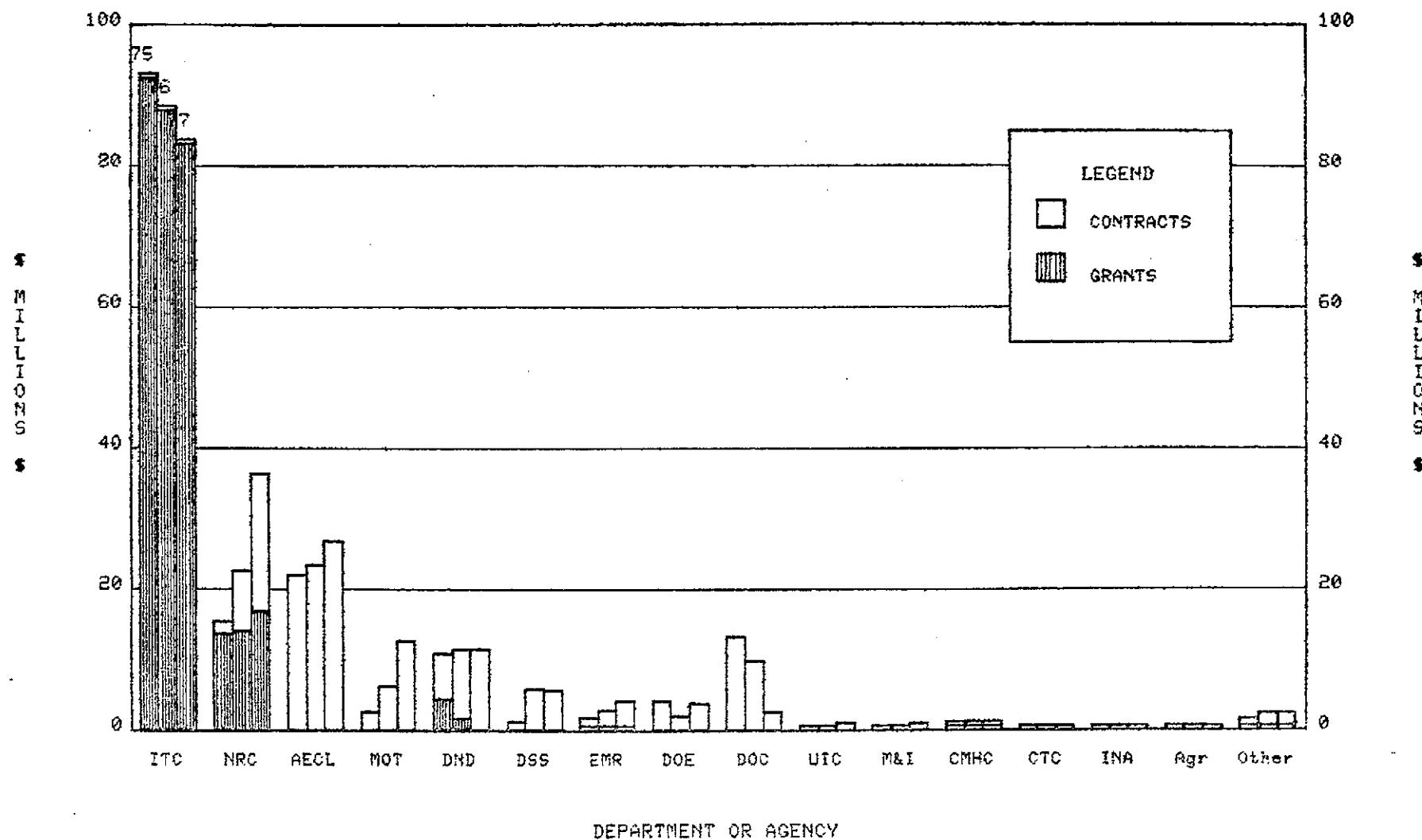


TABLE 15

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES

BY PERFORMER, 1974-77

(\$ MILLIONS)

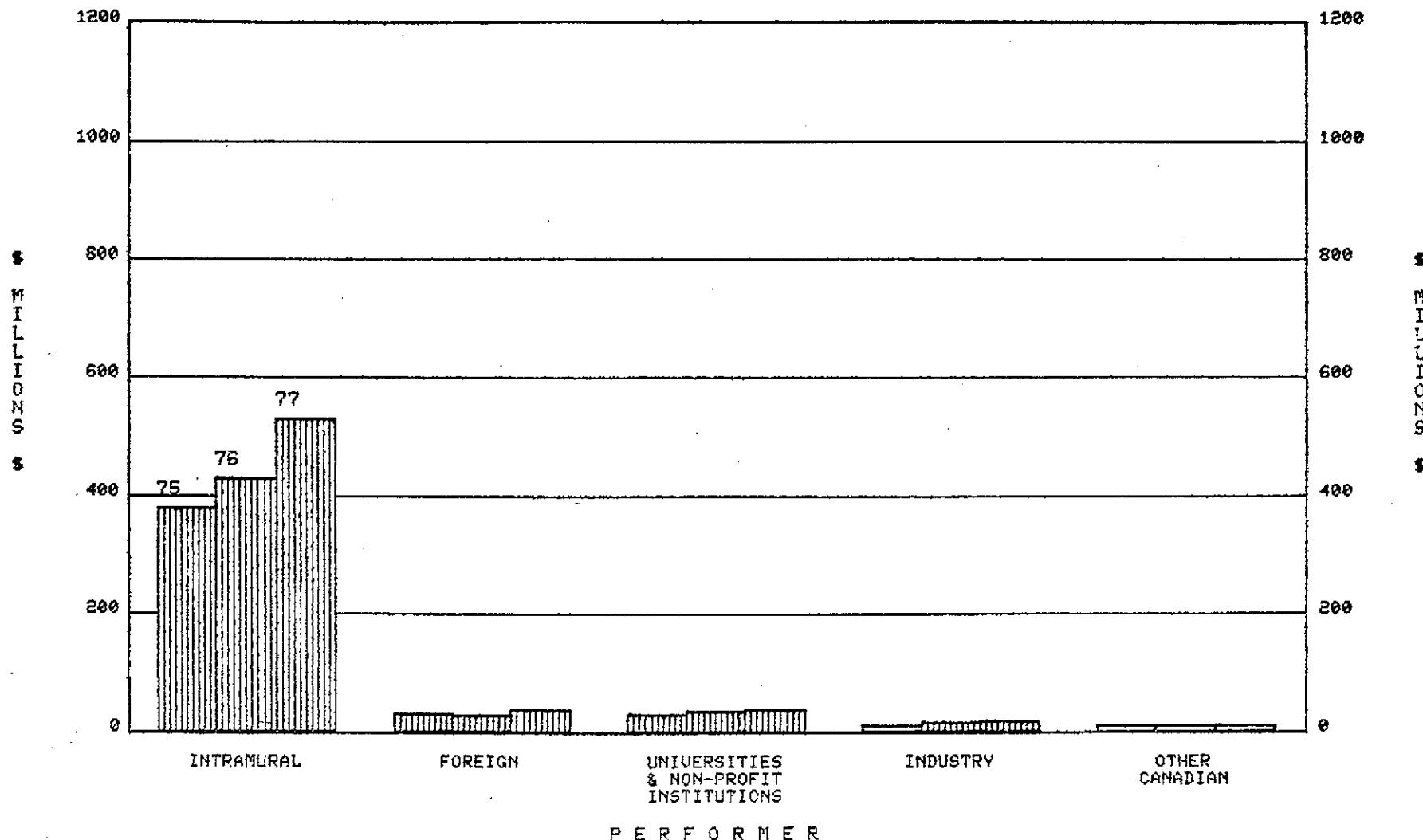
PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	379.1	(83.6)	427.9	(83.9)	529.5	(84.7)
FOREIGN	30.0	(6.6)	27.5	(5.4)	37.1	(5.9)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	29.5	(6.5)	34.1	(6.7)	36.7	(5.9)
INDUSTRY	11.1	(2.4)	16.2	(3.2)	17.7	(2.8)
OTHER CANADIAN	3.8	(0.8)	4.1	(0.8)	4.1	(0.7)
TOTAL	453.5	(100.0)	509.7	(100.0)	625.1	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 15

NATURAL AND HUMAN SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 16

NATURAL AND HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES

BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

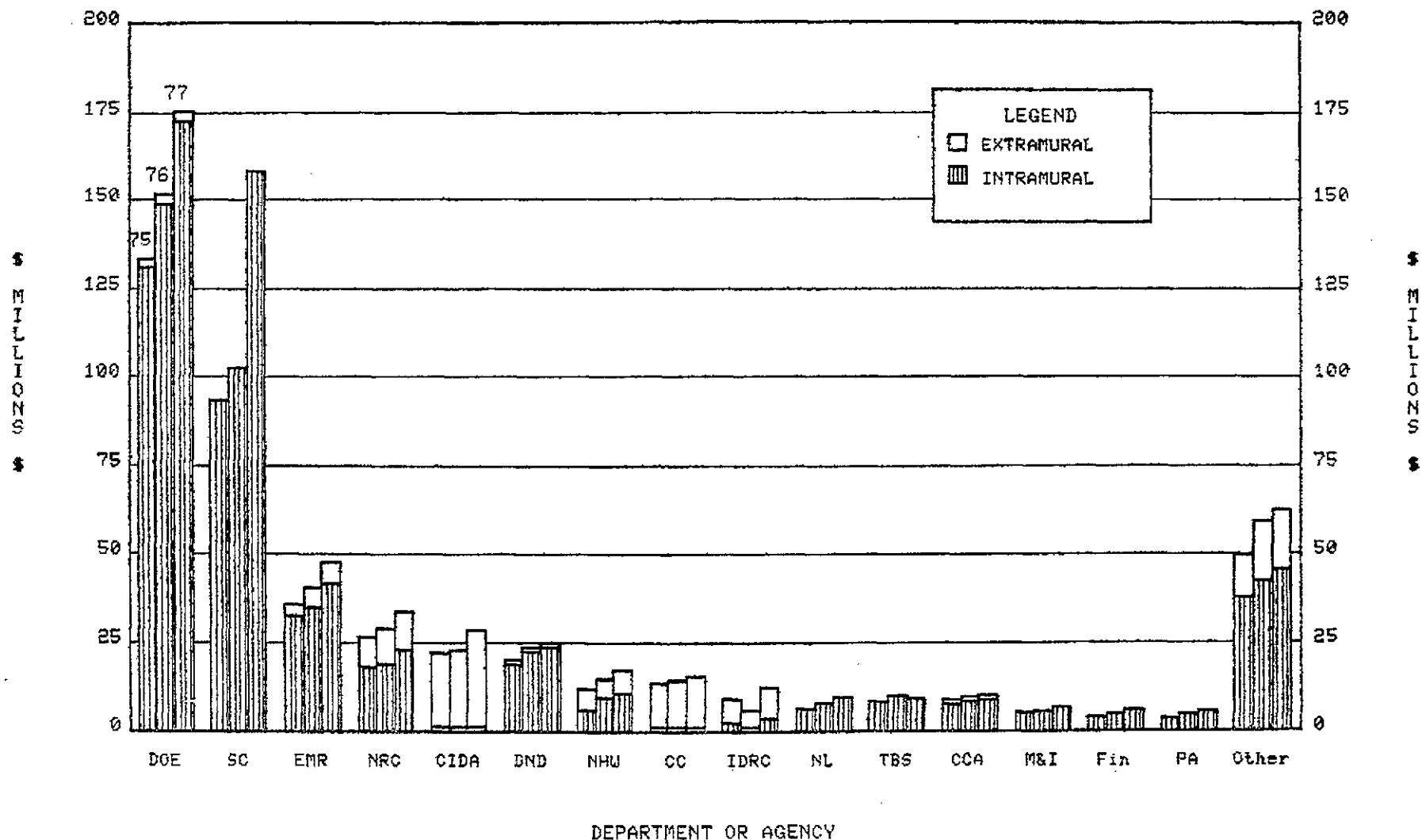
DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
DOE	131.0	2.6	133.6	149.0	2.9	151.9	172.6	2.9	175.5
SC	93.2	---	93.2	102.6	---	102.6	158.4	---	158.4
EMR	32.5	3.5	36.0	35.1	5.3	40.5	41.7	6.2	47.9
NRC	18.4	8.1	26.5	19.2	9.7	28.9	23.2	10.5	33.7
CIDA	0.6	21.1	21.7	0.8	21.6	22.4	0.8	27.4	28.2
DND	19.2	1.5	20.6	22.8	1.6	24.4	24.0	1.8	25.7
NHW	6.0	6.1	12.1	9.7	5.3	15.0	10.8	6.5	17.3
CC	1.1	12.7	13.8	1.1	13.5	14.6	1.3	14.8	16.1
IDRC	2.6	6.9	9.4	1.8	5.1	6.9	3.7	8.8	12.5
NL	6.7	---	6.7	8.3	---	8.3	9.9	---	9.9
TBS	8.5	---	8.5	10.3	---	10.3	9.6	---	9.6
CCA	7.9	0.1	8.0	8.6	0.2	8.7	9.0	0.1	9.1
M&I	5.5	---	5.5	5.9	---	5.9	6.9	---	6.9
Fin	4.3	---	4.3	5.0	---	5.0	6.1	---	6.1
PA	3.9	---	3.9	5.0	---	5.0	5.7	---	5.7
MUA	2.9	0.9	3.8	1.4	1.8	3.2	3.9	1.7	5.6
EA	3.1	0.1	3.2	4.1	0.1	4.2	4.9	0.2	5.1
CMHC	1.5	1.3	2.8	1.8	1.5	3.3	2.6	2.0	4.6
Agr	3.3	---	3.3	3.9	---	3.9	4.1	---	4.1
SofS	0.9	1.4	2.3	1.5	1.8	3.3	1.9	1.6	3.5
MSST	2.8	0.4	3.2	2.3	0.4	2.7	2.6	0.6	3.2
AECL	2.7	---	2.7	2.8	---	2.8	3.1	---	3.1
INA	2.3	0.2	2.5	2.5	0.3	2.8	2.8	0.3	3.1
MOT	1.4	1.1	2.6	1.5	1.3	2.8	1.6	1.4	3.1
DSS	---	0.4	0.4	0.1	2.5	2.6	0.1	2.8	2.9
DOC	1.6	0.7	2.3	1.7	0.9	2.6	1.7	1.0	2.7
COL	1.9	---	1.9	3.0	---	3.0	2.6	---	2.6
NM	1.0	0.2	1.2	1.5	0.3	1.8	1.8	0.4	2.2
BofC	1.6	---	1.6	2.2	---	2.2	2.2	---	2.2
CBC	0.7	0.8	1.5	0.8	1.0	1.8	0.8	1.1	1.9
Other	10.2	4.2	14.3	11.7	4.9	16.6	9.4	3.6	13.0
TOTAL	379.1	74.4	453.5	427.9	81.9	509.7	529.5	95.6	625.1

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 16

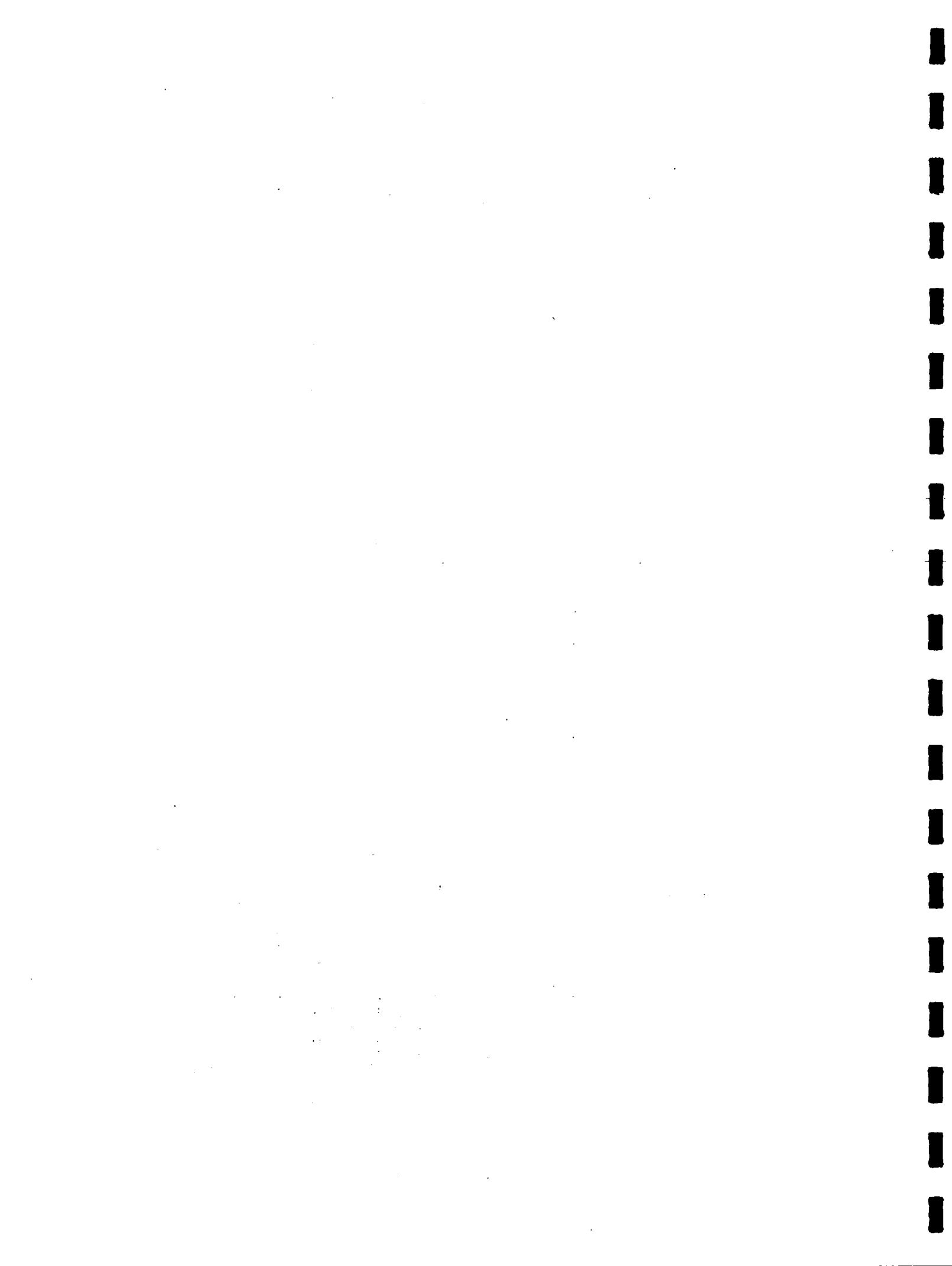
NATURAL AND HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS



2

Natural Sciences

TABLE 17

NATURAL SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77

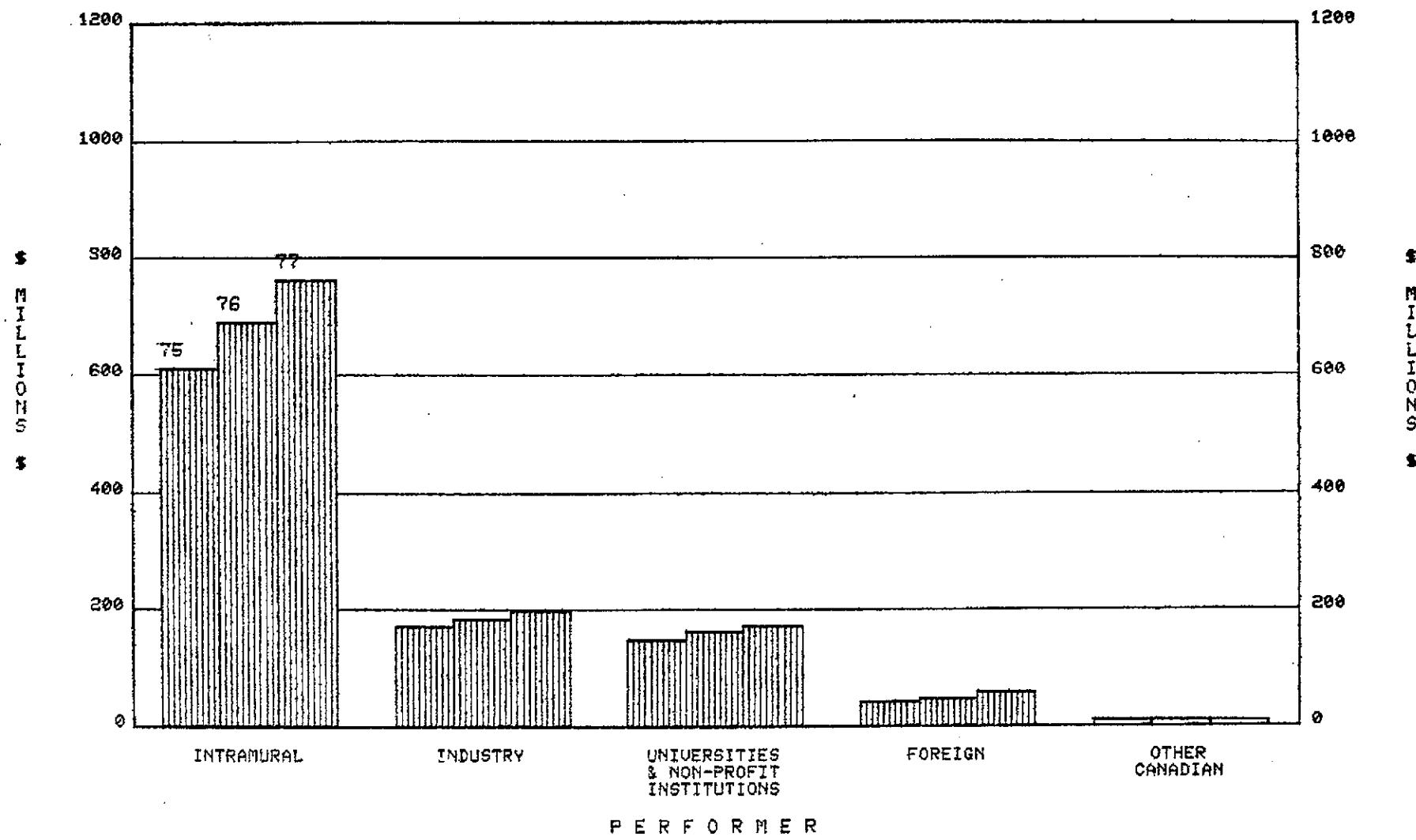
(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	610.1	(62.4)	689.3	(63.2)	761.8	(63.6)
INDUSTRY	170.8	(17.5)	183.4	(16.8)	198.0	(16.5)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	147.5	(15.1)	162.2	(14.9)	171.4	(14.3)
FOREIGN	40.9	(4.2)	46.8	(4.3)	57.9	(4.8)
OTHER CANADIAN	8.2	(0.8)	8.2	(0.8)	9.2	(0.8)
TOTAL	977.6	(100.0)	1,089.9	(100.0)	1,198.2	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 17
NATURAL SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 18

NATURAL SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY ACTIVITY, 1974-77

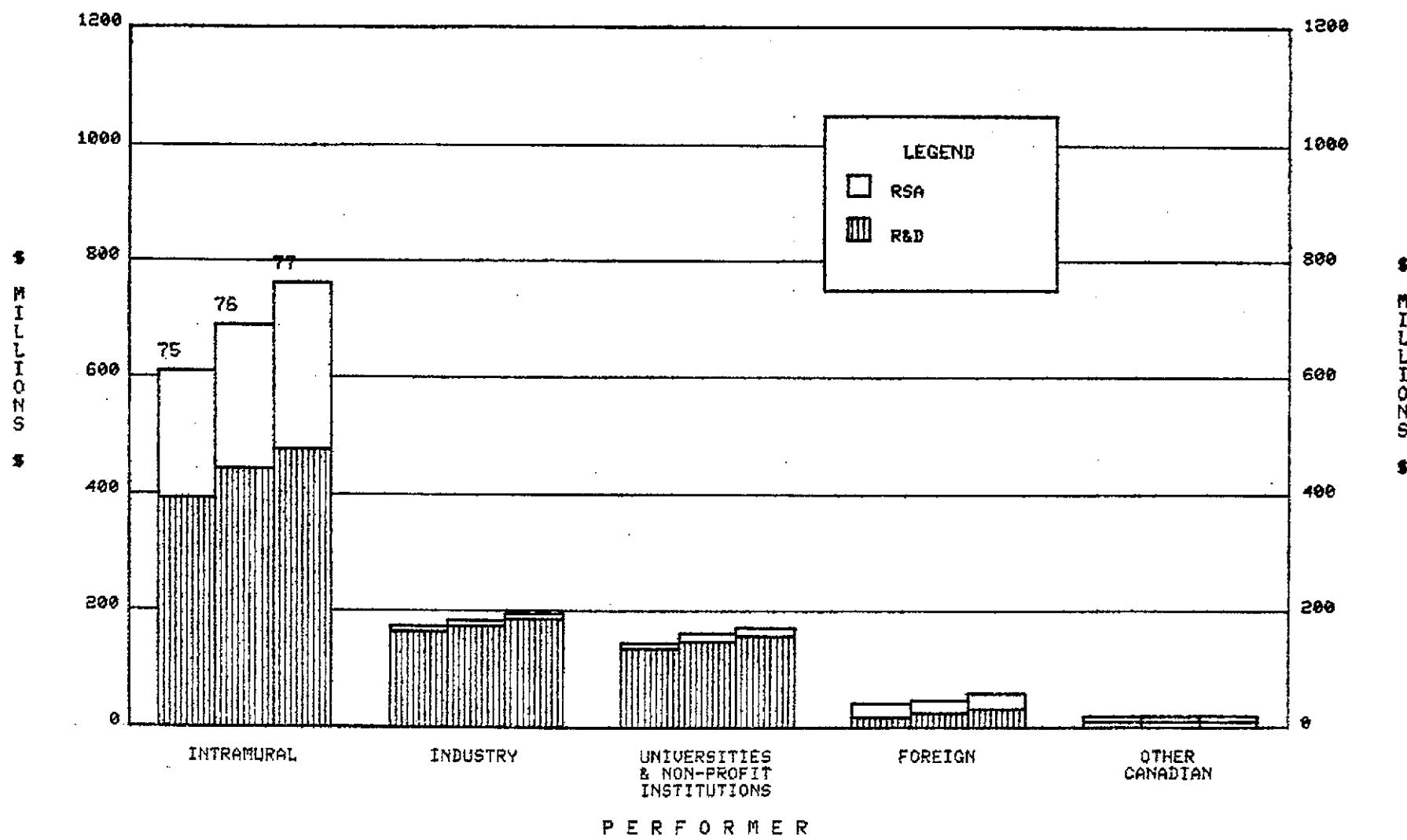
(\$ MILLIONS)

PERFORMER	1974-75			1975-76			1976-77		
	R&D	RSA	TOTAL	R&D	RSA	TOTAL	R&D	RSA	TOTAL
INTRAMURAL	391.3	218.8	610.1	443.0	246.3	689.3	477.5	284.3	761.8
INDUSTRY	164.0	6.8	170.8	173.0	10.5	183.4	186.0	11.9	198.0
UNIVERSITIES & NON-PROFIT INS	136.2	11.3	147.5	148.2	14.0	162.2	156.5	14.9	171.4
FOREIGN	18.8	22.1	40.9	26.3	20.4	46.8	31.3	26.6	57.9
OTHER CANADIAN	7.1	1.1	8.2	6.4	1.8	8.2	7.2	2.1	9.2
TOTAL	717.5	260.1	977.6	796.9	293.0	1,089.9	858.5	339.8	1,198.2

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 18
NATURAL SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY ACTIVITY, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 19

NATURAL SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, BY ACTIVITY, 1974-77

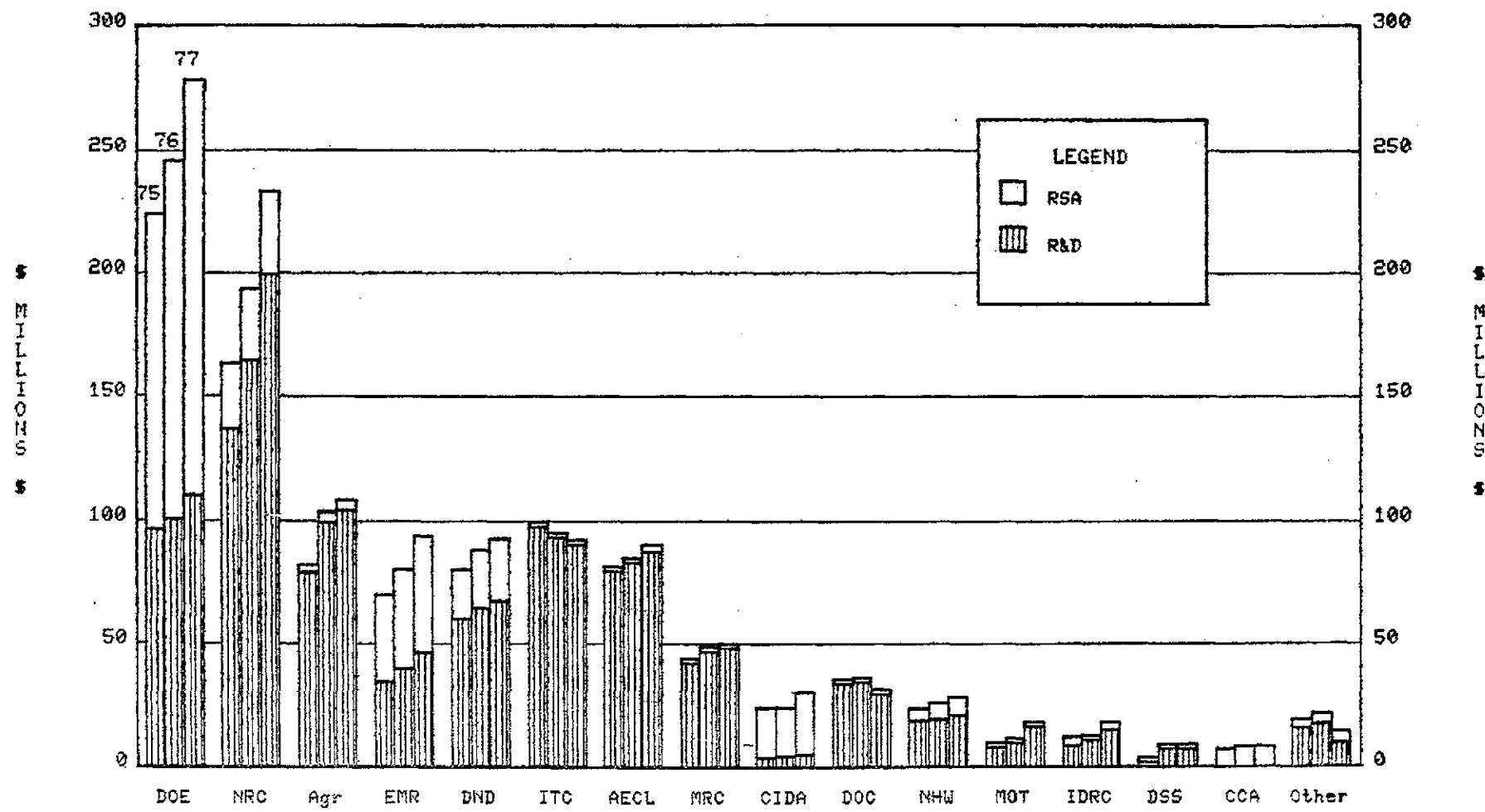
(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	R&D	RSA	TOTAL	R&D	RSA	TOTAL	R&D	RSA	TOTAL
DOE	96.1	127.7	223.8	100.3	145.6	245.8	110.1	168.9	278.9
NRC	137.0	26.5	163.5	164.6	28.9	193.5	199.4	33.6	233.0
Agr	78.8	3.3	82.1	99.5	3.9	103.4	104.4	4.1	108.5
EMR	34.5	35.6	70.1	40.0	40.0	80.0	46.4	47.4	93.8
DND	60.6	19.7	80.3	64.7	23.5	88.2	67.7	24.8	92.5
ITC	97.3	0.7	98.0	93.4	1.0	94.4	90.3	0.9	91.1
AECL	79.6	2.7	82.3	83.1	2.8	85.9	87.4	3.1	90.6
MRC	42.1	1.6	43.7	46.8	1.6	48.4	48.6	1.5	50.1
CIDA	4.1	20.1	24.2	4.3	19.8	24.1	5.1	25.4	30.5
DOC	34.2	0.4	34.5	34.5	0.5	35.0	29.6	0.4	30.0
NHW	18.8	4.9	23.8	19.6	6.5	26.1	21.0	7.8	28.8
MOT	8.4	1.8	10.2	10.0	1.8	11.8	16.3	2.3	18.5
IDRC	8.6	3.4	12.0	10.9	2.0	13.0	15.4	3.2	18.5
DSS	1.3	0.4	1.8	7.6	2.4	10.0	7.4	2.7	10.1
CCA	—	7.8	7.8	—	8.5	8.5	—	8.9	8.9
DPW	0.5	0.7	1.2	1.4	0.8	2.3	2.2	0.8	3.0
NM	1.3	0.5	1.8	1.7	0.9	2.6	1.8	1.1	2.9
INA	2.1	1.2	3.2	2.7	1.1	3.8	1.7	1.1	2.8
CMHC	0.7	—	0.7	0.7	0.5	1.2	1.2	0.7	1.9
CPDL	0.2	0.9	1.1	0.3	1.0	1.3	0.2	1.1	1.3
DREE	—	—	—	0.2	—	0.2	1.1	—	1.1
AECB	10.4	—	10.4	9.1	—	9.1	0.6	—	0.6
NFB	0.2	0.1	0.3	0.5	0.1	0.6	0.4	0.1	0.6
CBC	0.2	—	0.2	0.3	—	0.3	0.3	—	0.3
CAL	0.1	—	0.1	0.2	—	0.2	0.1	—	0.1
Other	0.4	—	0.4	0.4	—	0.4	—	—	—
TOTAL	717.5	260.1	977.6	796.9	293.0	1,089.9	858.5	339.8	1,198.2

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 19
NATURAL SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, BY ACTIVITY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 20

NATURAL SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON SCIENTIFIC ACTIVITIES

BY DEPARTMENT OR AGENCY, 1974-77

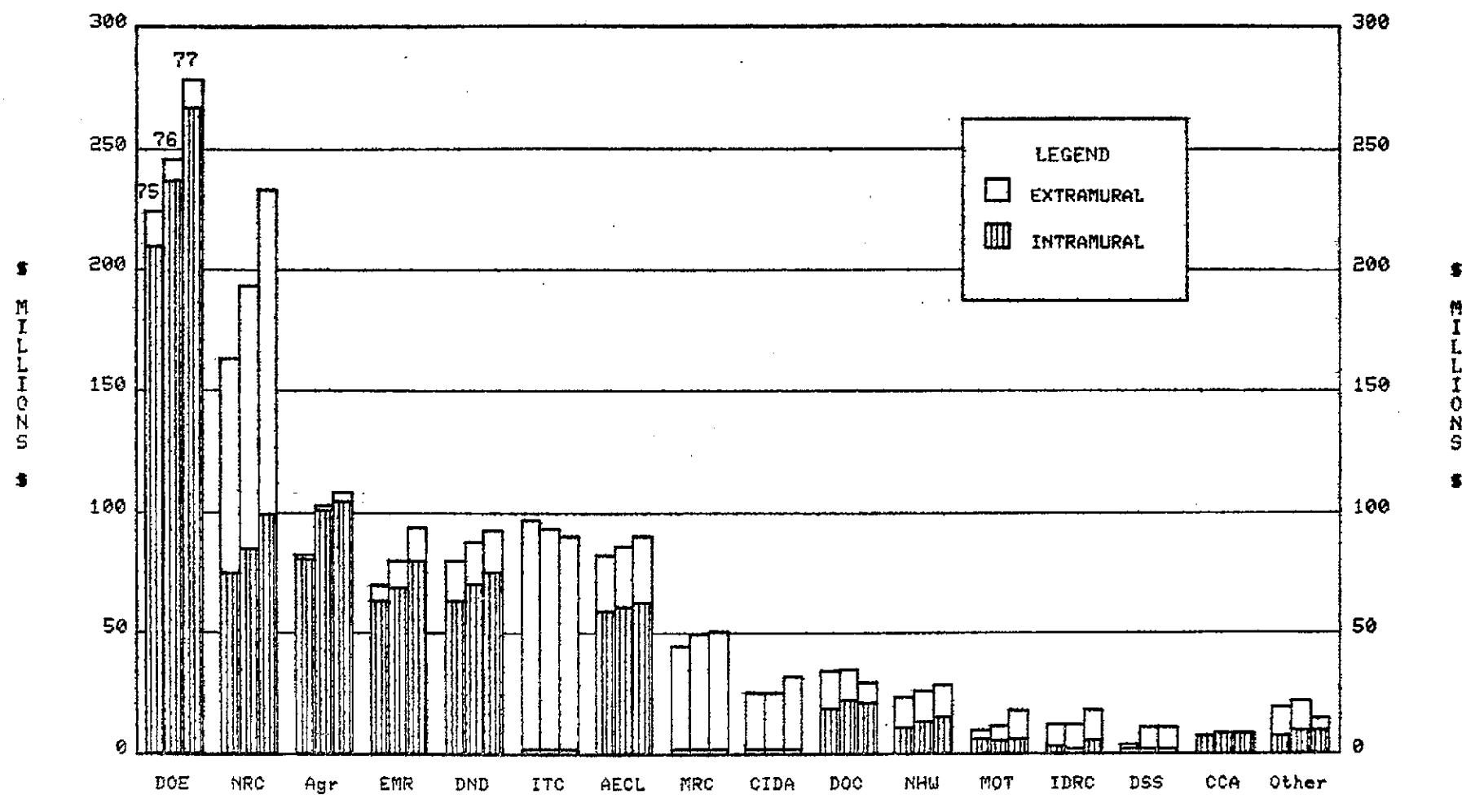
(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
DOE	209.5	14.3	223.8	236.7	9.1	245.8	267.3	11.6	278.9
NRC	74.9	88.6	163.5	84.8	108.7	193.5	99.3	133.7	233.0
Agr	80.9	1.2	82.1	101.2	2.2	103.4	104.6	3.8	108.5
EMR	63.4	6.7	70.1	68.8	11.2	80.0	79.8	13.9	93.8
DND	63.4	16.9	80.3	70.3	17.8	88.2	75.5	16.9	92.5
ITC	2.9	95.1	98.0	2.7	91.7	94.4	2.7	88.4	91.1
AECL	59.0	23.2	82.3	61.1	24.8	85.9	62.8	27.8	90.6
MRC	0.8	42.9	43.7	1.0	47.4	48.4	1.2	48.8	50.1
CIDA	0.3	23.9	24.2	0.3	23.8	24.1	0.4	30.2	30.5
DOC	18.9	15.7	34.5	22.4	12.7	35.0	21.0	8.9	30.0
NHW	11.1	12.6	23.8	13.4	12.6	26.1	15.6	13.2	28.8
MOT	6.5	3.7	10.2	5.5	6.3	11.8	6.5	12.0	18.5
IDRC	3.3	8.8	12.0	2.2	10.7	13.0	5.6	12.9	18.5
DSS	0.1	1.6	1.8	0.6	9.5	10.0	0.6	9.5	10.1
CCA	7.8	—	7.8	8.5	—	8.5	8.9	—	8.9
DPW	1.2	—	1.2	2.1	0.2	2.3	2.8	0.2	3.0
NM	1.8	—	1.8	2.6	—	2.6	2.9	—	2.9
INA	2.4	0.9	3.2	2.5	1.3	3.8	1.7	1.1	2.8
CMHC	0.3	0.4	0.7	0.7	0.5	1.2	0.9	1.0	1.9
CPDL	0.7	0.5	1.1	0.6	0.7	1.3	0.7	0.6	1.3
DREE	—	—	—	—	0.2	0.2	—	1.1	1.1
AECB	—	10.4	10.4	—	9.1	9.1	—	0.6	0.6
NFB	0.3	—	0.3	0.6	—	0.6	0.5	—	0.6
CBC	0.2	—	0.2	0.3	—	0.3	0.3	—	0.3
CAL	0.1	—	0.1	0.2	—	0.2	0.1	—	0.1
Other	0.3	0.1	0.4	0.4	—	0.4	—	—	—
TOTAL	610.1	367.5	977.6	689.3	400.6	1,089.9	761.8	436.4	1,198.2

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 20
NATURAL SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 21
NATURAL SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY FUNDING DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

PERFORMER	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
INTRAMURAL *****	DOE	209.5	(34.3)	236.7	(34.3)	267.3	(35.1)
	Agr	80.9	(13.3)	101.2	(14.7)	104.6	(13.7)
	NRC	74.9	(12.3)	84.8	(12.3)	99.3	(13.0)
	EMR	63.4	(10.4)	68.8	(10.0)	79.8	(10.5)
	DND	63.4	(10.4)	70.3	(10.2)	75.5	(9.9)
	AECL	59.0	(9.7)	61.1	(8.9)	62.8	(8.2)
	DOC	18.9	(3.1)	22.4	(3.2)	21.0	(2.8)
	NHW	11.1	(1.8)	13.4	(1.9)	15.6	(2.0)
	Other	29.0	(4.7)	30.6	(4.4)	35.7	(4.7)
TOTAL		610.1	(100.0)	689.3	(100.0)	761.8	(100.0)
EXTRAMURAL *****	ITC	92.8	(54.3)	88.3	(48.1)	83.4	(42.2)
	NRC	16.3	(9.5)	23.5	(12.8)	37.1	(18.7)
	INDUSTRY	22.0	(12.9)	23.5	(12.8)	26.9	(13.6)
	AECL	12.3	(7.2)	13.0	(7.1)	13.3	(6.7)
	DND	4.9	(2.9)	7.7	(4.2)	9.9	(5.0)
	EMR	2.0	(1.2)	4.5	(2.4)	9.8	(4.9)
	MOT	1.5	(0.9)	7.9	(4.3)	7.8	(3.9)
	DSS	5.0	(2.9)	2.9	(1.6)	4.5	(2.3)
	DOE	14.1	(8.2)	12.2	(6.6)	5.3	(2.7)
TOTAL		170.8	(100.0)	183.4	(100.0)	198.0	(100.0)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	NRC	67.6	(45.9)	77.2	(47.6)	89.7	(52.3)
	MRC	40.5	(27.4)	45.2	(27.9)	46.4	(27.1)
	NHW	12.2	(8.2)	12.3	(7.6)	12.7	(7.4)
	DOE	4.6	(3.1)	4.3	(2.7)	5.4	(3.1)
	ITC	1.5	(1.0)	2.1	(1.3)	4.1	(2.4)
	Agr	1.1	(0.7)	1.6	(1.0)	2.7	(1.6)
	MOT	1.3	(0.9)	1.5	(0.9)	1.7	(1.0)
	EMR	1.3	(0.9)	1.4	(0.9)	1.7	(1.0)
	Other	17.4	(11.8)	16.6	(10.2)	7.1	(4.2)
TOTAL		147.5	(100.0)	162.2	(100.0)	171.4	(100.0)

FOREIGN	CIDA	23.2	(56.7)	22.5	(48.2)	28.8	(49.8)
	IDRC	7.9	(19.3)	10.1	(21.6)	12.0	(20.7)
	NRC	4.1	(10.0)	7.4	(15.8)	6.3	(10.9)
	DOC	1.6	(4.0)	2.1	(4.4)	5.5	(9.5)
	DND	1.4	(3.4)	2.0	(4.4)	2.4	(4.2)
	MRC	2.4	(5.7)	2.2	(4.8)	2.4	(4.2)
	DOE	0.1	(0.3)	0.2	(0.4)	0.2	(0.4)
	Agr	---	(---)	---	(---)	0.1	(0.1)
	Other	0.2	(0.6)	0.2	(0.5)	0.2	(0.3)
	TOTAL	40.9	(100.0)	46.8	(100.0)	57.9	(100.0)

OTHER CANADIAN	EMR	0.4	(4.9)	2.1	(25.3)	2.3	(25.2)
	DOE	4.5	(55.2)	1.7	(20.6)	1.5	(16.0)
	DREE	---	(---)	0.2	(2.4)	1.1	(12.3)
	ITC	0.8	(10.2)	1.3	(15.3)	0.9	(10.1)
	NRC	0.6	(7.4)	0.6	(7.7)	0.6	(6.8)
	Agr	0.1	(1.1)	0.3	(3.8)	0.6	(6.0)
	MOT	0.3	(4.0)	0.3	(3.9)	0.5	(5.8)
	NHW	0.4	(4.7)	0.3	(4.1)	0.5	(5.1)
	Other	1.0	(12.5)	1.4	(17.0)	1.2	(12.7)
	TOTAL	8.2	(100.0)	8.2	(100.0)	9.2	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 22

NATURAL SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY PERFORMER, 1974-77

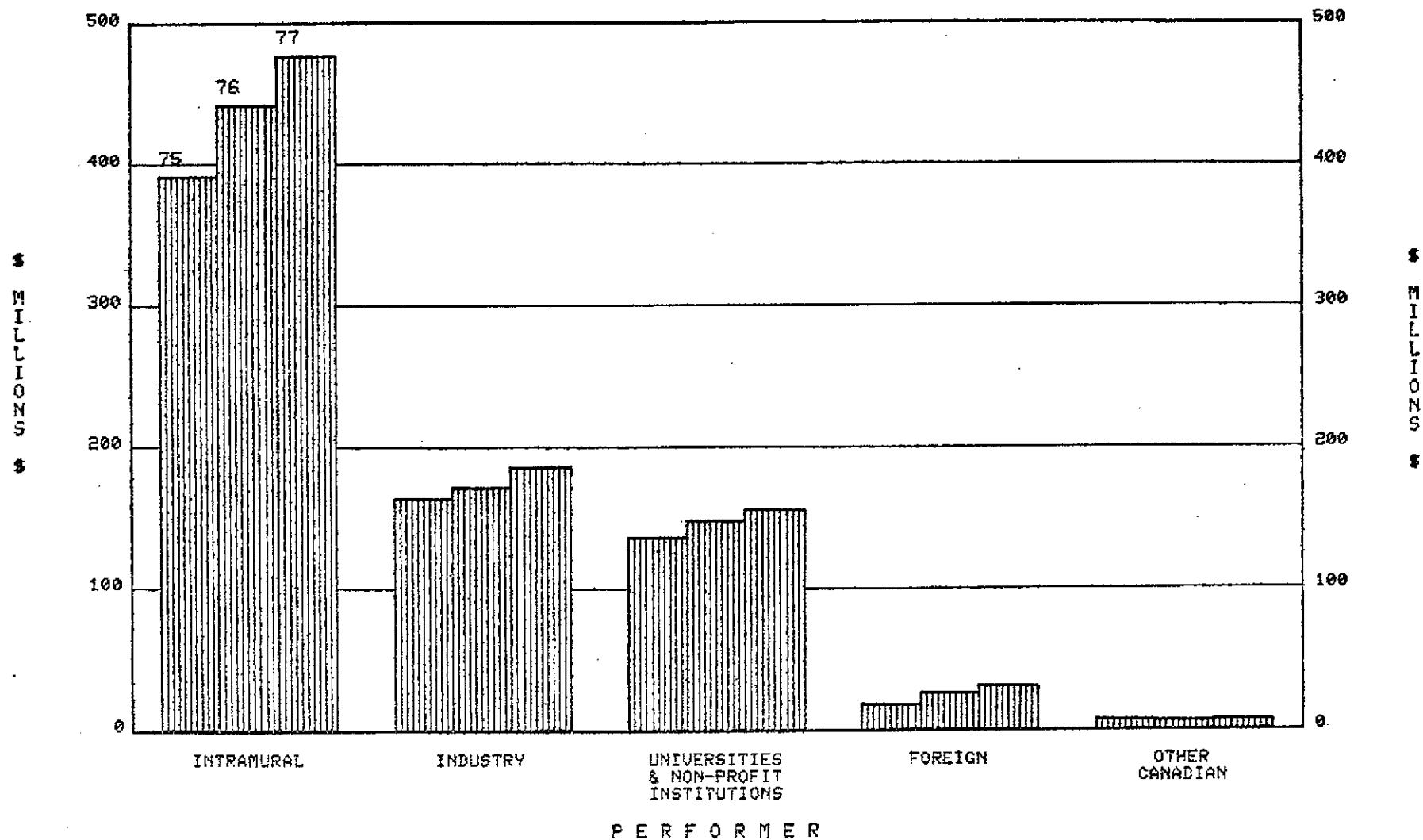
(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	391.3	(54.5)	443.0	(55.6)	477.5	(55.6)
INDUSTRY	164.0	(22.9)	173.0	(21.7)	186.0	(21.7)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	136.2	(19.0)	148.2	(18.6)	156.5	(18.2)
FOREIGN	18.8	(2.6)	26.3	(3.3)	31.3	(3.6)
OTHER CANADIAN	7.1	(1.0)	6.4	(0.8)	7.2	(0.8)
TOTAL	717.5	(100.0)	796.9	(100.0)	858.5	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 22
NATURAL SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY PERFORMER, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 23

NATURAL SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY TYPE OF FUNDING, 1974-77

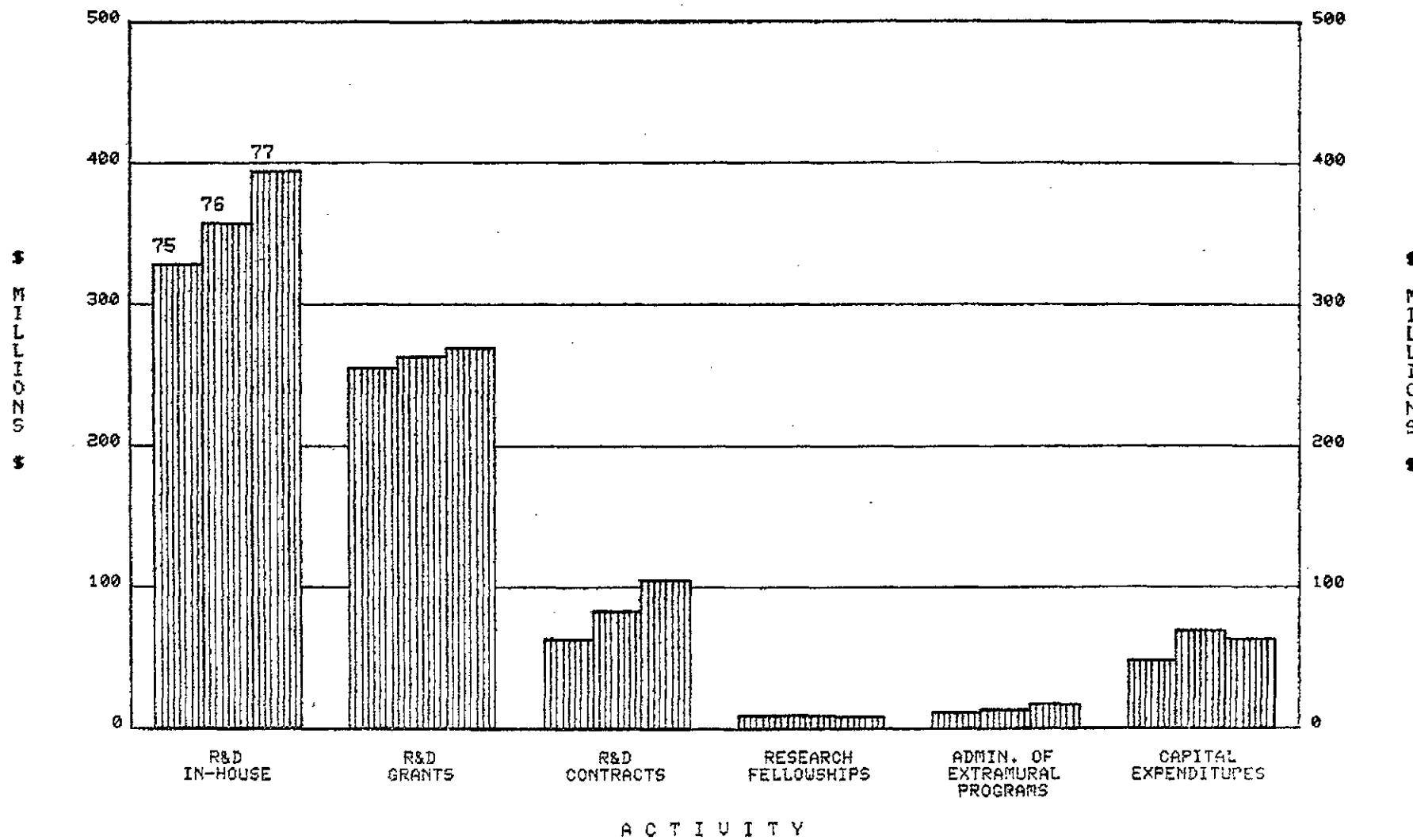
(\$ MILLIONS)

TYPE OF FUNDING	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
CURRENT	668.7	(93.2)	727.1	(91.3)	794.5	(92.6)
IN-HOUSE R&D	328.2	(45.7)	358.0	(44.9)	394.4	(45.9)
R&D GRANTS	255.7	(35.6)	263.0	(33.0)	269.6	(31.4)
R&D CONTRACTS	63.9	(8.9)	83.3	(10.5)	105.0	(12.2)
RESEARCH FELLOWSHIPS	9.0	(1.3)	9.6	(1.2)	8.4	(1.0)
ADMIN. OF EXTRAMURAL PROGRAMS	11.9	(1.7)	13.2	(1.7)	17.1	(2.0)
CAPITAL EXPENDITURES	48.7	(6.8)	69.7	(8.7)	63.9	(7.4)
TOTAL	717.5	(100.0)	796.9	(100.0)	858.5	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 23
NATURAL SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY TYPE OF FUNDING, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 24

NATURAL SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

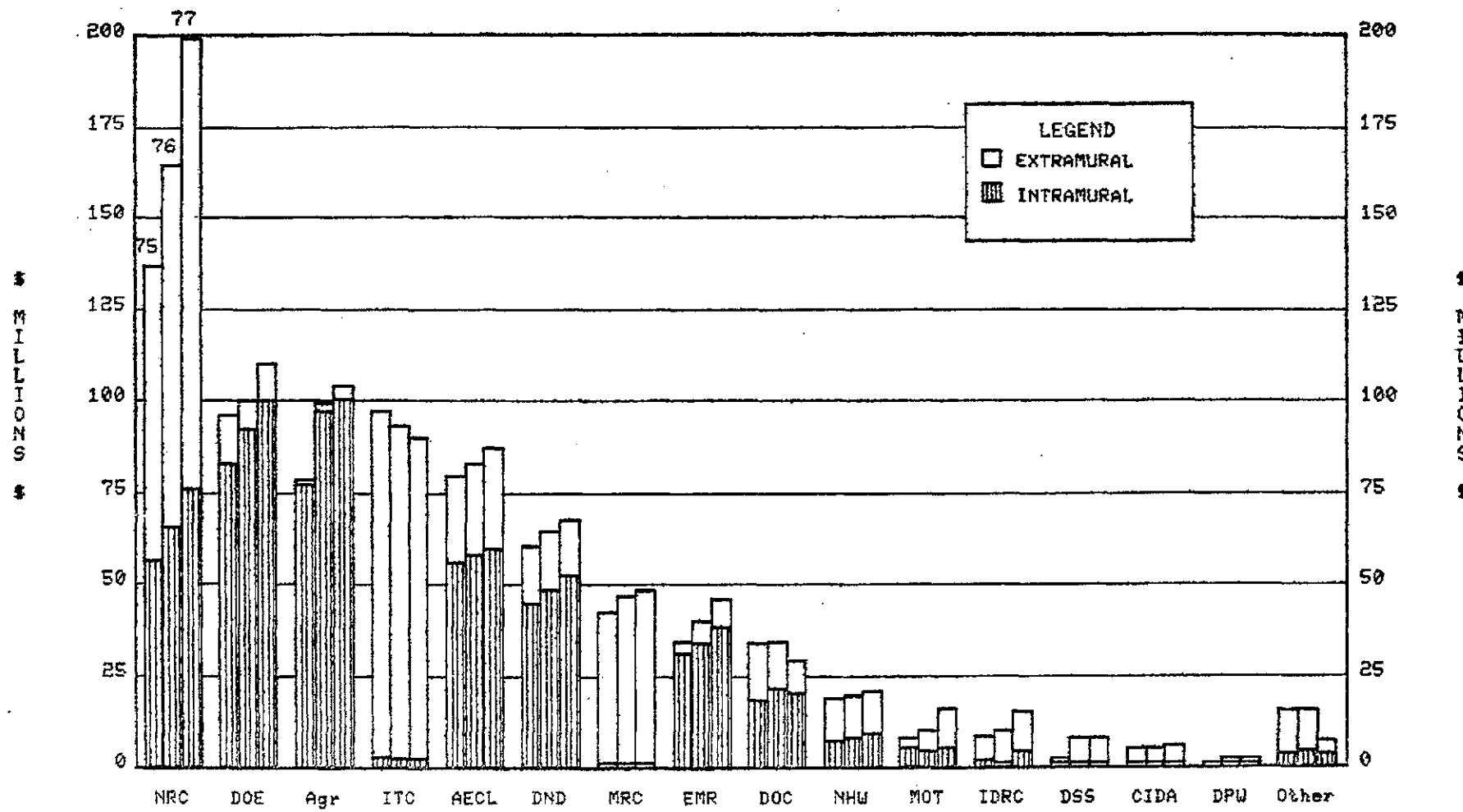
DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
NRC	56.5	80.5	137.0	65.6	99.0	164.6	76.1	123.2	199.4
DOE	83.0	13.1	96.1	92.7	7.6	100.3	100.1	10.0	110.1
Agr	77.6	1.2	78.8	97.3	2.2	99.5	100.5	3.8	104.4
ITC	2.9	94.4	97.3	2.7	90.7	93.4	2.7	87.6	90.3
AECL	56.4	23.2	79.6	58.3	24.8	83.1	59.7	27.8	87.4
DND	45.2	15.4	60.6	48.5	16.2	64.7	52.5	15.2	67.7
MRC	0.8	41.4	42.1	0.9	45.9	46.8	1.1	47.4	48.6
EMR	31.3	3.2	34.5	34.1	5.9	40.0	38.6	7.8	46.4
DOC	18.5	15.7	34.2	21.9	12.7	34.5	20.6	8.9	29.6
NHW	7.4	11.4	18.8	8.1	11.5	19.6	9.2	11.8	21.0
MOT	5.3	3.1	8.4	4.4	5.6	10.0	5.3	10.9	16.3
IDRC	2.3	6.3	8.6	1.9	9.1	10.9	4.7	10.6	15.4
DSS	0.1	1.2	1.3	0.5	7.2	7.6	0.5	6.9	7.4
CIDA	—	4.0	4.1	0.1	4.2	4.3	0.1	5.1	5.1
DPW	0.5	—	0.5	1.2	0.2	1.4	2.0	0.2	2.2
NM	1.3	—	1.3	1.7	—	1.7	1.8	—	1.8
INA	1.2	0.9	2.1	1.4	1.3	2.7	0.6	1.1	1.7
CMHC	0.3	0.4	0.7	0.4	0.2	0.7	0.6	0.6	1.2
DREE	—	—	—	—	0.2	0.2	—	1.1	1.1
AECB	—	10.4	10.4	—	9.1	9.1	—	0.6	0.6
NFB	0.2	—	0.2	0.5	—	0.5	0.4	—	0.4
CBC	0.2	—	0.2	0.3	—	0.3	0.3	—	0.3
CPDL	—	0.2	0.2	—	0.3	0.3	—	0.2	0.2
CAL	0.1	—	0.1	0.2	—	0.2	0.1	—	0.1
DVA	0.3	—	0.3	0.4	—	0.4	—	—	—
Other	—	0.1	0.1	—	—	—	—	—	—
TOTAL	391.3	326.2	717.5	443.0	353.9	796.9	477.5	380.9	858.5

*** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 24

NATURAL SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 25

NATURAL SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY PERFORMER, BY FUNDING DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

PERFORMER	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
INTRAMURAL	Agr	77.6	(19.8)	97.3	(22.0)	100.5	(21.0)
*****	DOE	83.0	(21.2)	92.7	(20.9)	100.1	(21.0)
	NRC	56.5	(14.4)	65.6	(14.8)	76.1	(15.9)
	AECL	56.4	(14.4)	58.3	(13.2)	59.7	(12.5)
	DND	45.2	(11.5)	48.5	(10.9)	52.5	(11.0)
	EMR	31.3	(8.0)	34.1	(7.7)	38.6	(8.1)
	DOC	18.5	(4.7)	21.9	(4.9)	20.6	(4.3)
	NHW	7.4	(1.9)	8.1	(1.8)	9.2	(1.9)
	Other	15.6	(4.0)	16.5	(3.7)	20.1	(4.2)
	TOTAL	391.3	(100.0)	443.0	(100.0)	477.5	(100.0)
EXTRAMURAL	ITC	92.6	(56.5)	88.0	(50.9)	83.3	(44.8)
*****	NRC	16.3	(9.9)	23.5	(13.6)	37.1	(19.9)
INDUSTRY	AECL	22.0	(13.4)	23.5	(13.6)	26.9	(14.5)
	DND	10.8	(6.6)	11.4	(6.6)	11.5	(6.2)
	MOT	1.7	(1.0)	4.1	(2.4)	9.2	(4.9)
	DSS	1.1	(0.7)	5.9	(3.4)	5.5	(3.0)
	EMR	1.6	(1.0)	2.6	(1.5)	4.0	(2.1)
	DOE	4.1	(2.5)	2.2	(1.2)	3.7	(2.0)
	Other	13.8	(8.4)	11.8	(6.8)	4.9	(2.6)
	TOTAL	164.0	(100.0)	173.0	(100.0)	186.0	(100.0)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	NRC	60.4	(44.3)	68.5	(46.2)	80.3	(51.3)
	MRC	39.0	(28.7)	43.6	(29.4)	45.1	(28.8)
	NHW	11.0	(8.1)	11.2	(7.6)	11.5	(7.3)
	DOE	4.6	(3.4)	4.2	(2.8)	5.2	(3.4)
	ITC	1.2	(0.9)	1.6	(1.1)	3.5	(2.2)
	Agr	1.1	(0.8)	1.6	(1.1)	2.7	(1.7)
	EMR	1.2	(0.9)	1.3	(0.9)	1.6	(1.0)
	MOT	1.0	(0.8)	1.1	(0.8)	1.2	(0.8)
	Other	16.7	(12.2)	15.1	(10.2)	5.5	(3.5)
	TOTAL	136.2	(100.0)	148.2	(100.0)	156.5	(100.0)

FOREIGN	IDRC	5.4	(28.9)	8.4	(32.0)	9.7	(30.9)
	NRC	3.8	(19.9)	7.0	(26.5)	5.9	(18.7)
	DOC	1.6	(8.7)	2.1	(7.8)	5.5	(17.6)
	CIDA	4.0	(21.4)	4.2	(16.0)	5.1	(16.2)
	DND	1.4	(7.3)	2.0	(7.8)	2.4	(7.8)
	MRC	2.3	(12.2)	2.2	(8.4)	2.4	(7.5)
	DOE	0.1	(0.5)	0.2	(0.7)	0.2	(0.7)
	Agr	—	(—)	—	(—)	0.1	(0.2)
	Other	0.2	(1.0)	0.2	(0.8)	0.1	(0.4)
	TOTAL	18.8	(100.0)	26.3	(100.0)	31.3	(100.0)

OTHER CANADIAN	EMR	0.3	(4.1)	2.0	(30.6)	2.2	(30.7)
	DREE	—	(—)	0.2	(3.1)	1.1	(15.9)
	DOE	4.4	(61.2)	1.1	(16.9)	0.8	(11.6)
	ITC	0.7	(9.4)	1.1	(17.1)	0.8	(11.5)
	Agr	0.1	(1.3)	0.3	(4.9)	0.6	(7.7)
	MOT	0.3	(4.2)	0.3	(4.2)	0.5	(6.9)
	DSS	—	(—)	0.3	(4.6)	0.3	(4.6)
	AECL	0.4	(5.5)	0.4	(6.5)	0.3	(4.2)
	Other	1.0	(14.3)	0.8	(12.1)	0.5	(6.9)
	TOTAL	7.1	(100.0)	6.4	(100.0)	7.2	(100.0)

*** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 26

NATURAL SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN UNIVERSITIES AND NON-PROFIT INSTITUTIONS
BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75		1975-76		1976-77	
	GRANTS	CONTRACTS	GRANTS	CONTRACTS	GRANTS	CONTRACTS
NRC	58.7	0.2	66.3	0.3	79.1	0.1
MRC	37.4	---	41.5	---	43.1	---
NHW	11.0	---	11.2	---	11.4	---
DOE	2.3	2.2	2.3	1.8	3.1	2.1
ITC	1.2	---	1.6	---	3.5	---
Agr	0.8	0.2	0.9	0.7	1.4	1.3
EMR	0.8	0.5	0.9	0.4	1.2	0.4
DND	2.8	0.3	2.2	0.4	0.6	0.6
DSS	---	0.1	---	1.0	---	1.1
MOT	0.3	0.7	0.3	0.7	0.5	0.6
IDRC	0.8	---	0.1	---	0.7	---
DOC	---	0.8	---	0.7	---	0.7
INA	0.3	0.3	0.3	0.4	0.3	0.3
AECL	---	0.8	---	0.9	---	0.6
AECB	10.4	---	8.9	0.1	---	0.5
Other	0.2	---	0.2	---	0.2	---
TOTAL	126.9	6.0	136.8	7.3	144.9	8.2

HISTOGRAM 26
NATURAL SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN UNIVERSITIES AND NON-PROFIT INSTITUTIONS
BY DEPARTMENT OR AGENCY, 1974-77

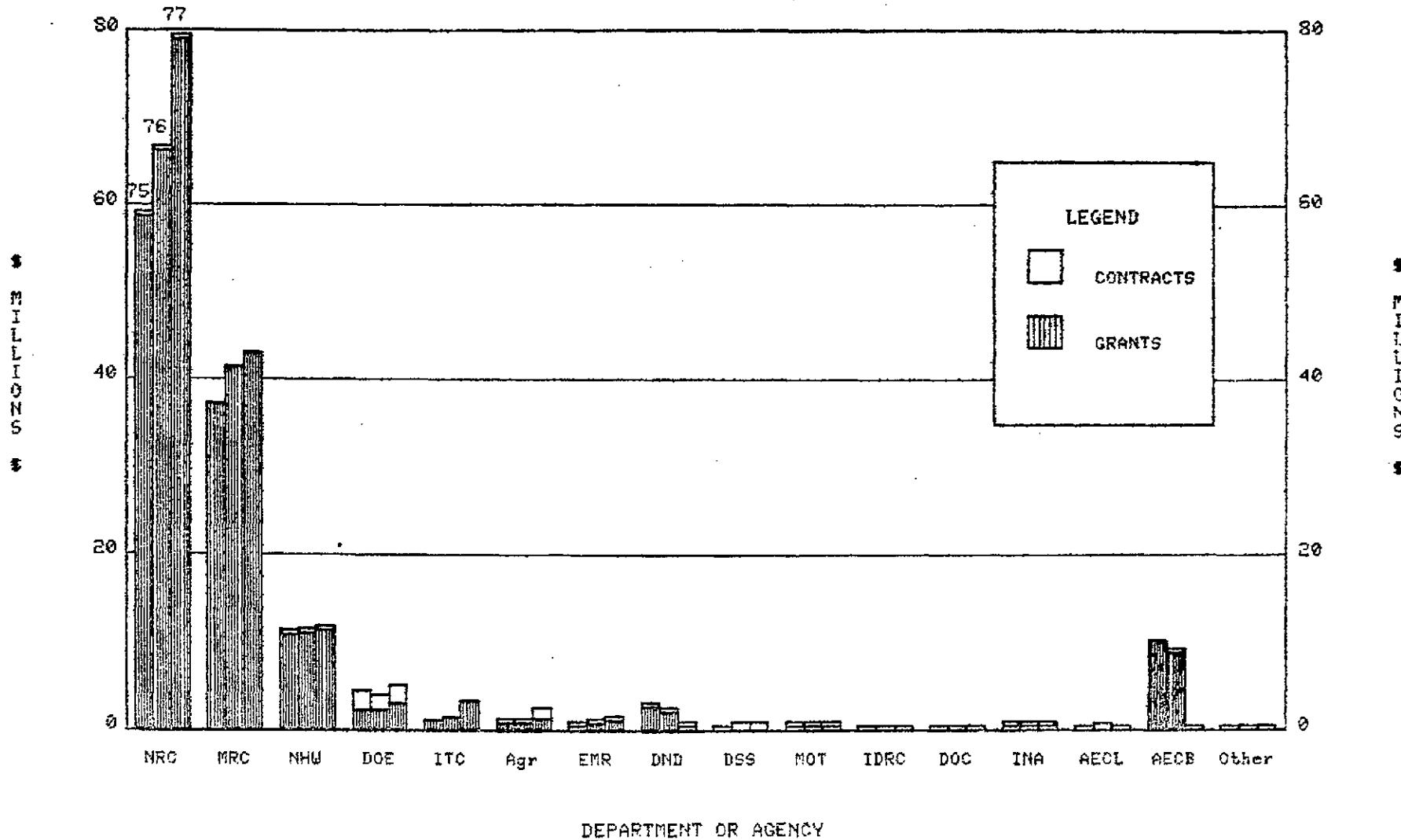


TABLE 27

NATURAL SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN INDUSTRY
BY DEPARTMENT OR AGENCY, 1974-??

(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75		1975-76		1976-77	
	GRANTS	CONTRACTS	GRANTS	CONTRACTS	GRANTS	CONTRACTS
ITC	92.6	---	88.0	---	83.3	---
NRC	13.8	1.7	14.2	8.4	16.9	19.7
AECL	---	22.0	---	23.5	---	26.9
DND	4.5	6.4	1.7	9.7	---	11.5
MOT	---	1.7	---	4.1	---	9.2
DSS	---	1.1	---	5.9	---	5.5
EMR	0.3	1.3	0.3	2.3	0.3	3.7
DOE	---	4.1	---	2.2	---	3.7
DOC	---	13.3	---	9.9	---	2.7
Agr	---	--	---	0.3	---	0.5
CMHC	---	--	---	0.2	---	0.5
INA	---	0.3	---	0.7	---	0.5
DPW	---	--	---	0.2	---	0.2
IDRC	0.1	--	0.3	--	0.2	--
AECB	---	--	---	0.1	---	0.2
Other	--	0.1	0.1	--	---	--
TOTAL	111.4	51.9	104.6	67.5	100.7	84.8

HISTOGRAM 27
NATURAL SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN INDUSTRY
BY DEPARTMENT OR AGENCY, 1974-77

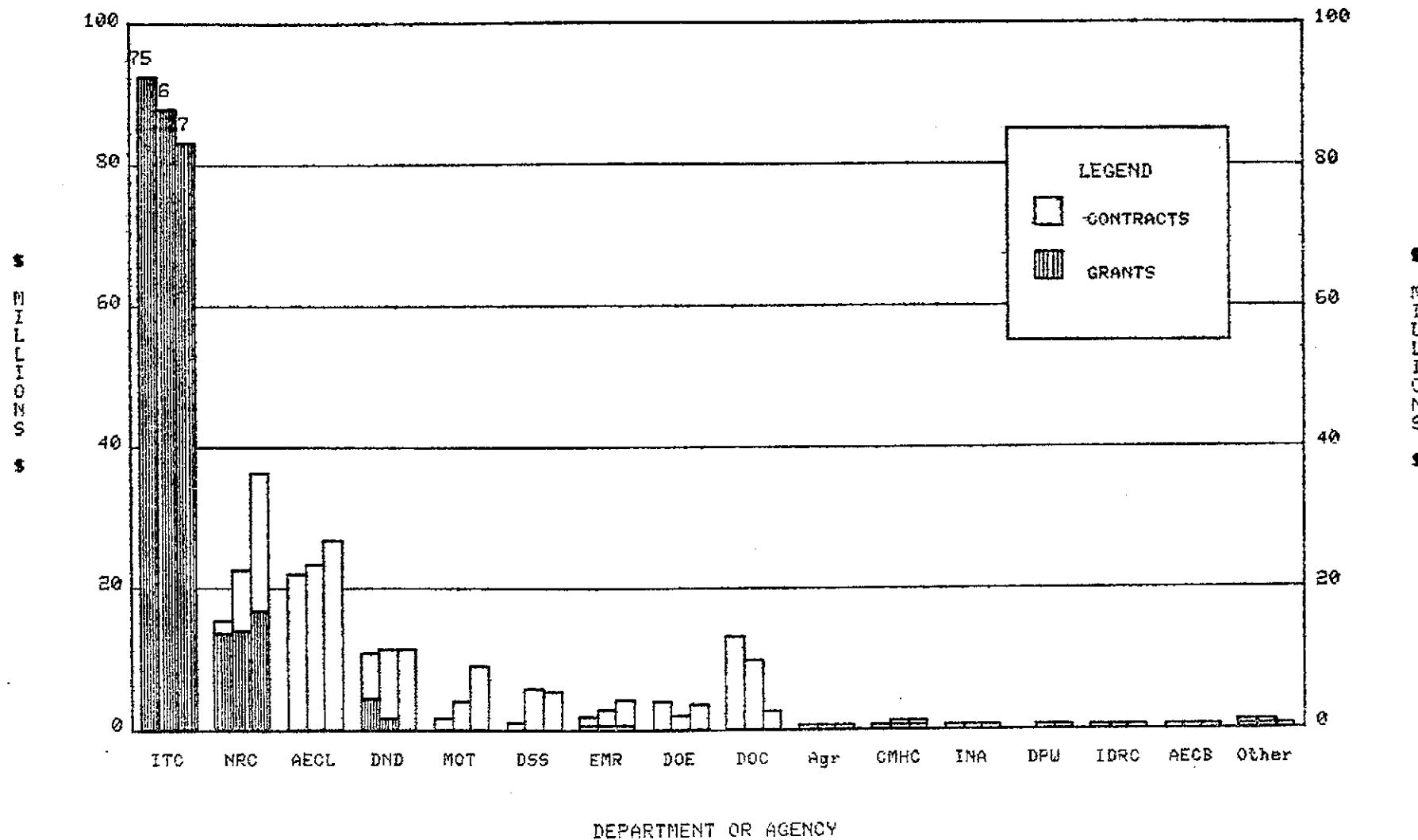


TABLE 28

NATURAL SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77

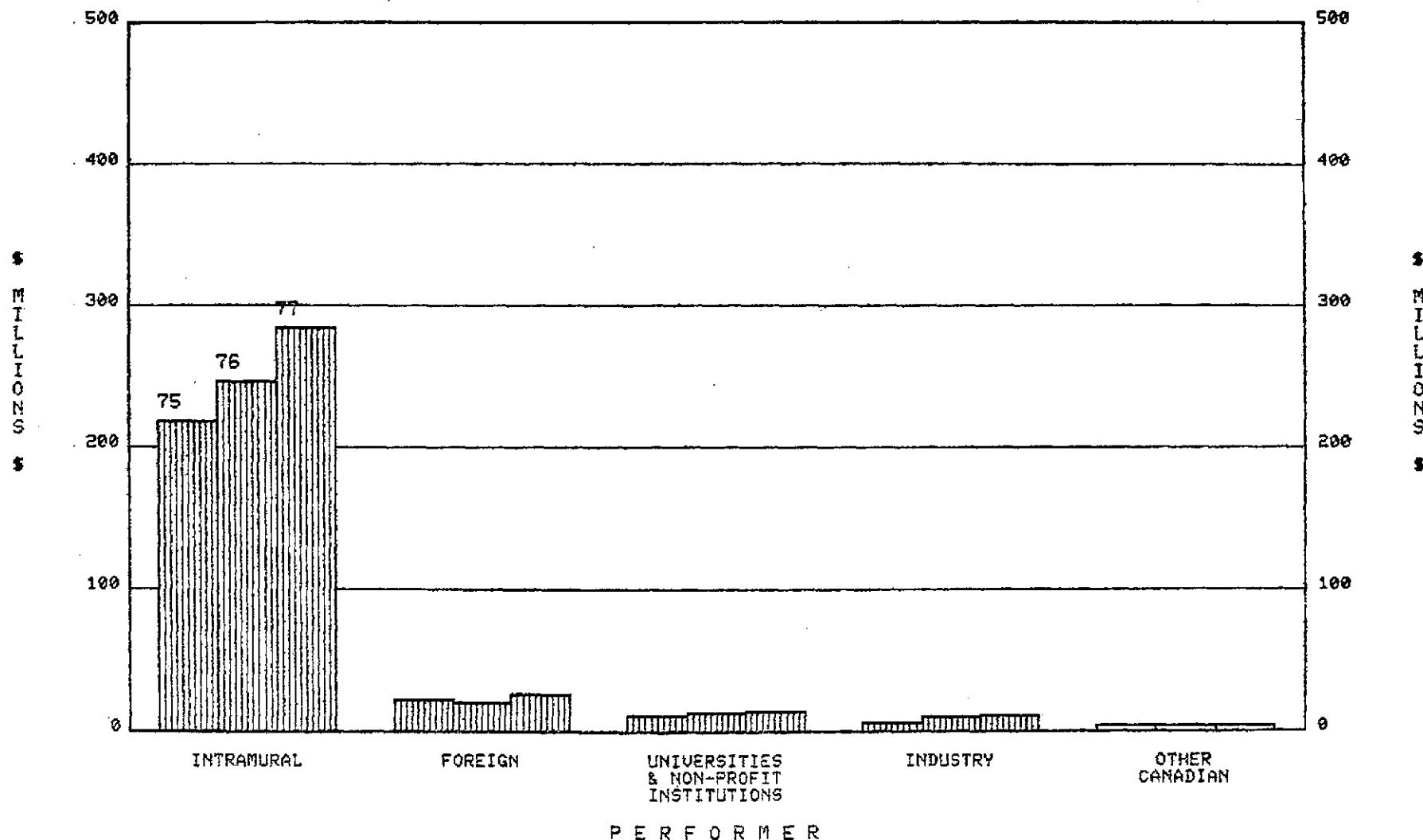
(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	218.8	(84.1)	246.3	(84.1)	284.3	(83.7)
FOREIGN	22.1	(8.5)	20.4	(7.0)	26.6	(7.8)
UNIVERSITIES & NON-PROFIT INSTITUTIONS	11.3	(4.3)	14.0	(4.8)	14.9	(4.4)
INDUSTRY	6.8	(2.6)	10.5	(3.6)	11.9	(3.5)
OTHER CANADIAN	1.1	(0.4)	1.8	(0.6)	2.1	(0.6)
TOTAL	260.1	(100.0)	293.0	(100.0)	339.8	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 28
NATURAL SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 29

NATURAL SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES

BY ACTIVITY, 1974-77

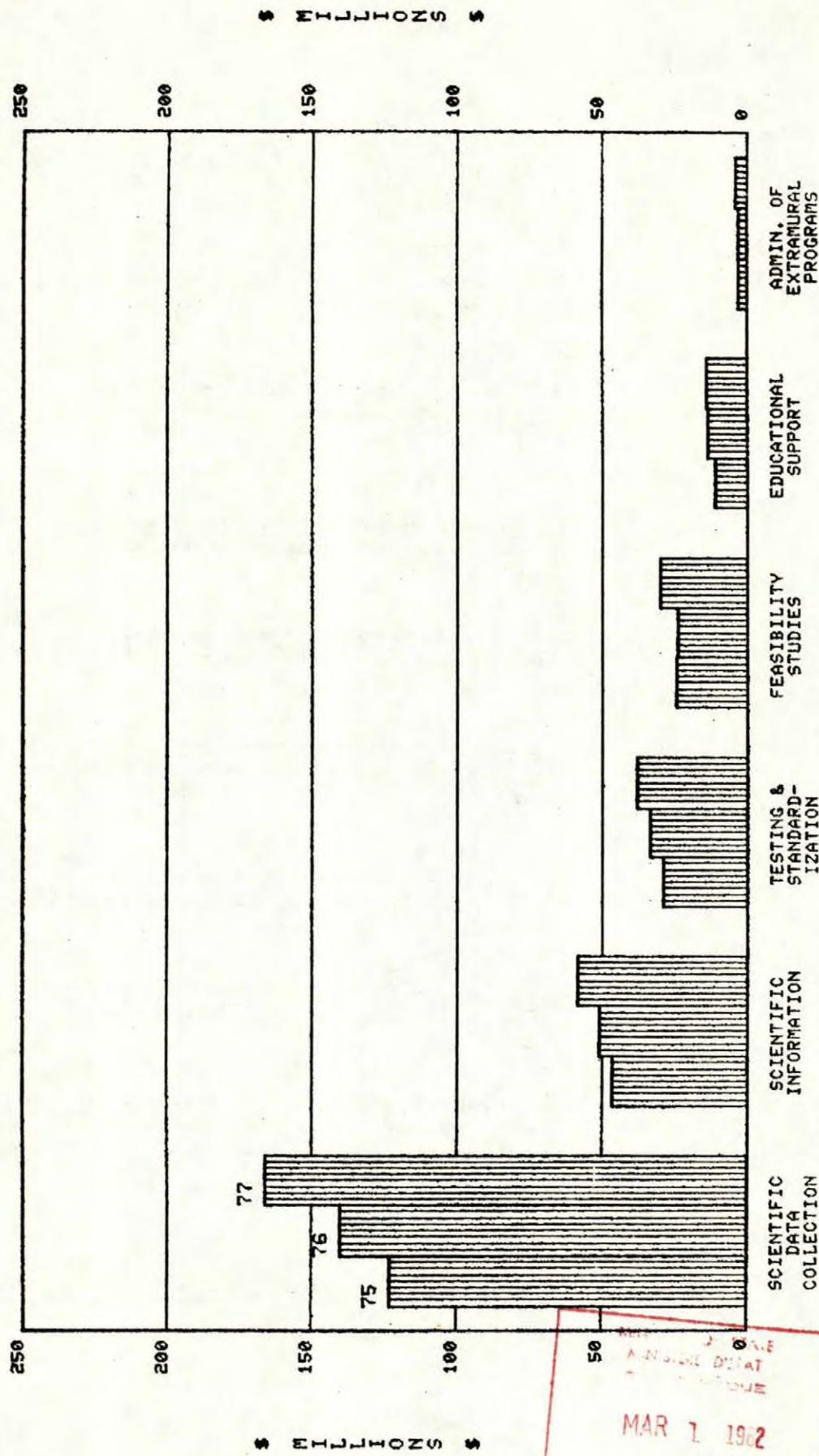
(\$ MILLIONS)

ACTIVITY	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
CURRENT	238.7	(91.8)	266.2	(90.9)	312.1	(91.8)
SCI. DATA COLLECTION	123.2	(47.4)	140.2	(47.9)	166.2	(48.9)
SCI. INFORMATION	46.9	(18.0)	51.3	(17.5)	59.0	(17.4)
TESTING & STANDARDIZATION	29.5	(11.3)	33.6	(11.5)	38.1	(11.2)
FEASIBILITY STUDIES	25.0	(9.6)	24.5	(8.4)	30.3	(8.9)
EDUCATIONAL SUPPORT	11.2	(4.3)	13.5	(4.6)	14.5	(4.3)
ADMIN. OF EXTRAMURAL PROG.	3.0	(1.2)	3.0	(1.0)	4.1	(1.2)
CAPITAL	21.3	(8.2)	26.8	(9.1)	27.7	(8.2)
TOTAL	260.1	(100.0)	293.0	(100.0)	339.8	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 29
NATURAL SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY ACTIVITY, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS
ACTIVITY

TABLE 30

NATURAL SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, 1974-77
(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
DOE	126.5	1.2	127.7	144.1	1.5	145.6	167.3	1.6	168.9
EMR	32.1	3.5	35.6	34.7	5.3	40.0	41.2	6.2	47.4
NRC	18.4	8.1	26.5	19.2	9.7	28.9	23.2	10.5	33.6
CIDA	0.2	19.9	20.1	0.2	19.6	19.8	0.3	25.1	25.4
DND	18.2	1.5	19.7	21.8	1.6	23.5	23.0	1.8	24.8
CCA	7.8	—	7.8	8.5	—	8.5	8.9	—	8.9
NHW	3.7	1.2	4.9	5.3	1.2	6.5	6.3	1.4	7.7
Agr	3.3	—	3.3	3.9	—	3.9	4.1	—	4.1
IDRC	0.9	2.5	3.4	0.3	1.7	2.0	0.9	2.3	3.2
AECL	2.7	—	2.7	2.8	—	2.8	3.1	—	3.1
DSS	—	0.4	0.4	0.1	2.3	2.4	0.1	2.6	2.7
MOT	1.2	0.6	1.8	1.1	0.7	1.8	1.2	1.1	2.3
MRC	0.1	1.5	1.6	0.1	1.6	1.6	0.1	1.4	1.5
INA	1.2	—	1.2	1.1	—	1.1	1.1	—	1.1
NM	0.5	—	0.5	0.9	—	0.9	1.1	—	1.1
CPDL	0.7	0.2	0.9	0.6	0.3	1.0	0.7	0.3	1.1
ITC	—	0.7	0.7	—	1.0	1.0	—	0.9	0.9
DPW	0.7	—	0.7	0.8	—	0.8	0.8	—	0.8
CMHC	—	—	—	0.3	0.2	0.5	0.4	0.4	0.7
DOC	0.4	—	0.4	0.5	—	0.5	0.4	—	0.4
NFB	0.1	—	0.1	0.1	—	0.1	0.1	—	0.1
DREE	—	—	—	—	—	—	—	—	—
DVA	—	—	—	—	—	—	—	—	—
CBC	—	—	—	—	—	—	—	—	—
MSST	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—
TOTAL	218.8	41.3	260.1	246.3	46.7	293.0	284.3	55.5	339.8

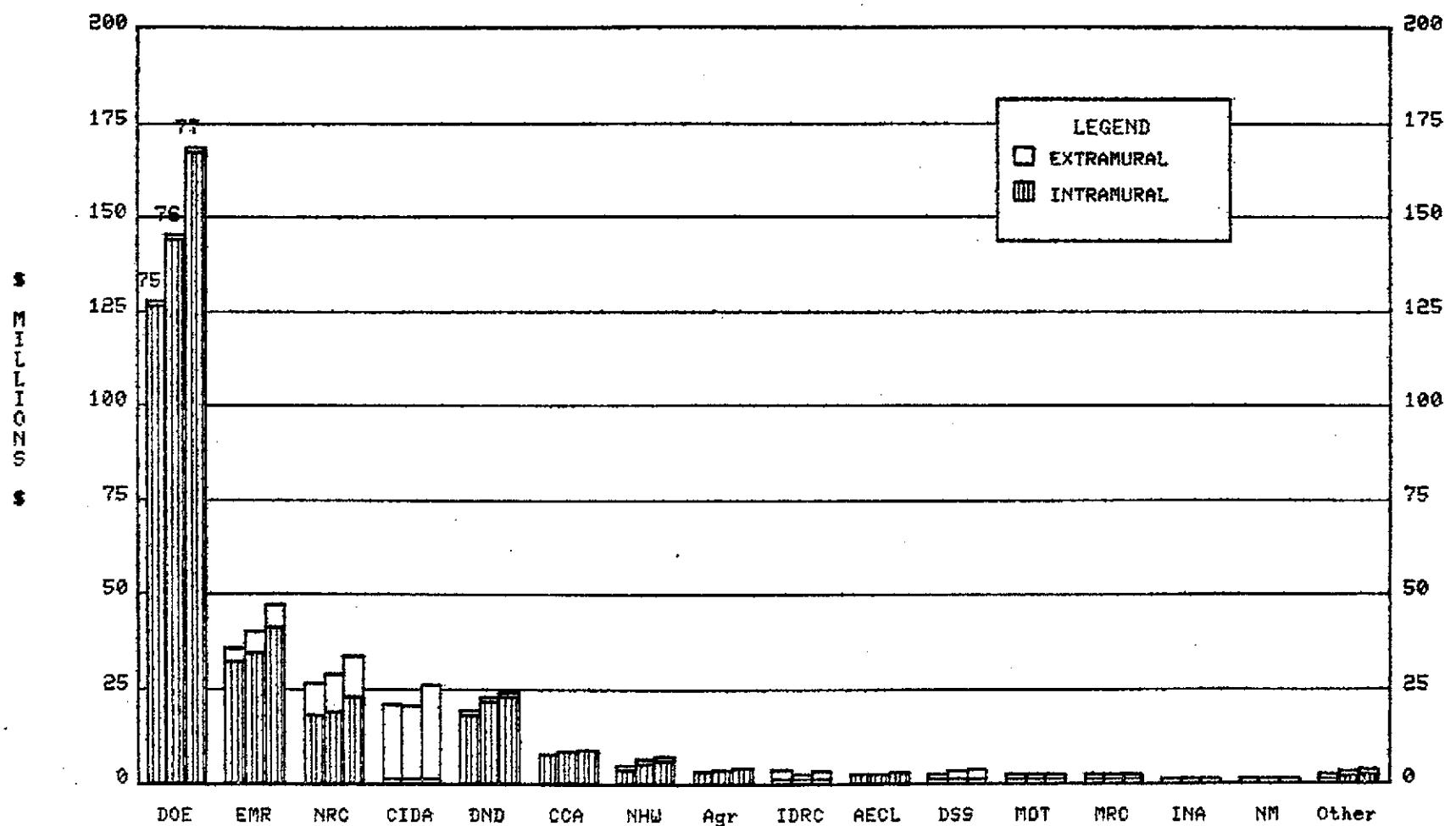
** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 30

NATURAL SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES

BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 31

NATURAL SCIENCES

FEDERAL CURRENT EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES

BY ACTIVITY, BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

ACTIVITY	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
SCIENTIFIC DATA COLLECTION	DOE	95.6	(77.6)	107.1	(76.3)	126.3	(76.0)
	EMR	21.9	(17.7)	24.7	(17.6)	30.0	(18.1)
	NHW	1.9	(1.5)	1.7	(1.2)	2.3	(1.4)
	DSS	- -	(- -)	1.9	(1.3)	2.1	(1.3)
	MOT	0.7	(0.6)	0.8	(0.6)	1.2	(0.7)
	AECL	0.8	(0.7)	0.9	(0.6)	1.0	(0.6)
	Agr	0.6	(0.5)	0.7	(0.5)	0.8	(0.5)
	NM	0.3	(0.3)	0.6	(0.4)	0.8	(0.5)
	Other	1.4	(1.1)	2.0	(1.4)	1.7	(1.0)
	TOTAL	123.2	(100.0)	140.2	(100.0)	166.2	(100.0)
SCIENTIFIC INFORMATION	DOE	10.2	(21.8)	11.3	(21.9)	13.6	(23.1)
	EMR	10.8	(23.0)	12.1	(23.5)	13.3	(22.5)
	NRC	9.3	(19.8)	11.0	(21.5)	13.2	(22.3)
	CCA	6.4	(13.7)	6.8	(13.2)	7.3	(12.4)
	Agr	2.5	(5.4)	2.9	(5.6)	3.0	(5.0)
	DND	1.8	(3.9)	2.1	(4.1)	2.1	(3.6)
	AECL	1.8	(3.9)	1.9	(3.6)	2.1	(3.5)
	IDRC	2.0	(4.3)	0.8	(1.6)	1.5	(2.5)
	Other	2.0	(4.3)	2.5	(4.9)	3.0	(5.1)
	TOTAL	46.9	(100.0)	51.3	(100.0)	59.0	(100.0)
TESTING & STANDARD- IZATION	DND	15.5	(52.5)	18.0	(53.4)	20.1	(52.7)
	NRC	7.1	(24.0)	6.2	(18.4)	7.3	(19.2)
	NHW	2.4	(8.0)	3.6	(10.8)	4.5	(11.7)
	DOE	1.6	(5.4)	2.2	(6.6)	2.2	(5.7)
	CCA	1.0	(3.5)	1.4	(4.0)	1.2	(3.2)
	DPW	0.7	(2.3)	0.8	(2.2)	0.8	(2.0)
	EMR	0.6	(2.0)	0.7	(2.1)	0.7	(2.0)
	IDRC	0.4	(1.4)	0.2	(0.5)	0.4	(1.2)
	Other	0.3	(0.9)	0.7	(2.0)	0.9	(2.4)
	TOTAL	29.5	(100.0)	33.6	(100.0)	38.1	(100.0)

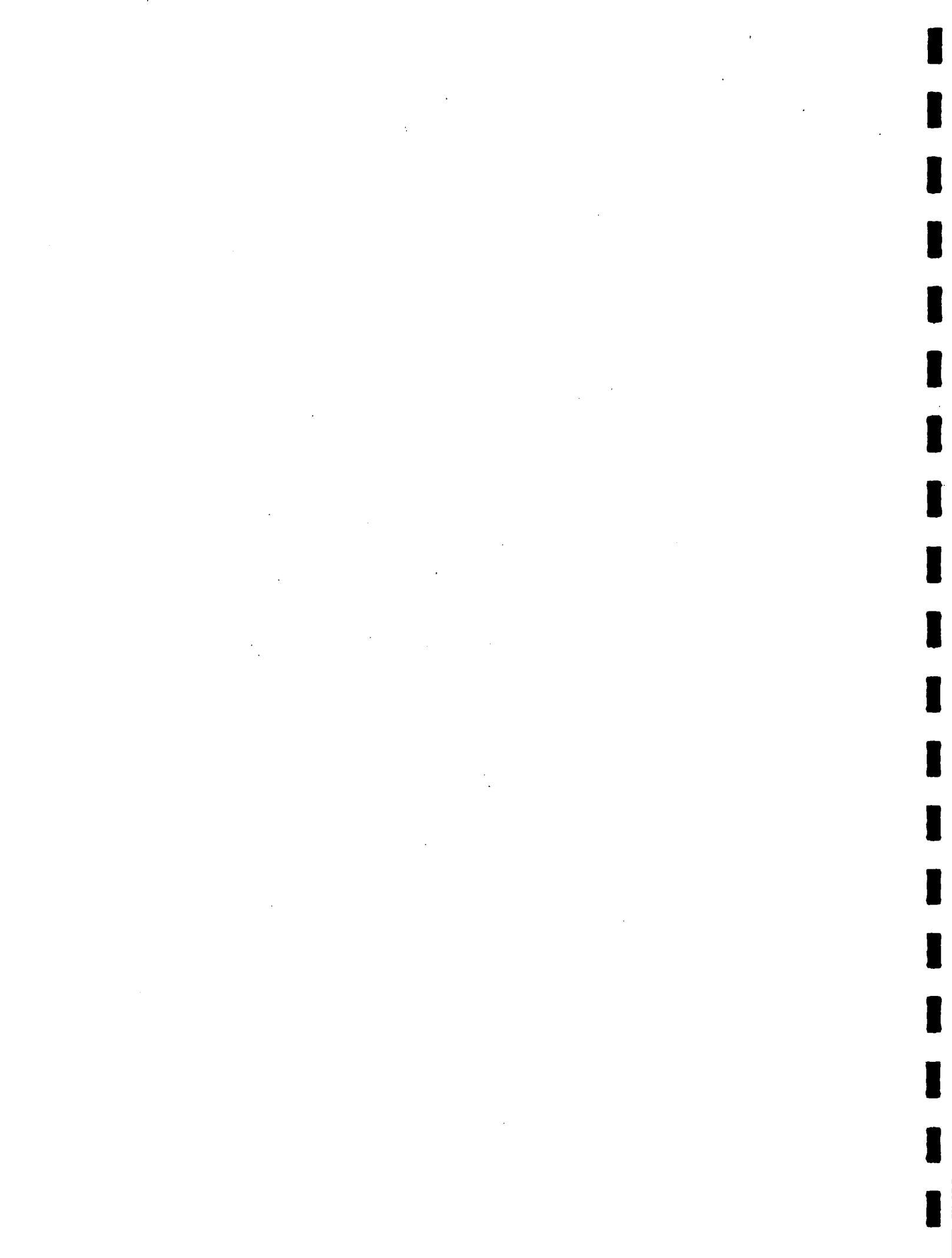
FEASIBILITY STUDIES	CIDA	19.2	(76.7)	18.3	(74.8)	23.8	(78.4)
	DND	2.1	(8.5)	2.0	(8.3)	2.3	(7.6)
	EMR	1.1	(4.4)	1.2	(5.0)	1.4	(4.6)
	DOE	1.1	(4.5)	1.2	(5.1)	1.1	(3.7)
	NRC	0.6	(2.3)	0.6	(2.4)	0.7	(2.2)
	MOT	0.3	(1.1)	0.3	(1.1)	0.3	(1.1)
	DSS	0.3	(1.4)	0.3	(1.2)	0.3	(1.0)
	DOC	0.2	(0.8)	0.3	(1.1)	0.2	(0.7)
	Other	0.1	(0.3)	0.2	(0.9)	0.2	(0.7)
	TOTAL	25.0	(100.0)	24.5	(100.0)	30.3	(100.0)

EDUCATIONAL SUPPORT	NRC	7.0	(62.7)	8.5	(63.0)	9.4	(65.1)
	DOE	1.5	(13.7)	1.6	(11.7)	1.8	(12.5)
	CIDA	0.7	(6.5)	1.2	(9.1)	1.4	(9.4)
	MRC	1.1	(10.1)	1.2	(8.8)	1.0	(7.2)
	ITC	0.7	(6.1)	1.0	(7.4)	0.9	(5.9)
	DVA	---	(---)	---	(---)	---	(---)
	CMHC	---	(---)	---	(---)	---	(---)
	MOT	---	(---)	---	(---)	---	(---)
	Other	0.1	(1.0)	---	(---)	---	(---)
	TOTAL	11.2	(100.0)	13.5	(100.0)	14.5	(100.0)

ADMIN. OF EXTRAMURAL PROGRAMS	NRC	1.6	(52.1)	2.0	(64.6)	2.4	(58.5)
	IDRC	0.9	(30.9)	0.3	(11.4)	0.9	(21.1)
	Other	0.5	(17.0)	0.7	(24.1)	0.8	(20.4)
	TOTAL	3.0	(100.0)	3.0	(100.0)	4.1	(100.0)

TOTAL CURRENT FOR R.S.A.	DOE	110.0	(46.1)	123.4	(46.3)	145.1	(46.5)
	EMR	34.3	(14.4)	38.7	(14.5)	45.5	(14.6)
	NRC	25.8	(10.8)	28.6	(10.8)	33.3	(10.7)
	CIDA	20.1	(8.4)	19.8	(7.4)	25.4	(8.1)
	DND	19.5	(8.2)	22.1	(8.3)	24.6	(7.9)
	CCA	7.4	(3.1)	8.1	(3.0)	8.5	(2.7)
	NHW	4.7	(2.0)	5.8	(2.2)	7.5	(2.4)
	Agr	3.2	(1.3)	3.8	(1.4)	3.9	(1.2)
	Other	13.6	(5.7)	15.9	(6.0)	18.4	(5.9)
	TOTAL	238.7	(100.0)	266.2	(100.0)	312.1	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS



3

Human Sciences

TABLE 32

HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77

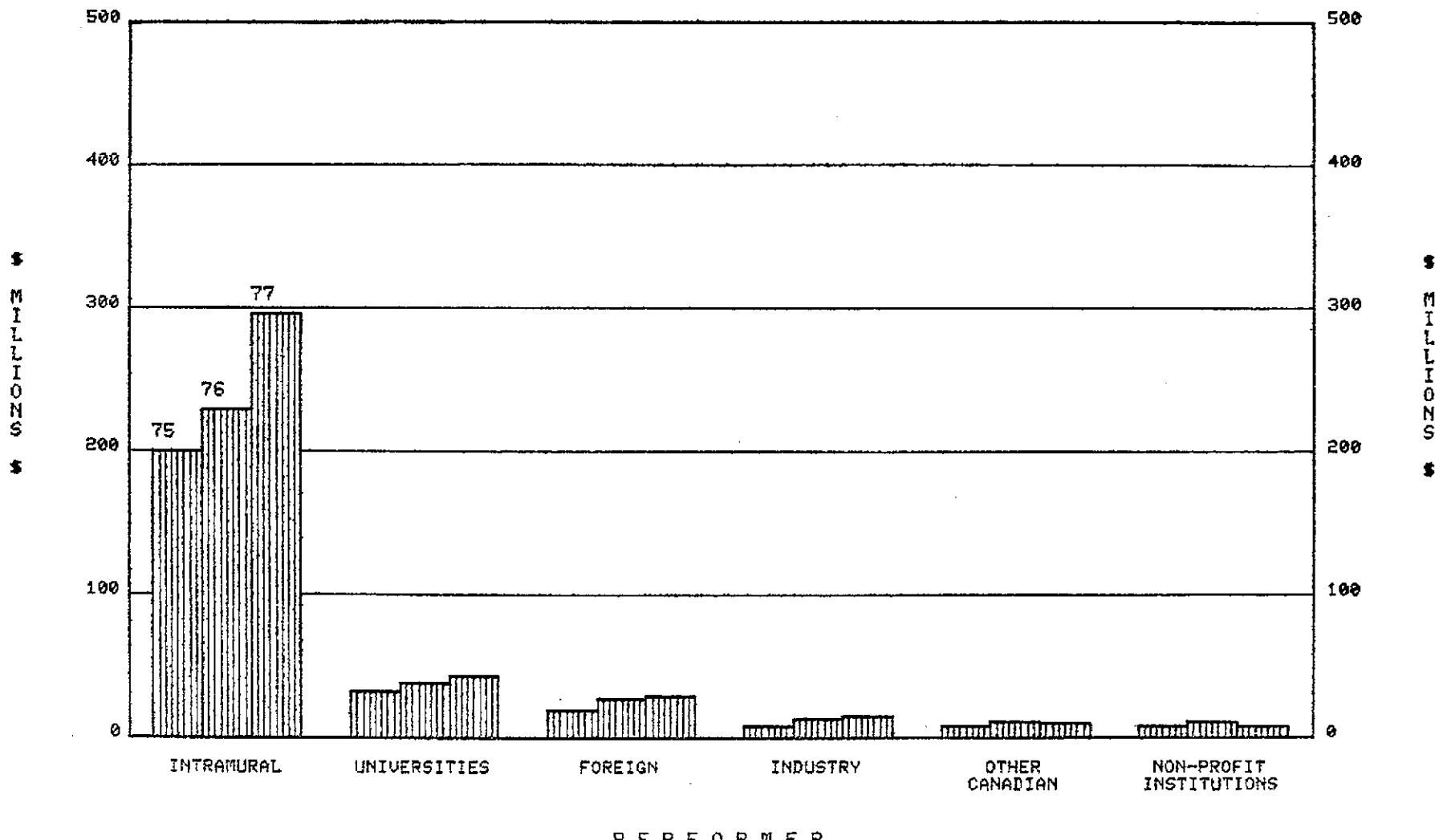
(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	200.2	(72.0)	229.1	(69.3)	296.7	(73.5)
UNIVERSITIES	32.8	(11.8)	38.1	(11.5)	43.6	(10.8)
FOREIGN	19.2	(6.9)	27.8	(8.4)	29.0	(7.2)
INDUSTRY	8.7	(3.1)	13.2	(4.0)	15.2	(3.8)
OTHER CANADIAN	8.5	(3.1)	11.2	(3.4)	11.0	(2.7)
NON-PROFIT INSTITUTIONS	8.6	(3.1)	11.1	(3.4)	8.4	(2.1)
TOTAL	278.0	(100.0)	330.6	(100.0)	403.8	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 32
HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77



PERFORMER

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 33

HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY ACTIVITY, 1974-77

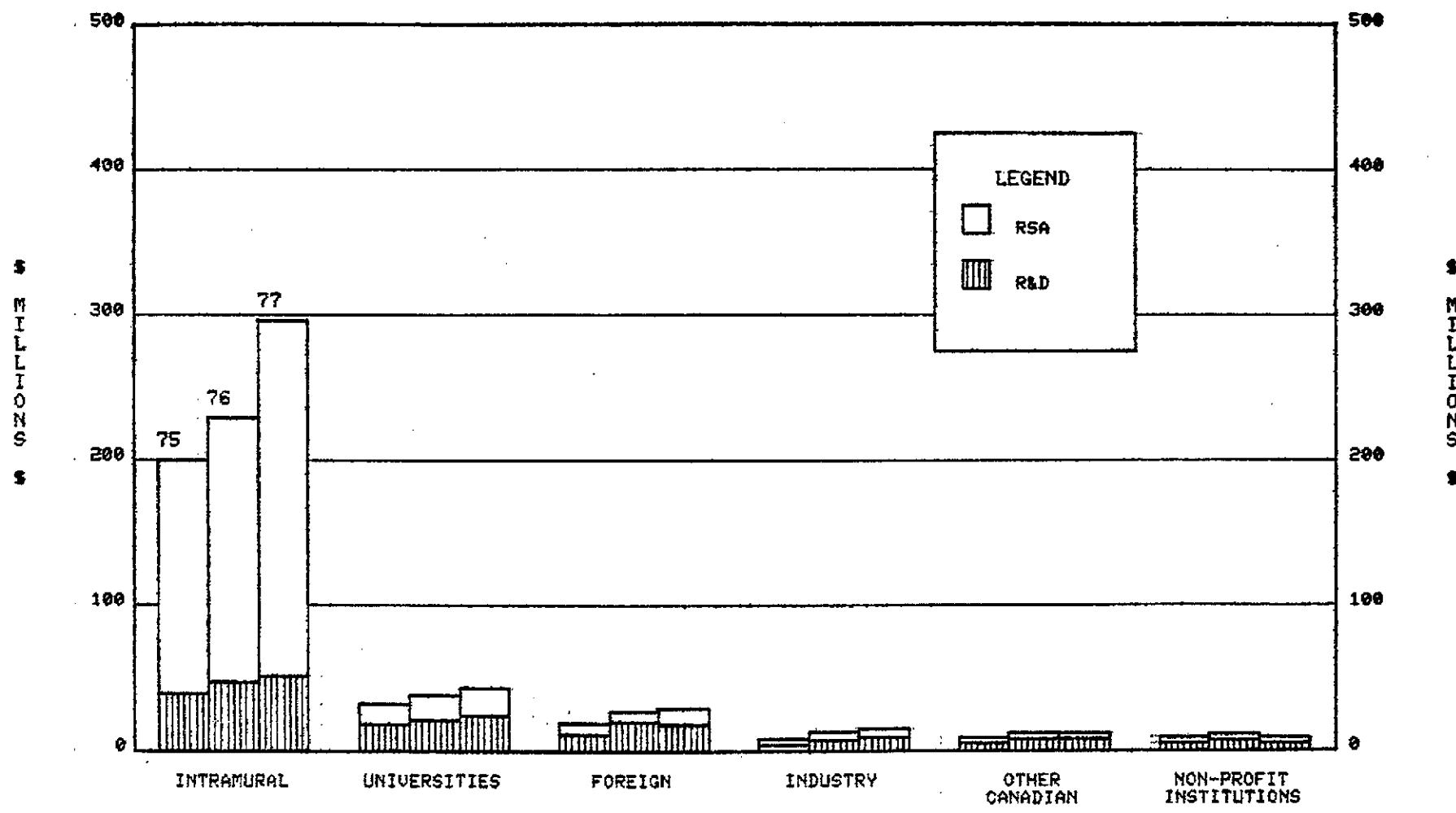
(\$ MILLIONS)

PERFORMER	1974-75			1975-76			1976-77		
	R&D	RSA	TOTAL	R&D	RSA	TOTAL	R&D	RSA	TOTAL
INTRAMURAL	39.8	160.4	200.2	47.6	181.5	229.1	51.4	245.2	296.7
UNIVERSITIES	18.0	14.8	32.8	21.2	16.9	38.1	25.0	18.6	43.6
FOREIGN	11.3	7.9	19.2	20.8	7.0	27.8	18.5	10.5	29.0
INDUSTRY	4.5	4.2	8.7	7.5	5.7	13.2	9.4	5.8	15.2
OTHER CANADIAN	5.8	2.7	8.5	8.9	2.3	11.2	8.9	2.1	11.0
NON-PROFIT INSTITUTIONS	5.2	3.4	8.6	7.9	3.2	11.1	5.2	3.2	8.4
TOTAL	84.6	193.4	278.0	113.9	216.7	330.6	118.5	285.4	403.8

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 33
HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY ACTIVITY, 1974-77



PERFORMER

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 34

HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES

BY DEPARTMENT OR AGENCY, BY ACTIVITY, 1974-??

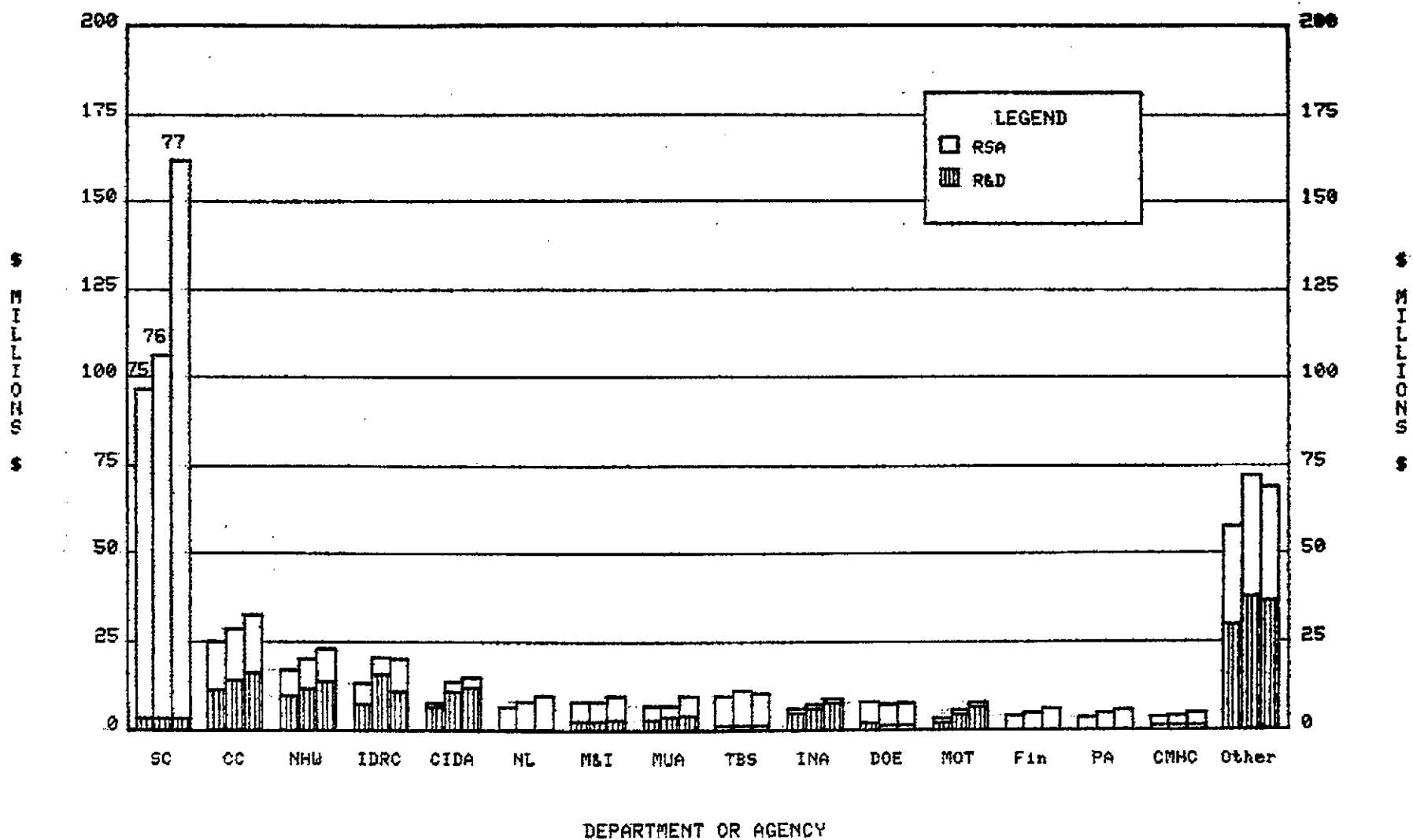
(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75			1975-76			1976-??		
	R&D	RSA	TOTAL	R&D	RSA	TOTAL	R&D	RSA	TOTAL
SC	3.4	93.2	96.6	3.5	102.6	106.1	3.3	158.4	161.7
CC	11.3	13.8	25.1	14.2	14.6	28.8	16.4	16.1	32.4
NHW	9.9	7.1	17.0	11.8	8.5	20.3	13.6	9.5	23.1
IDRC	7.6	6.0	13.6	15.7	4.8	20.6	11.1	9.3	20.4
CIDA	6.7	1.6	8.3	11.0	2.6	13.6	12.2	2.8	15.0
NL	—	6.7	6.7	—	8.3	8.3	—	9.9	9.9
M&I	2.5	5.5	8.0	2.5	5.9	8.3	3.0	6.9	9.9
MUA	3.1	3.8	6.9	3.8	3.2	7.0	4.3	5.6	9.9
TBS	0.1	8.5	8.6	0.1	10.3	10.4	0.1	9.6	9.7
INA	2.2	1.4	6.6	6.0	1.7	7.7	7.7	2.0	9.5
DOE	2.1	5.9	8.0	1.6	6.3	7.8	1.9	6.6	8.5
MOT	2.0	0.7	2.8	4.7	1.0	5.7	6.7	0.8	7.5
Fin	—	4.3	4.3	—	5.0	5.0	—	6.1	6.1
PA	—	3.9	3.9	—	5.0	5.0	—	5.7	5.7
CMHC	1.1	2.6	3.8	1.1	2.8	3.9	1.6	3.8	5.4
EA	—	3.2	3.2	—	4.2	4.2	—	5.1	5.1
ECC	4.3	—	4.3	4.3	—	4.3	4.8	—	4.8
Jus	3.6	0.3	3.9	3.7	0.3	4.0	4.3	0.4	4.6
BofC	2.2	1.6	3.8	2.1	2.2	4.3	2.3	2.2	4.5
SofS	1.0	2.3	3.3	1.0	3.3	4.3	0.9	3.5	4.4
PSC	2.6	—	2.6	3.7	—	3.7	4.1	—	4.1
MSST	0.1	3.2	3.3	0.1	2.7	2.8	0.2	3.2	3.4
CCA	1.9	0.2	2.1	2.4	0.2	2.7	3.1	0.2	3.3
UIC	1.0	0.7	1.7	1.6	1.0	2.6	2.1	0.9	3.0
COL	—	1.9	1.9	—	3.0	3.0	—	2.6	2.6
CTC	1.4	0.6	2.0	1.7	0.7	2.4	1.8	0.7	2.5
DOC	—	1.9	1.9	—	2.1	2.1	—	2.2	2.2
NM	0.7	0.7	1.4	0.9	0.9	1.8	1.1	1.1	2.2
Agr	1.5	—	1.5	1.6	—	1.6	2.2	—	2.2
ScC	1.0	0.8	1.8	1.1	1.0	2.1	1.2	1.0	2.2
Other	8.4	10.8	19.3	13.7	12.5	26.2	9.7	9.1	17.7
TOTAL	84.6	193.4	278.0	113.9	216.7	330.6	118.5	285.4	403.8

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 34
HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, BY ACTIVITY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 35

HUMAN SCIENCES

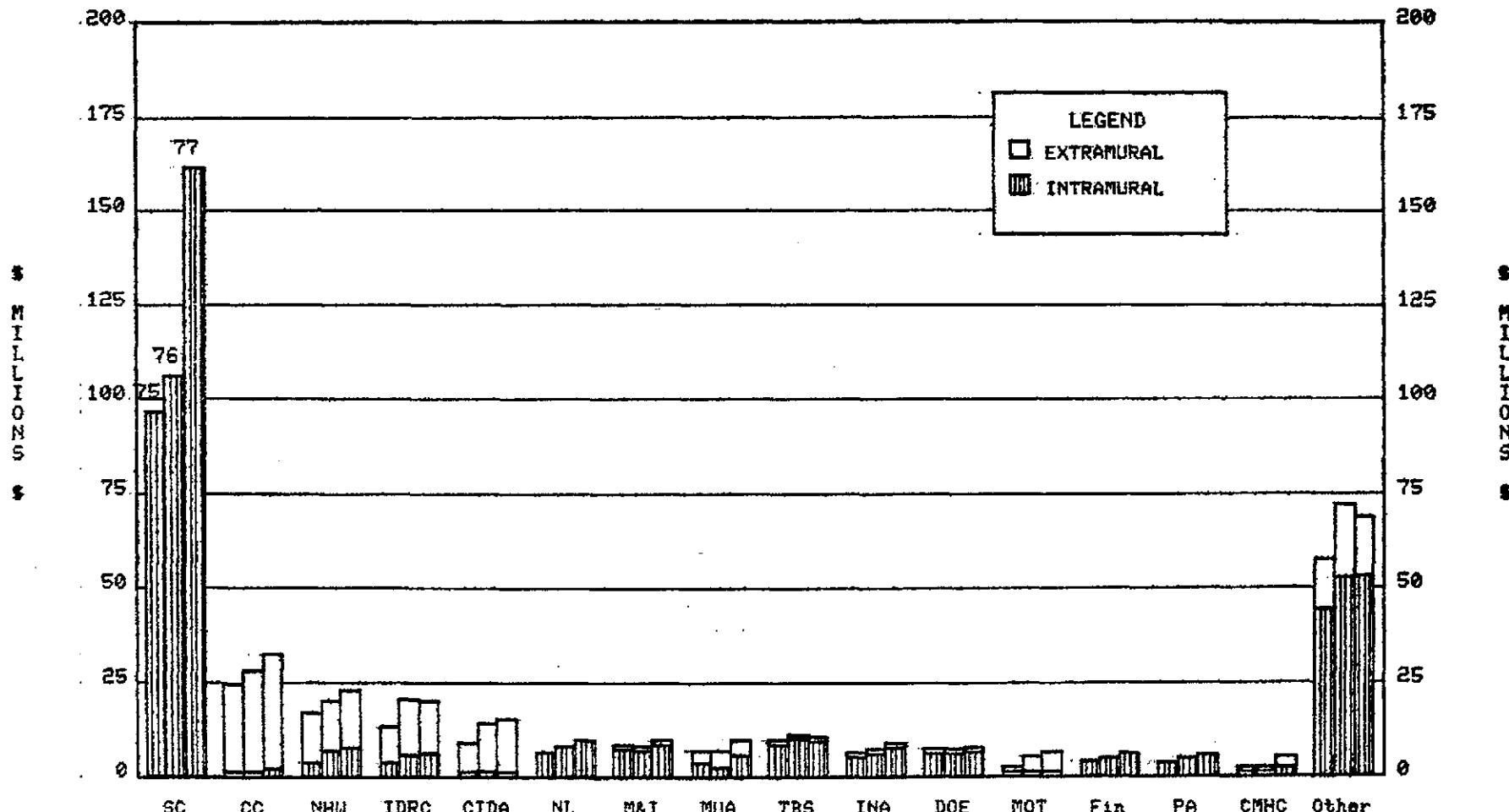
FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, 1974-77
(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
SC	96.6	---	96.6	106.1	---	106.1	161.7	---	161.7
CC	1.8	23.3	25.1	2.0	26.8	28.8	2.3	30.2	32.4
NHW	3.9	13.1	17.0	7.0	13.3	20.3	7.7	15.5	23.1
IDRC	3.7	9.9	13.6	6.0	14.6	20.6	6.1	14.2	20.4
CIDA	0.6	7.7	8.3	0.8	12.8	13.6	0.9	14.1	15.0
NL	6.7	---	6.7	8.3	---	8.3	9.9	---	9.9
M&I	7.3	0.7	8.0	7.2	1.1	8.3	8.5	1.4	9.9
MUA	4.0	2.9	6.9	2.6	4.4	7.0	5.7	4.1	9.8
TBS	8.5	0.1	8.6	10.3	0.1	10.4	9.6	0.1	9.7
INA	5.2	1.3	6.6	6.1	1.6	7.7	7.7	2.0	9.7
DSE	6.2	1.9	8.0	6.3	1.5	7.8	6.8	1.7	8.5
MOT	0.9	1.9	2.8	1.6	4.1	5.7	2.0	5.5	7.5
Fin	4.3	---	4.3	5.0	---	5.0	6.1	---	6.1
PA	3.9	---	3.9	5.0	---	5.0	5.7	---	5.7
CMHC	1.9	2.0	3.9	1.9	2.0	3.9	2.7	2.7	5.4
EA	3.1	0.1	3.2	4.1	0.1	4.2	4.9	0.2	5.1
ECC	3.9	0.4	4.3	3.9	0.4	4.3	4.4	0.4	4.8
Jus	2.9	1.0	3.9	2.6	1.2	4.0	3.3	1.4	4.6
BofC	3.6	---	3.6	4.3	---	4.3	4.5	---	4.5
SofS	1.0	2.3	3.3	1.7	2.6	4.3	2.0	2.4	4.4
PSC	2.6	---	2.6	3.7	---	3.7	4.1	---	4.1
MSST	2.8	0.5	3.3	2.3	0.5	2.8	2.6	0.8	3.4
CCA	1.6	0.5	2.1	2.1	0.6	2.7	2.4	0.9	3.3
UIC	1.2	0.5	1.7	1.6	1.0	2.6	1.9	1.1	3.0
COL	1.9	---	1.9	3.0	---	3.0	2.6	---	2.6
CTC	1.0	1.0	2.0	1.3	1.2	2.4	1.4	1.1	2.5
DOC	1.2	0.7	1.9	1.2	0.9	2.1	1.3	1.0	2.2
NM	1.0	0.3	1.4	1.3	0.6	1.8	1.4	0.8	2.2
Agr	1.4	0.1	1.5	1.5	0.1	1.6	2.1	0.1	2.3
ScC	1.4	0.4	1.8	1.7	0.4	2.1	1.8	0.4	2.2
Other	14.0	5.2	19.3	16.5	9.6	26.2	12.6	5.1	17.7
TOTAL	200.2	77.9	278.0	229.1	101.5	330.6	296.7	107.2	403.8

*** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 35
HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 36
HUMAN SCIENCES

FEDERAL EXPENDITURES ON SCIENTIFIC ACTIVITIES
BY PERFORMER, BY FUNDING DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

PERFORMER	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
INTRAMURAL	SC	96.6	(48.3)	106.1	(46.3)	161.7	(54.5)
*****	NL	6.7	(3.4)	8.3	(3.6)	9.9	(3.3)
	TBS	8.5	(4.3)	10.3	(4.5)	9.6	(3.2)
	M&I	7.3	(3.6)	7.2	(3.1)	8.5	(2.9)
	INA	5.2	(2.6)	6.1	(2.7)	7.7	(2.6)
	NHW	3.9	(1.9)	7.0	(3.0)	7.7	(2.6)
	DOE	6.2	(3.1)	6.3	(2.8)	6.8	(2.3)
	IDEC	3.7	(1.8)	6.0	(2.6)	6.1	(2.1)
	Fin	4.3	(2.1)	5.0	(2.2)	6.1	(2.1)
	PA	3.9	(1.9)	5.0	(2.2)	5.7	(1.9)
	MUA	4.0	(2.0)	2.6	(1.1)	5.7	(1.9)
	EA	3.1	(1.5)	4.1	(1.8)	4.9	(1.6)
	BofC	3.8	(1.9)	4.3	(1.9)	4.5	(1.5)
	ECC	3.9	(1.9)	3.9	(1.7)	4.4	(1.5)
	PSC	2.6	(1.3)	3.7	(1.6)	4.1	(1.4)
	Other	36.6	(18.3)	43.3	(18.9)	43.2	(14.6)
	TOTAL	200.2	(100.0)	229.1	(100.0)	296.7	(100.0)
EXTRAMURAL	CC	18.9	(57.4)	22.5	(59.0)	25.5	(58.4)
*****	NHW	5.9	(18.0)	5.6	(14.6)	6.7	(15.4)
UNIVERSITIES	CIDA	1.4	(4.2)	2.3	(6.0)	2.6	(5.9)
	SofS	1.8	(5.5)	2.0	(5.2)	1.7	(4.0)
	MUA	0.5	(1.7)	0.8	(2.0)	1.3	(3.0)
	CMHC	1.0	(3.1)	1.0	(2.7)	1.3	(3.0)
	MOT	0.5	(1.5)	1.1	(2.9)	0.9	(2.0)
	SG	0.2	(0.7)	0.4	(1.1)	0.6	(1.5)
	Other	2.6	(7.8)	2.5	(6.5)	2.9	(6.8)
	TOTAL	32.8	(100.0)	38.1	(100.0)	43.6	(100.0)

FOREIGN	IDRC	8.8	(45.9)	13.1	(47.2)	12.8	(44.1)
	CIDA	6.3	(32.9)	10.5	(37.9)	11.5	(39.8)
	CC	3.3	(17.0)	3.3	(11.7)	3.6	(12.5)
	NHW	0.4	(1.8)	0.4	(1.5)	0.5	(1.7)
	MSST	0.2	(0.9)	0.2	(0.7)	0.3	(1.0)
	NM	0.1	(0.3)	0.1	(0.3)	0.1	(0.4)
	DND	--	(--)	--	(--)	--	(--)
	SG	--	(--)	--	(--)	--	(--)
	Other	0.2	(0.9)	0.1	(0.5)	0.1	(0.3)
	TOTAL	19.2	(100.0)	27.8	(100.0)	29.0	(100.0)

INDUSTRY	MOT	1.3	(15.3)	2.5	(18.6)	3.9	(25.5)
	CBC	0.8	(9.5)	1.0	(7.7)	1.1	(7.0)
	UIC	0.4	(5.1)	0.9	(6.6)	1.1	(7.0)
	M&I	0.6	(6.8)	0.8	(6.4)	1.0	(6.9)
	CTC	0.8	(9.1)	1.1	(8.1)	1.0	(6.8)
	MJA	0.6	(7.4)	1.5	(11.5)	1.0	(6.2)
	DOE	0.6	(7.4)	0.6	(4.5)	1.0	(6.2)
	CMHC	0.5	(5.6)	0.5	(3.8)	0.7	(4.9)
	Other	2.9	(33.8)	4.3	(32.8)	4.5	(29.5)
	TOTAL	8.7	(100.0)	13.2	(100.0)	15.2	(100.0)

OTHER CANADIAN	NHW	3.0	(35.2)	3.8	(34.2)	4.2	(38.1)
	IDRC	0.4	(4.6)	0.9	(7.9)	0.9	(8.0)
	INA	0.5	(6.4)	0.7	(6.3)	0.8	(6.9)
	Jus	0.6	(7.2)	0.6	(5.8)	0.7	(6.7)
	MOT	--	(--)	0.5	(4.5)	0.7	(6.4)
	MJA	0.6	(7.0)	0.9	(7.7)	0.7	(6.1)
	DOE	1.0	(11.3)	0.8	(6.8)	0.5	(4.8)
	CMHC	0.3	(4.0)	0.3	(3.1)	0.5	(4.5)
	Other	2.0	(24.0)	2.7	(23.9)	2.0	(18.4)
	TOTAL	8.5	(100.0)	11.2	(100.0)	11.0	(100.0)

NON-PROFIT INSTITUTIONS	NHW	3.8	(44.0)	3.3	(30.0)	3.6	(43.1)
	MJA	1.1	(13.0)	1.2	(11.1)	1.2	(14.3)
	CC	1.2	(13.4)	1.0	(9.4)	1.1	(12.9)
	PCO	1.0	(11.9)	4.1	(37.1)	0.6	(6.6)
	IDRC	0.6	(6.9)	0.2	(1.6)	0.4	(5.1)
	INA	0.3	(3.0)	0.3	(2.7)	0.4	(4.8)
	SofS	0.2	(2.0)	0.3	(3.1)	0.3	(3.6)
	CCA	0.3	(3.0)	0.1	(1.1)	0.2	(2.1)
	Other	0.2	(2.9)	0.4	(3.9)	0.6	(7.6)
	TOTAL	8.6	(100.0)	11.1	(100.0)	8.4	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 37

HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY PERFORMER, 1974-77

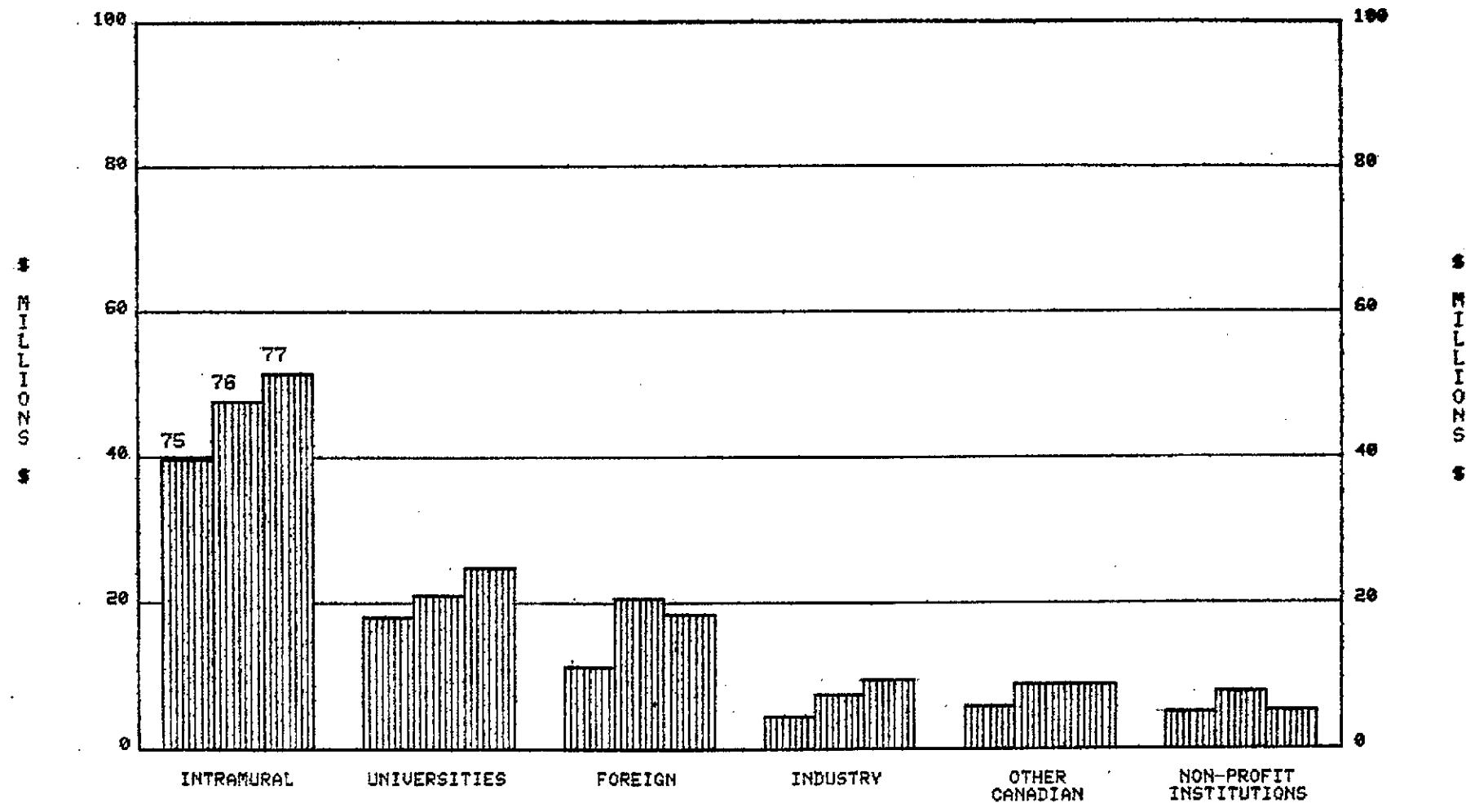
(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	39.8	(47.0)	47.6	(41.8)	51.4	(43.4)
UNIVERSITIES	18.0	(21.3)	21.2	(18.6)	25.0	(21.1)
FOREIGN	11.3	(13.3)	20.8	(18.2)	18.5	(15.6)
INDUSTRY	4.5	(5.3)	7.5	(6.6)	9.4	(8.0)
OTHER CANADIAN	5.8	(6.9)	8.9	(7.8)	8.9	(7.5)
NON-PROFIT INSTITUTIONS	5.2	(6.1)	7.9	(7.0)	5.2	(4.4)
TOTAL	84.6	(100.0)	113.9	(100.0)	118.5	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 37
HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY PERFORMER, 1974-77



PERFORMER

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 38

HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY TYPE OF FUNDING, 1974-77

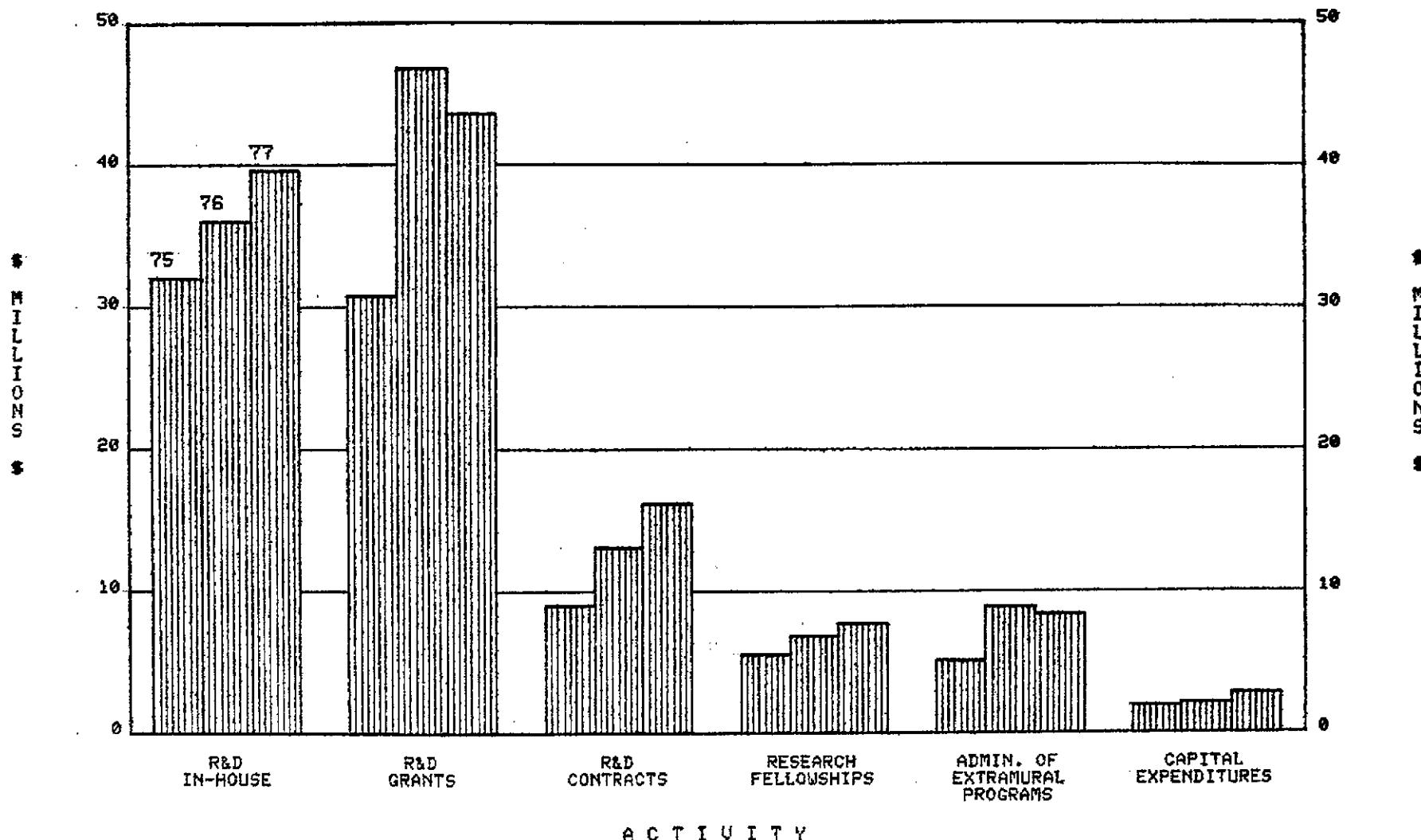
(\$ MILLIONS)

TYPE OF FUNDING	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
CURRENT	82.7	(97.7)	111.9	(98.1)	115.7	(97.6)
IN-HOUSE R&D	32.1	(37.9)	36.0	(31.6)	39.6	(33.5)
R&D GRANTS	30.8	(36.4)	46.8	(41.1)	43.7	(36.9)
R&D CONTRACTS	9.1	(10.7)	13.1	(11.5)	16.2	(13.7)
RESEARCH FELLOWSHIPS	5.5	(6.6)	6.8	(6.0)	7.7	(6.5)
ADMIN. OF EXTRAMURAL PROGRAMS	5.2	(6.1)	8.9	(7.8)	8.4	(7.1)
CAPITAL EXPENDITURES	1.9	(2.3)	2.2	(1.9)	2.8	(2.4)
TOTAL	84.6	(100.0)	113.9	(100.0)	118.5	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 38
HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY TYPE OF FUNDING, 1974-77



** EXTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 39

HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RESEARCH AND DEVELOPMENT

BY DEPARTMENT OR AGENCY, 1974-77

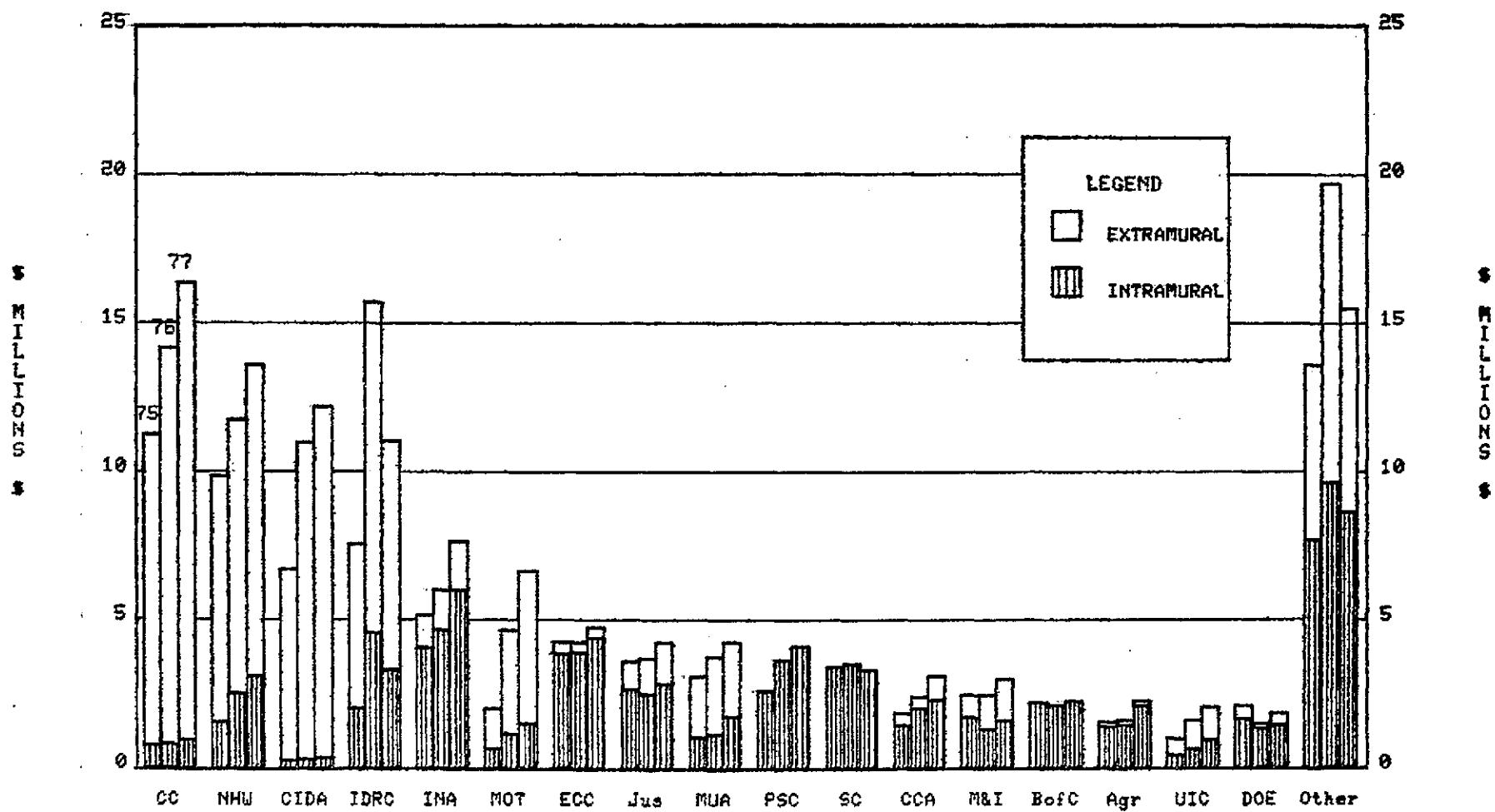
(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
CC	0.8	10.5	11.3	0.8	13.3	14.2	1.0	15.4	16.4
NHW	1.6	8.3	9.9	2.5	9.2	11.8	3.1	10.5	13.6
CIDA	0.3	6.5	6.7	0.3	10.7	11.0	0.4	11.8	12.2
IDRC	2.0	5.5	7.6	4.6	11.2	15.7	3.3	7.7	11.1
INA	4.1	1.1	5.2	4.7	1.4	6.0	6.0	1.6	7.7
MOT	0.7	1.4	2.0	1.2	3.5	4.7	1.5	5.2	6.7
ECC	3.9	0.4	4.3	3.9	0.4	4.3	4.4	0.4	4.8
JUS	2.7	1.0	3.6	2.5	1.2	3.7	2.9	1.4	4.3
MUA	1.1	2.0	3.1	1.2	2.6	3.8	1.8	2.5	4.3
PSC	2.6	—	2.6	3.7	—	3.7	4.1	—	4.1
SC	3.4	—	3.4	3.5	—	3.5	3.3	—	3.3
CCA	1.5	0.4	1.9	2.0	0.4	2.4	2.3	0.8	3.1
M&I	1.7	0.7	2.5	1.3	1.1	2.5	1.6	1.4	3.0
BafC	2.2	—	2.2	2.1	—	2.1	2.3	—	2.3
Agr	1.4	0.1	1.5	1.5	0.1	1.6	2.1	0.1	2.2
UIC	0.5	0.5	1.0	0.7	1.0	1.6	1.0	1.1	2.1
DOE	1.7	0.5	2.1	1.4	0.2	1.6	1.5	0.4	1.9
CTC	0.7	0.7	1.4	0.9	0.8	1.7	1.0	0.8	1.8
SG	0.1	0.3	0.5	0.5	0.7	1.3	0.2	1.1	1.8
CMHC	0.3	0.7	1.1	0.4	0.7	1.1	0.5	1.1	1.6
EMR	1.1	0.2	1.3	1.3	0.2	1.4	1.3	0.2	1.4
GSC	0.7	0.3	1.0	0.8	0.3	1.1	0.9	0.3	1.2
NM	0.5	0.1	0.7	0.6	0.3	0.9	0.8	0.4	1.1
DND	0.7	0.3	1.0	0.7	0.3	1.0	0.8	0.2	1.0
PCO	0.3	0.5	0.8	0.4	3.6	4.0	0.4	0.6	1.0
SofS	0.1	0.9	1.0	0.2	0.8	1.0	0.2	0.8	0.9
CRTC	0.5	0.1	0.6	0.6	0.1	0.7	0.6	0.2	0.8
DREE	0.3	0.6	0.9	0.4	0.6	1.0	0.5	0.2	0.6
NCC	0.6	—	0.6	0.6	—	0.6	0.6	—	0.6
ITC	0.3	0.6	0.9	0.4	0.9	1.3	0.2	0.3	0.5
Other	1.6	0.5	2.1	2.0	0.6	2.7	0.5	0.7	1.2
TOTAL	39.8	44.8	84.6	47.6	66.3	113.9	51.4	67.0	118.5

*** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 39
HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 40
HUMAN SCIENCES

FEDERAL EXPENDITURES ON RESEARCH AND DEVELOPMENT
BY PERFORMER, BY FUNDING DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

PERFORMER	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
INTRAMURAL	INA	4.1	(10.2)	4.7	(9.8)	6.0	(11.7)
*****	ECC	3.9	(9.7)	3.9	(8.3)	4.4	(8.6)
	PSC	2.6	(6.5)	3.7	(7.7)	4.1	(8.0)
	IDRC	2.0	(5.1)	4.6	(9.6)	3.3	(6.5)
	SC	3.4	(8.6)	3.5	(7.4)	3.3	(6.5)
	NHW	1.6	(4.0)	2.5	(5.3)	3.1	(6.1)
	Jus	2.7	(6.7)	2.5	(5.3)	2.9	(5.6)
	CCA	1.5	(3.8)	2.0	(4.3)	2.3	(4.5)
	BofC	2.2	(5.6)	2.1	(4.5)	2.3	(4.5)
	Agr	1.4	(3.6)	1.5	(3.1)	2.1	(4.1)
	MUA	1.1	(2.7)	1.2	(2.5)	1.8	(3.5)
	M&I	1.7	(4.4)	1.3	(2.8)	1.6	(3.2)
	MOT	0.7	(1.6)	1.2	(2.4)	1.5	(2.9)
	DOE	1.7	(4.2)	1.4	(2.9)	1.5	(2.9)
	EMR	1.1	(2.7)	1.3	(2.7)	1.3	(2.5)
	Other	8.2	(20.5)	10.2	(21.4)	9.7	(18.9)
	TOTAL	39.8	(100.0)	47.6	(100.0)	51.4	(100.0)
EXTRAMURAL	CC	10.5	(58.3)	13.3	(63.0)	15.4	(61.6)
*****	NHW	3.5	(19.5)	3.4	(16.1)	4.2	(16.6)
UNIVERSITIES	MOT	0.3	(1.9)	0.9	(4.1)	0.9	(3.5)
	MUA	0.2	(1.0)	0.3	(1.4)	0.8	(3.3)
	SG	0.2	(1.4)	0.4	(2.0)	0.6	(2.3)
	SofS	0.8	(4.6)	0.6	(2.6)	0.5	(1.9)
	Jus	0.3	(1.6)	0.3	(1.4)	0.3	(1.3)
	CIDA	0.1	(0.8)	0.2	(0.9)	0.3	(1.2)
	Other	2.0	(11.0)	1.8	(8.5)	2.1	(8.3)
	TOTAL	18.0	(100.0)	21.2	(100.0)	25.0	(100.0)
FOREIGN	CIDA	6.3	(56.0)	10.5	(50.7)	11.5	(62.4)
	IDRC	4.5	(40.2)	9.8	(47.1)	6.4	(34.6)
	Other	0.4	(3.8)	0.5	(2.3)	0.5	(2.9)
	TOTAL	11.3	(100.0)	20.8	(100.0)	18.5	(100.0)

INDUSTRY	MOT	1.0 (21.5)	2.2 (28.7)	3.5 (37.3)
	UIC	0.4 (9.9)	0.9 (11.6)	1.1 (11.2)
	M&I	0.6 (13.3)	0.8 (11.2)	1.0 (11.1)
	CTC	0.5 (11.9)	0.7 (9.9)	0.7 (7.6)
	MUA	0.4 (9.1)	0.7 (8.9)	0.5 (5.3)
	CMHC	0.2 (5.4)	0.2 (3.3)	0.4 (3.9)
	CCA	0.1 (2.8)	0.2 (2.5)	0.3 (3.5)
	Jus	0.1 (1.3)	0.3 (3.3)	0.3 (2.6)
	Other	1.1 (24.9)	1.5 (20.4)	1.6 (17.4)
	TOTAL	4.5 (100.0)	7.5 (100.0)	9.4 (100.0)

OTHER CANADIAN	NHW	2.1 (35.8)	3.2 (35.7)	3.5 (39.1)
	IDRC	0.4 (6.7)	0.9 (9.9)	0.9 (9.8)
	Jus	0.6 (10.5)	0.6 (7.2)	0.7 (8.3)
	INA	0.5 (8.7)	0.7 (7.7)	0.7 (8.2)
	MOT	- - (- -)	0.5 (5.6)	0.7 (7.9)
	MUA	0.5 (8.0)	0.5 (6.1)	0.4 (5.0)
	CMHC	0.3 (4.6)	0.3 (3.1)	0.4 (4.4)
	ECC	0.3 (5.4)	0.3 (3.4)	0.3 (3.4)
	Other	1.2 (19.9)	1.9 (21.3)	1.2 (14.0)
	TOTAL	5.8 (100.0)	8.9 (100.0)	8.9 (100.0)

NON-PROFIT INSTITUTIONS	NHW	2.4 (46.9)	2.3 (28.5)	2.4 (45.7)
	MUA	1.0 (18.7)	1.1 (13.4)	0.7 (13.4)
	PCO	0.5 (10.2)	3.6 (44.9)	0.6 (10.6)
	INA	0.3 (5.0)	0.3 (3.8)	0.4 (7.7)
	IDRC	0.5 (10.5)	0.2 (1.9)	0.4 (7.3)
	SofS	- - (- -)	0.2 (2.1)	0.2 (3.2)
	SG	- - (- -)	0.1 (0.9)	0.2 (3.1)
	CMHC	0.1 (1.2)	0.1 (0.8)	0.1 (1.8)
	Other	0.4 (6.8)	0.3 (3.7)	0.4 (7.3)
	TOTAL	5.2 (100.0)	7.9 (100.0)	5.2 (100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 41

HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
 IN CANADIAN UNIVERSITIES AND NON-PROFIT INSTITUTIONS
 BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75		1975-76		1976-77	
	GRANTS	CONTRACTS	GRANTS	CONTRACTS	GRANTS	CONTRACTS
CC	6.5	0.3	8.7	0.4	10.9	---
NHW	5.6	---	5.3	0.1	6.1	0.1
MUA	1.0	0.2	1.0	0.3	1.1	0.4
MOT	0.1	0.2	0.6	0.2	0.4	0.4
SG	0.1	0.2	0.1	0.4	0.1	0.6
INA	0.2	0.3	0.2	0.4	0.2	0.5
SofS	0.7	0.1	0.7	0.1	0.7	---
PCO	0.5	0.1	3.5	0.1	0.5	0.1
IDRC	0.5	---	0.2	---	0.4	---
Jus	0.1	0.2	0.2	0.2	0.2	0.2
CCA	0.2	---	0.1	0.1	0.1	0.2
CMHC	0.2	---	0.2	---	0.3	---
ITC	0.2	---	0.2	---	0.2	---
DSS	---	0.1	---	0.2	---	0.2
EMR	0.1	0.1	0.1	0.1	0.1	0.1
M&I	---	---	---	0.1	0.1	0.1
DOE	0.2	0.1	0.1	---	0.1	---
DND	0.2	0.1	0.1	0.1	---	0.1
CRTC	---	---	0.1	---	0.1	---
TBS	0.1	---	0.1	---	0.1	---
Other	0.1	0.3	0.1	0.2	0.2	0.2
TOTAL	16.7	2.2	21.5	2.9	21.6	3.3

HISTOGRAM 41
HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN UNIVERSITIES AND NON-PROFIT INSTITUTIONS
BY DEPARTMENT OR AGENCY, 1974-77

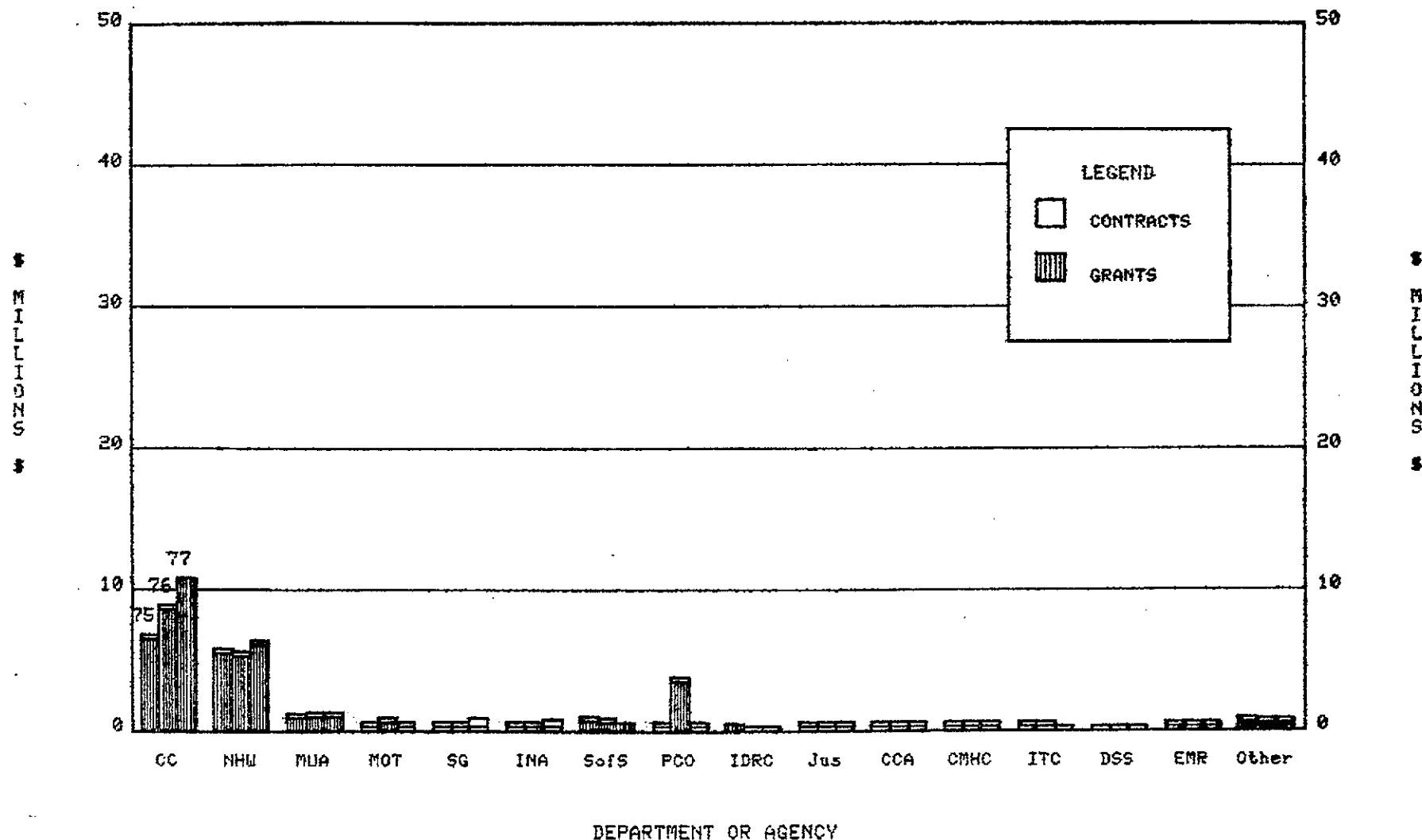


TABLE 42

HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN INDUSTRY
BY DEPARTMENT OR AGENCY, 1974-77

(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75		1975-76		1976-77	
	GRANTS	CONTRACTS	GRANTS	CONTRACTS	GRANTS	CONTRACTS
MOT	---	1.0	---	2.2	---	3.5
UIC	---	0.4	---	0.9	---	1.1
M&I	---	0.6	---	0.8	---	1.0
CTC	---	0.5	---	0.7	---	0.7
MUA	---	0.4	---	0.7	---	0.5
CMHC	0.1	0.2	0.1	0.2	0.1	0.3
CCA	---	0.1	---	0.2	---	0.3
JUS	---	0.1	---	0.3	---	0.3
DOE	---	0.2	---	---	---	0.2
INA	---	0.1	---	0.2	---	0.2
SG	---	0.1	---	0.1	---	0.2
SCC	---	0.2	---	0.2	0.2	---
MSST	---	0.1	---	0.1	---	0.1
NHW	---	---	0.1	---	0.1	---
DSS	---	0.1	---	0.1	---	0.1
ITC	---	0.1	---	0.2	---	0.1
IDRC	0.1	---	0.3	---	0.1	---
CRTC	---	---	---	---	---	0.1
ECC	---	0.1	---	0.1	---	0.1
DND	---	---	---	---	---	0.1
Other	---	0.1	---	0.1	---	0.1
TOTAL	0.1	4.4	0.5	7.0	0.5	8.9

HISTOGRAM 42
HUMAN SCIENCES

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT
IN CANADIAN INDUSTRY
BY DEPARTMENT OR AGENCY, 1974-77

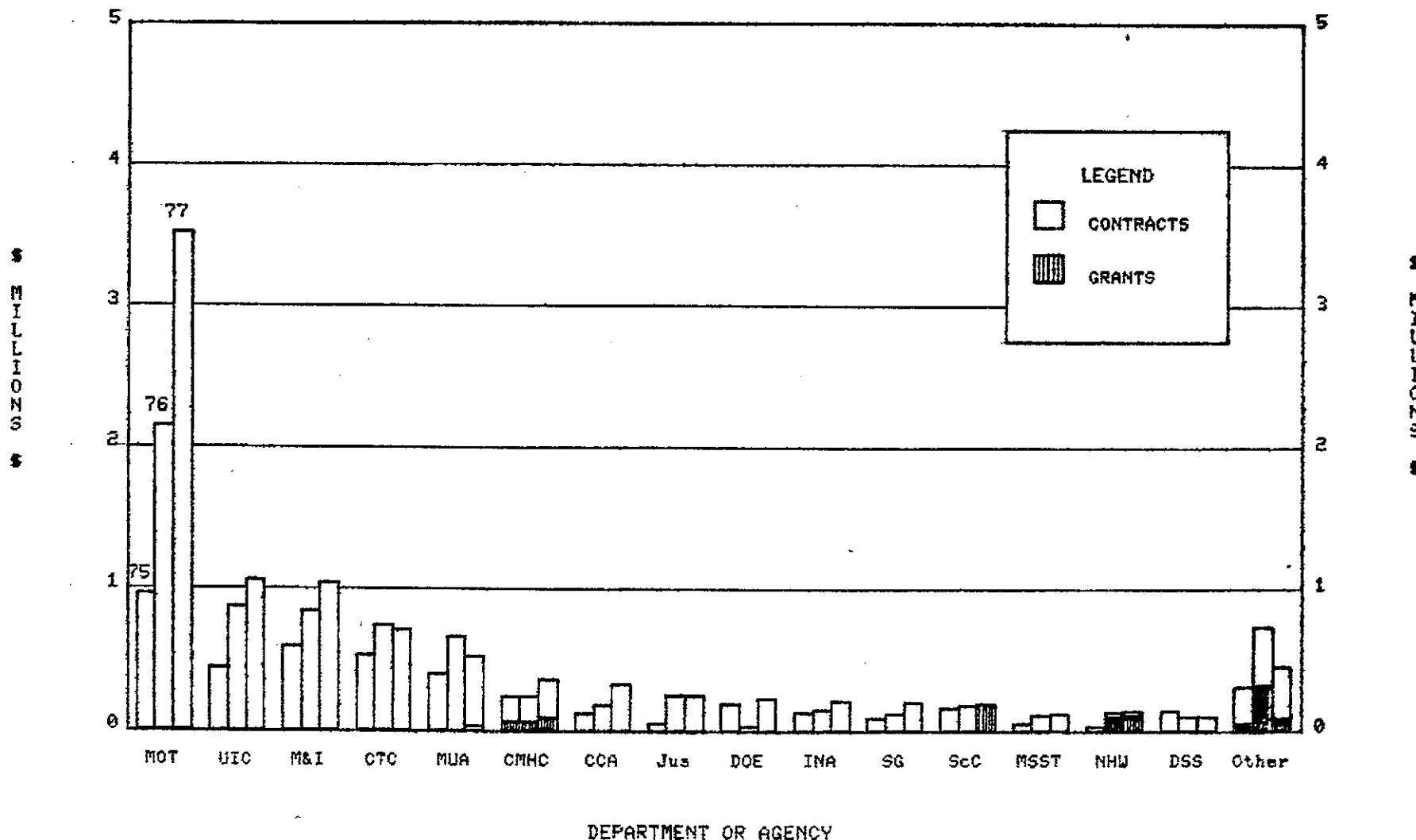


TABLE 43

HUMAN SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77

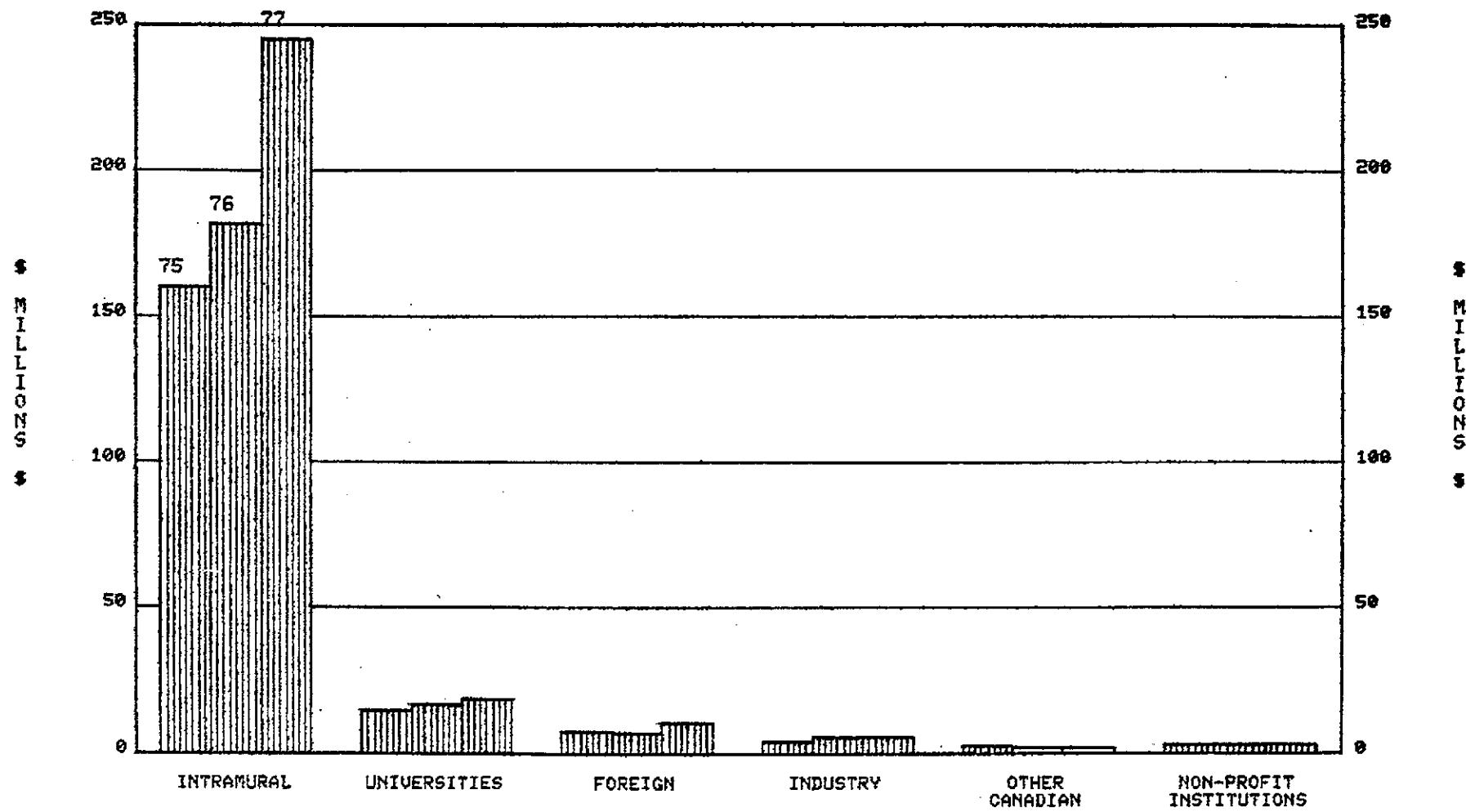
(\$ MILLIONS)

PERFORMER	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
INTRAMURAL	160.4	(82.9)	181.5	(83.8)	245.2	(85.9)
UNIVERSITIES	14.8	(7.6)	16.9	(7.8)	18.6	(6.5)
FOREIGN	7.9	(4.1)	7.0	(3.2)	10.5	(3.7)
INDUSTRY	4.2	(2.2)	5.7	(2.6)	5.8	(2.0)
OTHER CANADIAN	2.7	(1.4)	2.3	(1.1)	2.1	(0.7)
NON-PROFIT INSTITUTIONS	3.4	(1.8)	3.2	(1.5)	3.2	(1.1)
TOTAL	193.4	(100.0)	216.7	(100.0)	285.4	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 43
HUMAN SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY PERFORMER, 1974-77



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 44

HUMAN SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY ACTIVITY, 1974-77

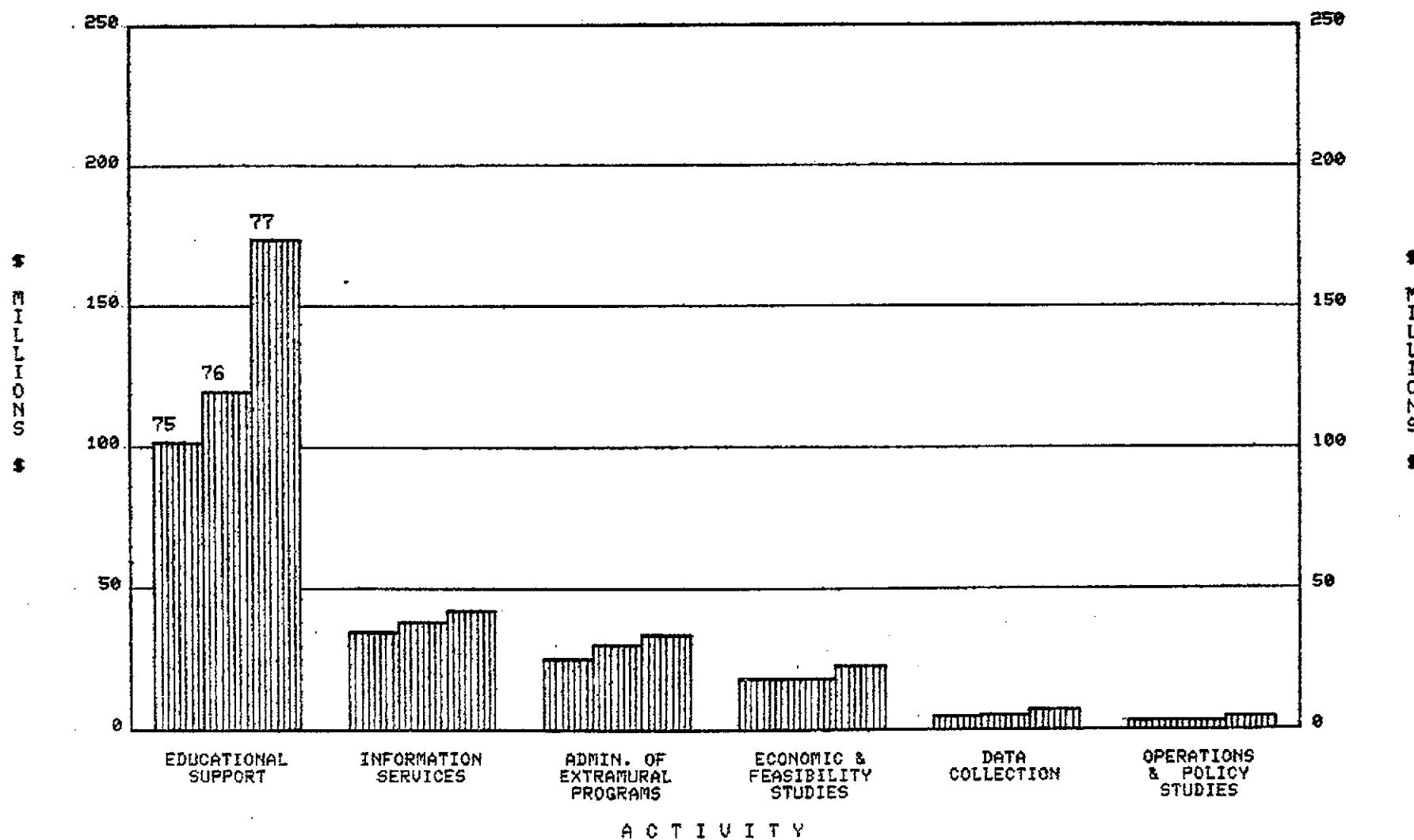
(\$ MILLIONS)

ACTIVITY	1974-75		1975-76		1976-77	
	\$	%	\$	%	\$	%
CURRENT	188.5	(97.5)	215.4	(99.4)	284.4	(99.7)
DATA COLLECTION	101.8	(52.7)	119.8	(55.3)	173.5	(60.8)
OPERATIONS & POLICY STUDIES	35.0	(18.1)	38.3	(17.7)	42.3	(14.8)
INFORMATION SERVICES	25.0	(12.9)	30.2	(13.9)	33.8	(11.8)
EDUCATIONAL SUPPORT	18.3	(9.5)	18.4	(8.5)	22.8	(8.0)
ECONOMIC & FEASIBILITY STUDIES	5.0	(2.6)	5.5	(2.5)	7.0	(2.5)
ADMIN. OF EXTRAMURAL PROGRAMS	3.4	(1.8)	3.3	(1.5)	5.0	(1.7)
CAPITAL	4.9	(2.5)	1.2	(0.6)	0.9	(0.3)
TOTAL	193.4	(100.0)	216.7	(100.0)	285.4	(100.0)

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 44
HUMAN SCIENCES

FEDERAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
NATURAL AND HUMAN SCIENCES



** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 45

HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES

BY DEPARTMENT OR AGENCY, 1974-77

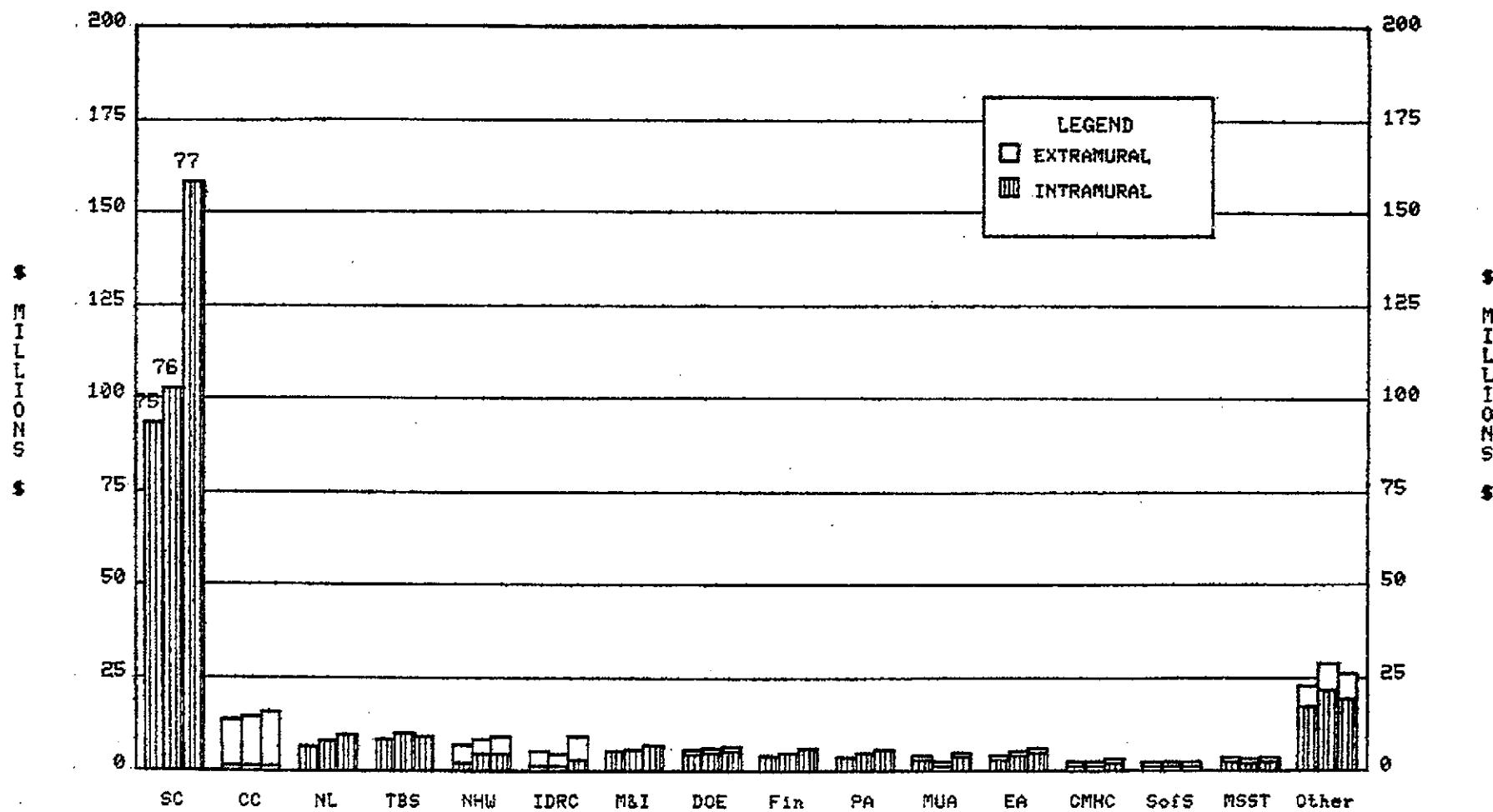
(\$ MILLIONS)

DEPARTMENT OR AGENCY	1974-75			1975-76			1976-77		
	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL	INTRA- MURAL	EXTRA- MURAL	TOTAL
SC	93.2	---	93.2	102.6	---	102.6	158.4	---	158.4
CC	1.1	12.7	13.8	1.1	13.5	14.6	1.3	14.8	16.1
NL	6.7	---	6.7	8.3	---	8.3	9.9	---	9.9
TBS	8.5	---	8.5	10.3	---	10.3	9.6	---	9.6
NHW	2.3	4.8	7.1	4.4	4.1	8.5	4.5	5.0	9.5
IDRC	1.6	4.4	6.0	1.4	3.4	4.8	2.8	6.5	9.3
M&I	5.5	---	5.5	5.9	---	5.9	6.9	---	6.9
DOE	4.5	1.4	5.9	4.9	1.3	6.3	5.3	1.3	6.6
Fin	4.3	---	4.3	5.0	---	5.0	6.1	---	6.1
PA	3.9	---	3.9	5.0	---	5.0	5.7	---	5.7
MUA	2.9	0.9	3.8	1.4	1.8	3.2	3.9	1.7	5.6
EA	3.1	0.1	3.2	4.1	0.1	4.2	4.9	0.2	5.1
CMHC	1.5	1.3	2.8	1.6	1.3	2.9	2.2	1.6	3.8
SofS	0.9	1.4	2.3	1.5	1.8	3.3	1.9	1.6	3.5
MSST	2.8	0.4	3.2	2.3	0.4	2.7	2.6	0.6	3.2
CIDA	0.4	1.2	1.6	0.5	2.1	2.6	0.5	2.3	2.8
COL	1.9	---	1.9	3.0	---	3.0	2.6	---	2.6
DOC	1.2	0.7	1.9	1.2	0.9	2.1	1.3	1.0	2.2
BafC	1.6	---	1.6	2.2	---	2.2	2.2	---	2.2
INA	1.2	0.2	1.4	1.4	0.3	1.7	1.7	0.3	2.0
CBC	0.7	0.8	1.5	0.8	1.0	1.8	0.8	1.1	1.9
NR	1.3	---	1.3	1.4	---	1.4	1.6	---	1.6
Lab	1.2	---	1.2	1.2	---	1.2	1.3	---	1.3
NM	0.5	0.2	0.7	0.6	0.3	0.9	0.7	0.4	1.1
ScC	0.7	0.1	0.8	0.9	0.1	1.0	0.9	0.1	1.0
DND	0.9	---	0.9	0.9	---	0.9	1.0	---	1.0
UIC	0.7	---	0.7	1.0	---	1.0	0.9	---	0.9
FIRA	---	---	---	0.6	---	0.6	0.9	---	0.9
MOT	0.2	0.5	0.7	0.4	0.6	1.0	0.5	0.4	0.8
CTC	0.3	0.3	0.6	0.3	0.3	0.7	0.4	0.3	0.7
Other	4.9	1.4	6.3	5.2	1.9	7.1	2.0	0.9	2.9
TOTAL	160.4	33.0	193.4	181.5	35.1	216.7	245.2	40.1	285.4

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

HISTOGRAM 45
HUMAN SCIENCES

FEDERAL INTRAMURAL AND EXTRAMURAL EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY DEPARTMENT OR AGENCY, 1974-77



DEPARTMENT OR AGENCY

** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

TABLE 46
HUMAN SCIENCES

FEDERAL CURRENT EXPENDITURES ON RELATED SCIENTIFIC ACTIVITIES
BY ACTIVITY, BY DEPARTMENT OR AGENCY, 1974-77
(\$ MILLIONS)

ACTIVITY	DEPT. OR AGENCY	1974-75		1975-76		1976-77	
		\$	%	\$	%	\$	%
DATA COLLECTION	SC	84.6	(83.1)	96.7	(80.8)	148.8	(85.7)
	EA	3.1	(3.0)	4.1	(3.4)	4.9	(2.8)
	DOE	2.9	(2.8)	3.1	(2.6)	2.5	(1.4)
	M&I	0.6	(0.5)	1.7	(1.4)	2.1	(1.2)
	CBC	1.5	(1.5)	1.8	(1.5)	1.9	(1.1)
	NHW	1.6	(1.5)	1.3	(1.0)	1.7	(1.0)
	SofS	0.7	(0.7)	0.9	(0.7)	1.5	(0.9)
	Lab	1.2	(1.2)	1.2	(1.0)	1.3	(0.8)
	IDRC	0.1	(0.1)	1.4	(1.1)	1.2	(0.7)
	TBS	0.9	(0.9)	1.6	(1.3)	1.0	(0.6)
	Other	4.7	(4.6)	6.1	(5.1)	6.8	(3.9)
TOTAL		101.8	(100.0)	119.8	(100.0)	173.5	(100.0)
OPERATIONS & POLICY STUDIES	TBS	7.4	(21.3)	8.5	(22.2)	8.3	(19.5)
	MUA	3.2	(9.2)	2.6	(6.8)	4.7	(11.0)
	Fin	3.0	(8.5)	3.7	(9.8)	4.5	(10.7)
	NHW	2.1	(6.0)	3.8	(9.9)	4.0	(9.5)
	M&I	4.7	(13.3)	3.3	(8.7)	3.9	(9.2)
	MSST	2.8	(8.0)	2.0	(5.3)	2.4	(5.8)
	COL	1.6	(4.5)	1.8	(4.8)	2.2	(5.2)
	DOC	1.5	(4.3)	1.6	(4.1)	1.8	(4.2)
	Other	8.7	(24.9)	10.9	(28.5)	10.6	(25.1)
	TOTAL	35.0	(100.0)	38.3	(100.0)	42.3	(100.0)
INFORMATION SERVICES	NL	6.7	(26.6)	8.3	(27.5)	9.9	(29.2)
	SC	3.3	(13.4)	4.0	(13.3)	6.6	(19.6)
	PA	3.8	(15.2)	5.0	(16.5)	5.7	(16.8)
	CC	3.1	(12.4)	3.0	(9.9)	3.1	(9.1)
	DOE	1.7	(6.9)	2.0	(6.6)	2.5	(7.4)
	CMHC	1.1	(4.4)	1.1	(3.7)	1.6	(4.6)
	Fin	0.8	(3.3)	0.7	(2.3)	0.9	(2.7)
	NHW	0.7	(2.8)	0.8	(2.7)	0.7	(2.1)
	Other	3.8	(15.0)	5.3	(17.6)	2.9	(8.5)
	TOTAL	25.0	(100.0)	30.2	(100.0)	33.8	(100.0)

EDUCATIONAL SUPPORT	CC	9.6	(52.6)	10.5	(57.0)	11.7	(51.3)
	IDRC	3.5	(19.3)	1.7	(9.4)	4.1	(17.9)
	CIDA	1.2	(6.7)	2.1	(11.3)	2.3	(10.0)
	NHW	1.3	(7.3)	1.1	(6.2)	1.3	(5.8)
	SofS	1.0	(5.4)	1.4	(7.4)	1.2	(5.4)
	CMHC	0.9	(4.9)	0.9	(4.9)	1.1	(4.8)
	MUA	0.4	(1.9)	0.2	(1.3)	0.8	(3.5)
	M&I	0.1	(0.4)	0.1	(0.4)	0.1	(0.4)
	Other	0.3	(1.7)	0.4	(2.1)	0.2	(0.8)
	TOTAL	18.3	(100.0)	18.4	(100.0)	22.8	(100.0)

ECONOMIC & FEASIBILITY STUDIES	NHW	1.1	(22.3)	1.1	(20.1)	1.3	(18.3)
	IDRC	0.7	(14.7)	0.3	(6.0)	1.2	(17.6)
	SC	---	(---)	---	(---)	1.1	(15.0)
	M&I	--	(--)	0.5	(8.9)	0.6	(8.5)
	MOT	0.4	(8.9)	0.5	(8.3)	0.6	(8.0)
	DOE	0.2	(3.0)	0.2	(2.7)	0.5	(7.1)
	INA	0.3	(5.4)	0.4	(6.6)	0.4	(5.7)
	FIRA	---	(---)	0.2	(2.7)	0.3	(4.2)
	Other	2.2	(44.9)	2.4	(44.6)	1.1	(15.6)
	TOTAL	5.0	(100.0)	5.5	(100.0)	7.0	(100.0)

ADMIN. OF EXTRAMURAL PROGRAMS	IDRC	1.6	(47.7)	1.4	(42.7)	2.8	(56.6)
	CC	0.9	(27.8)	0.9	(26.5)	1.0	(19.9)
	NHW	0.3	(9.9)	0.4	(13.5)	0.5	(10.1)
	CMHC	0.3	(7.8)	0.3	(8.3)	0.4	(7.8)
	CIDA	0.1	(1.5)	0.1	(2.3)	0.1	(1.3)
	Other	0.2	(5.2)	0.2	(6.7)	0.2	(4.3)
	TOTAL	3.4	(100.0)	3.3	(100.0)	5.0	(100.0)

TOTAL CURRENT FOR R.S.A.	SC	88.9	(47.1)	101.8	(47.2)	157.8	(55.5)
	CC	13.8	(7.3)	14.6	(6.8)	16.1	(5.6)
	NL	6.7	(3.5)	8.3	(3.9)	9.9	(3.5)
	TBS	8.5	(4.5)	10.3	(4.8)	9.6	(3.4)
	NHW	7.1	(3.8)	8.5	(4.0)	9.5	(3.3)
	IDRC	6.0	(3.2)	4.8	(2.2)	9.3	(3.3)
	M&I	5.5	(2.9)	5.8	(2.7)	6.9	(2.4)
	DOE	5.8	(3.1)	6.2	(2.9)	6.5	(2.3)
	Other	46.3	(24.5)	55.2	(25.6)	58.9	(20.7)
	TOTAL	188.5	(100.0)	215.4	(100.0)	284.4	(100.0)

*** INTRAMURAL EXPENDITURES DO NOT INCLUDE NON-PROGRAM COSTS

APPENDIX

Technical Notes

These technical notes are intended to assist the reader in using the data presented in this document. In addition to providing the definitions which were used in gathering the data, this chapter includes some examples and illustrations for purposes of clarification.

Appendix comprises the following sections:

I SCOPE AND LIMITATIONS OF DATA

II DEFINITIONS

- A Scientific Activities
- B Performers
- C Expenditure Coverage

I Scope and limitations of data

Each year Statistics Canada mails questionnaires to all federal government departments and agencies performing or funding scientific activities, with separate surveys being conducted for the natural and human sciences. These departments receive assistance from Statistics Canada to ensure consistency of response. Also, as members of the Interdepartmental Committee on Scientific Expenditures, they may review and amend the survey definitions and content according to the experience of the respondents and the changing requirements for data.

Data included in this publication were reported by 58 federal departments and agencies who fund and/or perform scientific activities:

AECB	Atomic Energy Control Board
AECL	Atomic Energy of Canada Limited
Agr	Department of Agriculture
BofC	Bank of Canada
CAL	Canadian Arsenals Ltd.
CBC	Canadian Broadcasting Corp.
CC	Canada Council
CCA	Consumer and Corporate Affairs
CCC	Canadian Dairy Commission
CIDA	Canadian International Development Corporation
CLFB	Canadian Livestock Feed Board
CMHC	Central Mortgage & Housing Corp.
COL	Comm. of Official Languages
CPDC	Canada Patent Development Corp.
CRTC	Canadian Radio Television Comm.
CTC	Canadian Transport Commission
DND	Department of National Defence
DOC	Department of Communications
DOE	Department of Environment
DPW	Department of Public Works
DREE	Dept. of Regional Economic Expansion
DSS	Dept. of Supply and Services
DVA	Dept. of Veterans Affairs

EA	Department of Energy, Mines and Resources
Fin	Department of Finance
FIRA	Foreign Investment Review Assoc.
FPRB	Food Prices Review Board
IC	Information Canada
IDRC	Intern'l Develop. Research Centre
INA	Dept. of Indian & Northern Affairs
ITC	Dept. of Industry, Trade and Commerce
Jus	Department of Justice
Lab	Department of Labour
M & I	Department of Manpower and Immigration
MOT	Ministry of Transport
MRC	Medical Research Council
MOSST	Min. of State for Science and Technology
MUA	Min. of State for Urban Affairs
NCC	National Capital Commission
NFB	National Film Board
NHB	National Harbours Board
NHW	Dept. of National Health & Welfare
NL	National Library
NM	National Museum
NR	Dept. of National Revenue
NRC	National Research Council
PA	Public Archives
PCO	Privy Council Office
PO	Post Office Department
PSC	Public Service Commission
SC	Statistics Canada
ScC	Science Council
SG	Solicitor General
SLSA	St. Lawrence Seaway Authority
Sofs	Secretary of State Department
TBS	Treasury Board Secretariat
UIC	Unemployment Insurance Commission

Some of the above cannot be properly defined as federal departments or agencies, however, they are federal organizations entirely funded by the federal government, their inclusion more accurately reflects the total of scientific activities conducted by the federal government.

The reader is advised that the official establishment of the Department of the Environment in June, 1971, altered the level of resources allocated to several other departments and agencies during this and subsequent fiscal years: added to the responsibilities of the former Department of Fisheries and Forestry were INA's Canadian Wildlife Service, MOT's Meteorological Service, the Water Resources Program of EMR, the Air Pollution Control and Public Health Engineering Divisions of NHW, and DREE's Canada Land Inventory.

Expenditures on scientific activities in the natural and human sciences are reported to Statistics Canada on a three-year cycle based on the estimates submitted annually to Treasury Board by each department and agency. Data for 1974 and previous years are considered as actual expenditures since they reflect transactions of completed government fiscal years. Amounts reported for 1975 and 1976 are estimates and are subject to further government decisions — the effects of which will be reflected in future reports. For this reason, estimates for the last two years of the previous report have been updated here to reflect the budgetary decisions and departmental

revisions in the classification of scientific activities made since its publication.

Since most departments and agencies do not maintain records of their activities corresponding to the classification adhered to in this report, it is necessary for them to estimate their expenditures and manpower allocated to each item within these classifications. The precision of these estimates is expected to vary from department to department and even within the programs of one department: for example, an agency such as the National Research Council, which is wholly engaged in scientific activities, should experience less difficulty in categorizing its scientific activities than, perhaps, the Department of Indian and Northern Affairs whose scientific resources are part of larger and broader programs. Concern on this score, however, should be minimized by the fact that departments and agencies have participated in Statistics Canada surveys on federal activities in the natural sciences since 1959, and in human science surveys since 1970; further, Statistics Canada staff assisted all respondents in the interpretation of concepts and definitions, and evaluated responses for consistency and accuracy.

II Definitions

The following definitions reflect the existence of two separate Statistics Canada surveys on federal scientific activities: one on the natural sciences and a second on the human sciences. These definitions are as presented in the guidelines accompanying the Statistics Canada survey questionnaires.

A. SCIENTIFIC ACTIVITIES

(a) Natural Sciences:

The natural sciences encompass all the disciplines grouped under the life, physical, environmental, mathematical and engineering sciences.

The *life sciences* include the biological sciences, which deal with the origin, development, structure, function and interaction of living things, and the clinical medical sciences, which are concerned with the use of scientific knowledge for the identification, treatment and cure of disease.

The *physical sciences* are concerned with the understanding of the material universe and its phenomena. They include the subfields of astronomy, chemistry, physics and other physical sciences.

The *environmental sciences* are concerned with the properties of the solar system that affect man's survival and welfare. They include the fields of

atmospheric sciences, geological sciences, oceanography, and other environmental sciences.

The *mathematical sciences* employ logical reasoning with the aid of symbols and are concerned with the development of methods of operation employing such symbols.

The *engineering sciences* are concerned with studies directed towards developing engineering principles or towards making specific scientific principles usable in engineering practice.

RESEARCH AND EXPERIMENTAL DEVELOPMENT is considered as creative work undertaken on a systematic basis to increase the stock of scientific and technical knowledge and to use it in new applications. The central characteristic of R&D is an appreciable element of novelty — new knowledge (new information integrated into existing hypotheses; new hypotheses derived from new facts, the re-evaluation of known data) or new products or processes are sought. The routine gathering of information to fulfil administrative or operational requirements is not included.

The concept of research and experimental development covers a wide range of activities — from that of the independent researcher trying to satisfy his personal curiosity, to that of the multi-disciplinary team constructing a prototype. Most

often it is classified under three categories: basic research, applied research, and experimental development. While it is difficult to consistently apply these concepts to the real work situation, it is felt that they serve as useful general indications of the type, or mix of types, of R&D being carried out.

Basic research is original investigation undertaken in order to gain new scientific knowledge with the primary purpose of contributing to the conceptual development of science. Its motivation is to increase the accumulated, objective and systematic knowledge of the inherent properties and interactions of matter, space, energy, natural phenomena and biosystems.

In free basic research the original impulse is scientific curiosity. Oriented basic research is directed towards the definition and solution of fundamental technical or scientific problems in a general area of interest. The difference between the two types of basic research is mainly that the impulse for the latter is primarily technological need.

Basic research yields new hypotheses, theories, and general laws. The resulting information is usually non-negotiable and freely published and circulated. Results often affect a broad field of science and may have several ultimate applications.

Applied research is original investigation undertaken to gain new scientific knowledge with the primary purpose of applying such knowledge to the solution of practical or technical problems. It is required to determine possible uses for the findings of basic research and to select the appropriate method of achieving some specific predetermined objective.

The results of applied research are usually valid for a limited number of products, operations, methods, and systems. Ideas are developed into operational forms, and the knowledge or information derived is often patented.

Experimental development is the application of scientific knowledge to produce specific new materials, devices, products and processes or to make technically significant improvement to existing ones. It consists of systematic work whose objective, drawing on existing knowledge, is to gather all the information necessary to provide the technical elements of a decision to produce new materials, devices, and products, or to implement new processes and systems for commercial sale or operational utilization. It includes pilot plant and prototype design and testing.

RELATED SCIENTIFIC ACTIVITIES are closely linked to R&D and include scientific data collec-

tion, scientific information, testing and standardization, feasibility studies and scholarship programs.

Scientific data collection is the gathering, processing, collating and analyzing of data on natural phenomena. These data result from surveys, from routine laboratory analyses or from compilations of operating records. The collection of specimens for museums, zoological or botanical displays is also included. Data collected primarily for internal administrative purposes are excluded.

Data collected as part of a research project are included in the research activity. Similarly, the development of significantly new techniques for data collection are considered as R&D.

Examples of scientific data collection include routine geological, hydrographic, oceanographic and topographical surveys; maintenance of meteorological records; wildlife and fishery surveys.

Scientific information is that information and knowledge acquired as a result of scientific activities. The costs attributable to this activity are those for the operation of scientific and technical libraries and for the dissemination of information or knowledge by means of scientific and technical journals, books, newsletters, computer tapes, exhibits, films, scientific conferences and symposia.

Testing and standardization is work directed towards the establishment of national standards for materials, devices, products and processes, the calibration of secondary standards and non-routine quality testing, which is separately identifiable from R&D. The development of new measures for standards, or of new methods of measuring or testing, is R&D.

Feasibility studies are technical investigations of proposed innovative engineering projects to provide necessary additional information for decisions on implementation.

Education support consists of grants to individuals or institutions intended to support the education (beyond the Bachelor's degree level) of students in technology and the natural sciences. Grants intended primarily to support the research activities of individuals are considered as R&D (either R&D grants or research fellowships).

(b) Human Sciences:

The human sciences encompass the disciplines generally referred to as the "social sciences and humanities"; no distinction is made between the two groups of disciplines since it is not clear that such a breakdown is possible or desirable for statistical purposes. Thus, the human sciences include all disciplines involving the study of human

actions and conditions and the social, economic and institutional mechanisms affecting them. This includes the sciences of anthropology, economics, human geography, law and sociology, political science and the social aspects of architecture, design, psychology and linguistics. In addition, applied social science fields such as public and business administration, commerce, communications, criminology, demography, agricultural economics, industrial relations, social work, and urban and regional studies, are included.

Two groups of activities are surveyed in the human sciences: research and development and related scientific activities, the latter being related to and generally complementing or extending R&D.

RESEARCH AND DEVELOPMENT in the context of the human sciences is creative work undertaken on a systematic basis towards the acquisition of new knowledge about man, his actions and his institutions, and the application of this knowledge in new ways. New knowledge involves the integration of newly acquired information into existing hypotheses, the formulation and testing of new hypotheses or the re-evaluation of existing observations. To be classified as research and development, projects must generally involve a substantial element of novelty, uncertainty and innovation, have a well-defined project design, and result in a written report of results and procedures.

Research and Development covers a wide range of activities. Two categories of R&D have been defined and although, in many cases, it will be difficult to separate R&D, these categories are intended to serve as general indicators.

Research is original investigation undertaken on a systematic basis to gain new knowledge. Examples include: the investigation of the socio-economic backgrounds of different categories of criminals; and investigation of the influence of corporate structure on successful and unsuccessful technological innovation.

Experimental development is the application of knowledge for the creation of specific new products, processes and operational models, systems or organizations, or for the significant improvement of existing ones. The development of new teaching methods and equipment, and the development of a demographic model for population forecasts are two examples of experimental development.

RELATED SCIENTIFIC ACTIVITIES complement or extend research and development activities. Five such activities are defined below:

General purpose data collection is the routine gathering, processing, collating, analysis and pub-

lication of information on human phenomena using surveys, regular and special investigations and compilations of existing records. It excludes data collected primarily for internal administrative purposes (e.g. departmental personnel statistics) as well as the collection of data as part of an R&D project. Examples are the quinquennial censuses, and surveys of employment and production.

Information services include all services intended to provide information which is of potential use in any other scientific activity. They include library, archival, abstraction, translation and specialized information retrieval services; referral, advisory and clearing house services; conferences, publications and films for general scientific information dissemination.

Education (in the limited context of this survey) consists of grants to individuals or institutions intended to support the advanced education (beyond the Bachelor's degree level) of students in the human sciences. Grants intended to support the research activities of individuals are reported as R&D (either R&D grants or research fellowships, as appropriate).

Economic and feasibility studies are investigations of the socio-economic characteristics and implications of specific situations (e.g. study of the viability of a petro-chemical complex in the Prairie region, cost-benefit study of a proposed paper manufacturing center in Manitoba). Such studies are generally limited to a specific problem and involve the application of established human science techniques and methodologies.

Operations and policy studies involve the analysis and assessment of departmental programs, policies and operations, the activities of units concerned with the continuing analysis and monitoring of external phenomena (e.g. foreign economic statistics, defence and security information) as well as studies to provide an information base for policy development, such as conducted by Ministries of State. This includes the work of the government royal commissions and task forces, except when R&D projects can be identified and costed.

B. PERFORMERS

The performer is defined by the type of institution where the scientific activity is conducted. The basic distinction is between intramural and extramural performance.

- (a) *Intramural performers* are the federal departments and agencies that conduct scientific work in their own establishments (in-house) using their own personnel. Included in intramural performance are expenditures on equipment and supplies that are

used within these establishments. The costs of administering intramural and extramural scientific programs are also included.

(b) *Extramural performers* are identified as:

Canadian industry: business and government enterprises. Included are public utilities, government owned firms, and non-profit institutions and associations mainly serving industry and not controlled by another institution (e.g. Pulp and Paper Research Institute). Industrial research institutes affiliated with a university belong in the Canadian universities sector.

Canadian universities: include affiliated institutes owned, administered or staffed by universities.

Canadian non-profit institutions: charitable foundations, voluntary health organizations, scientific and professional societies, and other organizations not established to earn profits. Non-profit institutions mainly serving or controlled by another sector are included in that sector.

Provincial and municipal governments: departments and agencies of these governments.

Other Canadian performers: provincial research councils and foundations, and individuals not working in any other sector.

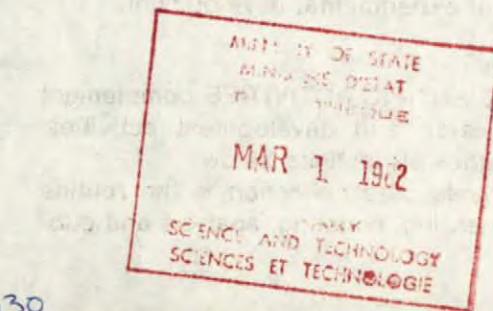
Foreign: all foreign governments, companies (including foreign subsidiaries of Canadian firms), non-resident foreign nationals and Canadians studying or teaching abroad.

C. EXPENDITURE COVERAGE

Expenditures reported for scientific activities reflect total costs, i.e., they include only direct costs of scientific programs; not non-program ("indirect") costs; the latter include the value of services supplied by other departments, accommodation provided by the reporting agency and administration program costs attributable to scientific activities; they apply only to the intramural activities of departments and agencies.

Expenditures are reported as either current or capital. Current expenditures are, in terms of the standard object, and in government accounts, expenditures on: personnel; transportation and communication; information; professional and special services; rentals; purchased repair and upkeep; utilities, materials and supplies; transfer payments; and "all other expenditures". Capital expenditures are expenditures on construction and acquisition of land, buildings and equipment, and construction and acquisition of machinery and equipment; they are recorded for intramural performance only.

Expenditure data cover the federal government fiscal year beginning April 1 of one year and ending March 31 of the following year; thus, fiscal year 1976 began April 1, 1975 and will end March 31, 1976.



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