

ALBERTA RECREATION, PARKS AND WILDLIFE
FISH AND WILDLIFE DIVISION

BIOLOGICAL OBSERVATIONS OF WOLVES FROM THE
1977-78 WOLF CONTROL PROGRAM

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SUMMARY

Biological data were collected on 73 wolves (Canis lupus) during 1977-78, the sixth consecutive year of wolf control in Alberta. Wolves were taken primarily at poison stations set up in regions of proven or probable depredation. Techniques of carcass collection, autopsy and biological preparation have been outlined in previous reports. This report presents only biological observations for reference and comparison with previous data.

Of the 73 wolves taken in 1977-78, 48 were taken in the Peace River area. Of these, 45 were poisoned, two were shot and one was trapped. In this same area, an additional eight wolves were illegally poisoned, six at Economy Creek and two at Goose River. Seven wolves collected at Edson included two poisoned and five shot. Ten poisoned wolves were collected from the St. Paul region (Table 1).

Most wolves were taken throughout the winter months of December, January and February, including the 8 wolves illegally poisoned. Six were taken in each of the months March and August and the rest divided among the remaining months (Table 2). Of the 71 wolves that were sexed, 37 were males and 34 were females (Table 5). There was no significant difference in the sex ratio in any of the age groups (Table 4).

Five embryos were found in the only pregnant female. Five wolves had a range of 6 to 9 corpora lutea with a mean of 7.4 (Table 6). Testes weights (with epididymus) of adult males were higher in the winter months of December and January compared to the summer month of August (Figure 3).

Major food items in the stomachs of winter wolves are listed in Table 7; the most abundant dietary item was cervid (17.6% occurrence) followed by unidentified canid (14.7%). The unusually high occurrence of canid hair was observed in five wolves, all from one pack reported killing sled dogs near the

town of Fort McMurray. The occurrence of dump material was somewhat high in winter stomachs (11.8%), perhaps suggesting the use of such sites as important alternate food sources, at least of wolves in fringe (forest-farm) areas. Occurrence of domestic livestock was lower (8.8%) as was beaver (8.8%) and hare (8.8%). Food items making up the remainder (14.6%) included vole, squirrel, fish and vegetation.

The small and large intestines of winter-killed wolves contained high percentages of cervid; 52.8 and 59.6 percents, respectively. Domestic animals comprised only 5.7% in small intestines and 5.8% in large intestines (Table 7).

Due to the small sample of summer-killed wolves (Table 8), items in stomachs, small intestines and large intestines were grouped together. Vegetation, usually grasses, occurred most frequently (30.7%), but the major item was again cervid (23.1%). Percentage occurrence of domestic animals in stomachs, small intestines and large intestines combined, was 7.7% in summer and 6.5% in winter.

Mange was recorded only in the Peace River area with 9.8% of the collected wolves being infected (Table 9). Mange occurred in 7.4% of the pups and in 12.5% of the adults. Yearlings were not infected (Table 10).

Mean xiphoid fat globule weights for various groups are shown in Table 11 for comparison to other years.

Grey was again the most predominant color occurring in St. Paul, Peace River and Edson areas with percentages of 100, 73.6 and 57.1 respectively (Table 12).

A variety of abnormalities were observed: old bullet wounds, trap injuries, broken and healed ribs, fractured jaws and skulls and numerous missing teeth. An umbilical hernia was noted along with numerous parasites such as lice, mange, and gut tapeworms and nematodes (hookworms). Echinococcus granulosus was present in 1 of 3 cases examined.

TABLE 1. SOURCE OF WOLF CARCASSES FOR BIOLOGICAL EXAMINATION BY REGION AND METHOD OF COLLECTION, ALBERTA, 1977-78.

REGION	POISON	SHOT	TRAPPED	TOTAL
PEACE RIVER	53	2	1	56
EDSON	2	5		7
ST. PAUL	10			10
	<hr/> 65	<hr/> 7	<hr/> 1	<hr/> 73

TABLE 2. MONTHLY DISTRIBUTION OF 71¹⁾ WOLVES TAKEN IN 1977-78.

MONTH	FISH & WILDLIFE WOLF PROGRAM	OTHERS (ILLEGALLY POISONED)	
MAY	1	-	
JUNE	-	-	
JULY	2	-	
AUGUST	6	-	
SEPTEMBER	2	-	
OCTOBER	-	-	
NOVEMBER	3	-	
DECEMBER	15	2	
JANUARY	13	6	
FEBRUARY	15	-	
MARCH	6	-	
APRIL	-	-	
TOTAL	63	8	= 71

¹⁾ KILL DATE RECORDED ON 71 OF 73 CARCASSES.

TABLE 3. NUMBERS OF WOLVES TAKEN BY REGION, SEX AND AGE IN THE 1977-78 ALBERTA WOLF CONTROL PROGRAM.

AGE	PEACE RIVER ¹⁾		EDSON		ST. PAUL		TOTAL	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
$\frac{1}{2}$	10	13	3	1	2	1	15	15
$1\frac{1}{2}$	7	1		2	3	2	10	5
$2\frac{1}{2}$	7	6		1			7	7
$3\frac{1}{2}$	3	3					3	3
$4\frac{1}{2}$	1	1				1	1	2
$5\frac{1}{2}$		1			1		1	1
$6\frac{1}{2}$								
$7\frac{1}{2}$		1						1
TOTAL	28	26	3	4	6	4	37	34

¹⁾ TWO MALE SKULLS NOT SUBMITTED

TABLE 4. SEX PROPORTION OF WOLVES TAKEN IN THE 1977-78 WOLF CONTROL PROGRAM
IN ALBERTA, BY AGE.

AGE	#SEXED	#MALES	%MALES	SIGNIFICANCE ¹⁾
$\frac{1}{2}$	30	15	50	-
$1\frac{1}{2}$	15	10	66.6	P<0.2
$2\frac{1}{2}+$	26	12	46.2	-
TOTAL	71	37	52.1	P<0.8

¹⁾ SIMPLE CHI-SQUARE

TABLE 5. AGE PROPORTIONS (%) OF WOLVES TAKEN IN THE 1977-78 WOLF CONTROL PROGRAM IN ALBERTA, BY SEX.

SEX	N	PROPORTION(%)		
		$\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{1}{2}^+$
MALE	37	40.5	27.0	32.4
FEMALE	34	44.1	14.7	41.7
BOTH	71	42.3	21.1	36.6

TABLE 6. NUMBER OF EMBRYOS AND CORPORA LUTEA OF WOLVES TAKEN IN THE 1977-78 ALBERTA WOLF CONTROL PROGRAM

	N	R	\bar{X}
EMBRYOS	1		5
CORPORA LUTEA	5	6-9	7.4
PLACENTAL SCARS	9	4-9	7.0

TABLE 7. OCCURRENCE OF NON-BAIT DIETARY ITEMS¹⁾ IN THE STOMACHS, SMALL INTESTINES AND COLONS OF WOLVES TAKEN IN WINTER, 1977-78; ALBERTA WOLF CONTROL PROGRAM.

DIETARY ITEM	STOMACH N=29		SMALL INTESTINE N=45		LARGE INTESTINE N=45		TOTAL	
	N OCCUR.	% OCCUR.	N OCCUR.	% OCCUR.	N OCCUR.	% OCCUR.	N OCCUR.	% OCCUR.
MOOSE	1	2.9	9	17.0	3	5.8	13	9.4
DEER	2	5.9	2	3.8	-	-	4	2.9
ELK	-	-	1	1.9	1	1.9	2	1.4
UNID. CERVID	3	8.8	16	30.2	27	51.9	46	33.1
SUBTOTAL CERVID	6	17.6	28	52.8	31	59.6	65	46.8
CATTLE	2	5.9	2	3.8	2	3.8	6	4.3
HORSE	1	2.9	1	1.9	1	1.9	3	2.2
SUBTOTAL DOMESTIC	3	8.8	3	5.7	3	5.8	9	6.5
BEAVER	3	8.8	3	5.7	3	5.8	9	6.5
HARE	3	8.8	2	3.8	3	5.8	8	5.8
VOLE	2	5.9	1	1.9	-	-	3	2.2
BIRD ²⁾	4	11.8	2	3.8	3	5.8	9	6.5
SQUIRREL	1	2.9	-	-	1	1.9	2	1.4
FISH	1	2.9	-	-	-	-	1	.7
³⁾ CANID	5	14.7	5	9.4	4	7.7	14	10.1
UNKNOWN	1	2.9	4	7.5	1	1.9	6	4.3
⁴⁾ VEGETATION	1	2.9	5	9.4	3	5.8	9	6.5
GARBAGE	4	11.8	-	-	-	-	4	2.9
	<u>34</u>	<u>99.8</u>	<u>53</u>	<u>100.1</u>	<u>52</u>	<u>100</u>	<u>139</u>	<u>100.2</u>

¹⁾ WOLF HAIR ATTRIBUTABLE TO GROOMING WAS FOUND IN 22% OF THE STOMACHS, 15.8% OF THE SMALL INTESTINE AND 19.7% OF THE LARGE INTESTINE.

²⁾ BIRD - RAVENS AND MAGPIES HAVE BEEN ELIMINATED FROM THIS CATEGORY IN THE STOMACHS AS THEY WERE MORE THAN LIKELY TAKEN AT THE BAIT STATION.

³⁾ CANID - EITHER COYOTE, WOLF OR DOG HAIR - MORE THAN GROOMING.

⁴⁾ VEGETATION - ONLY IN SIGNIFICANT AMOUNT - USUALLY GRASSES.

TABLE 8. OCCURRENCE OF NON-BAIT DIETARY ITEMS¹⁾ IN THE STOMACHS, SMALL INTESTINES AND COLONS OF WOLVES TAKEN IN SUMMER, 1977-78; ALBERTA WOLF CONTROL PROGRAM.

	STOMACH N=6		SMALL INTEST. N=3		LARGE INTEST. N=8		TOTAL	
	N OCCUR.	% OCCUR.	N OCCUR.	% OCCUR.	N OCCUR.	% OCCUR.	N OCCUR.	% OCCUR.
DEER	1	11.1					1	3.8
UNIDENT C.	2	22.2	1	20	2	16.6	5	19.2
TOTAL CERVID	3	33.3	1	20	2	16.6	6	23.1
CATTLE					2	16.6	2	7.7
CANID	1	11.1	1	20	1	8.3	3	11.5
INSECTS					1	8.3	1	3.8
VEGETATION ²⁾	4	44.4			4	33.3	8	30.7
UNKNOWN			3	60	2	16.6	5	19.2
GARBAGE	1	11.1					1	3.8
	<u>9</u>	<u>100</u>	<u>5</u>	<u>100</u>	<u>12</u>	<u>99.6</u>	<u>26</u>	<u>99.7</u>

¹⁾ WOLF HAIR ATTRIBUTABLE TO GROOMING WAS FOUND IN 44.4% OF THE STOMACHS, 20% OF THE SMALL INTESTINES AND 33.3% OF THE LARGE INTESTINES.

²⁾ VEGETATION - ONLY IN SIGNIFICANT AMOUNTS; USUALLY GRASSES.

TABLE 9. INCIDENCE OF MANGE IN WOLVES IN THE 1977-78 WOLF CONTROL PROGRAM IN ALBERTA, BY REGION

REGION	WOLVES EXAMINED	WITH MANGE	% MANGE
PEACE RIVER	51	5	9.8
EDSON	7	0	0
ST. PAUL	10	0	0
TOTALS	68	5	7.4

TABLE 10. INCIDENCE OF MANGE IN WOLVES IN THE 1977-78 ALBERTA WOLF CONTROL PROGRAM, BY AGE

AGE	WOLVES EXAMINED	WITH MANGE	% WITH MANGE
$\frac{1}{2}$	27	2	7.4
$1\frac{1}{2}$	15	0	0
$2\frac{1}{2} +$	24	3	12.5

TABLE 11. WEIGHT (GMS) OF XIPHOID FAT BODIES IN WOLVES TAKEN IN THE 1977-78 ALBERTA WOLF CONTROL PROGRAM.

COHORT	N	R	\bar{x}
PUPS ($\frac{1}{2}$)	23	12.5-135.1	77.2
YEARLINGS ($1\frac{1}{2}$)	11	31.3-304.6	123.1
ADULTS ($2\frac{1}{2}+$)	22	1.8-304.5	118.7
MALE ADULTS	12	1.8-304.5	116.5
FEMALE ADULTS	10	57.8-214.2	121.3
WITH MANGE (ALL AGES & BOTH SEXES)	4	1.8-103.2	61.6
WITH MANGE (ADULTS)	3	1.8-103.2	48.6

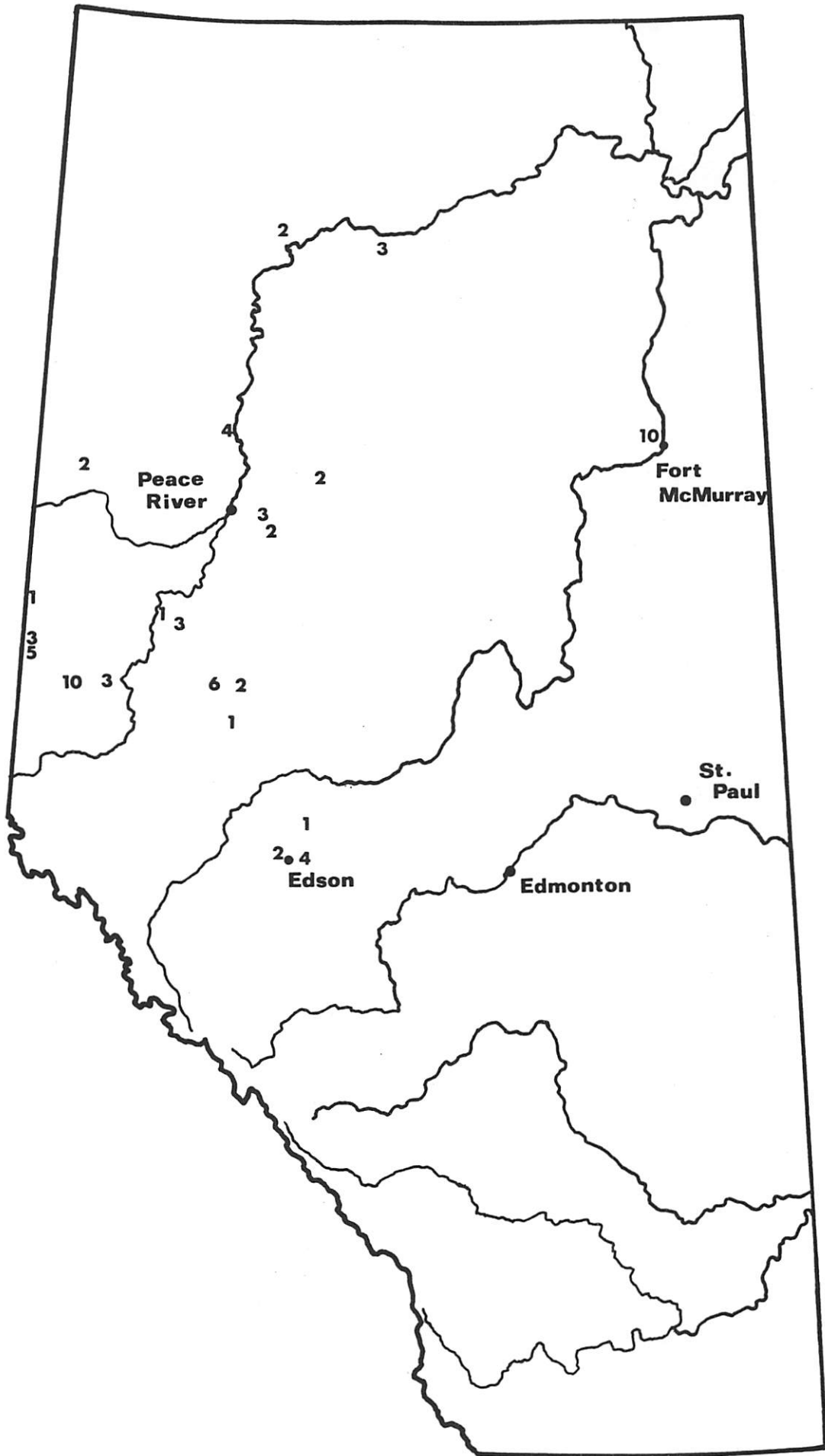
TABLE 12. PRIMARY COLOR OF WOLVES TAKEN IN THE 1977-78 ALBERTA WOLF CONTROL PROGRAM IN ALBERTA.

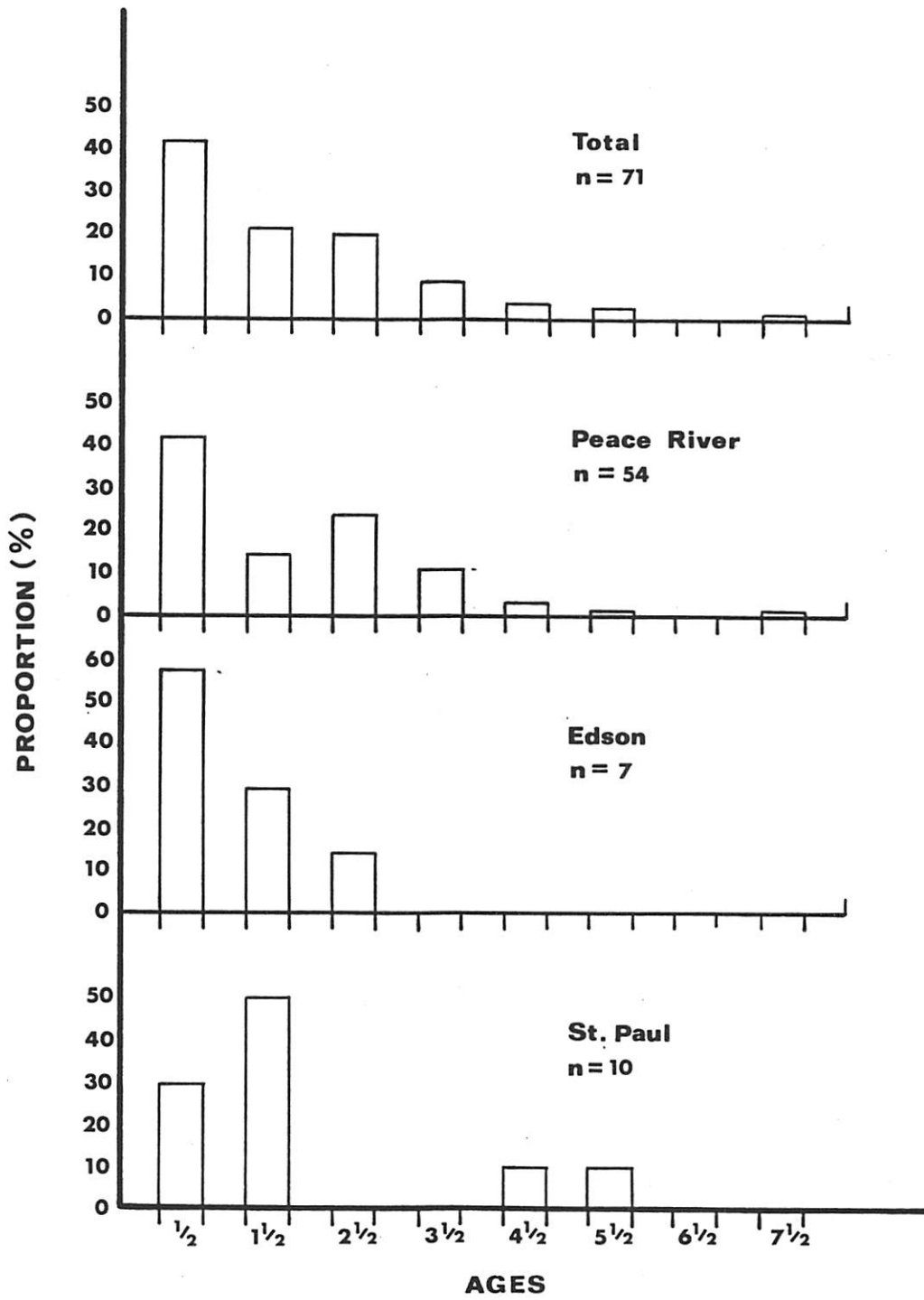
REGION	PROPORTION(%)		
	N	GREY	BLACK
PEACE RIVER	53	73.6	26.4
EDSON	7	57.1	43.0
ST. PAUL	10	100	-

FIGURE 1. LOCATION OF 70 WOLVES TAKEN IN ALBERTA DURING 1977-78.

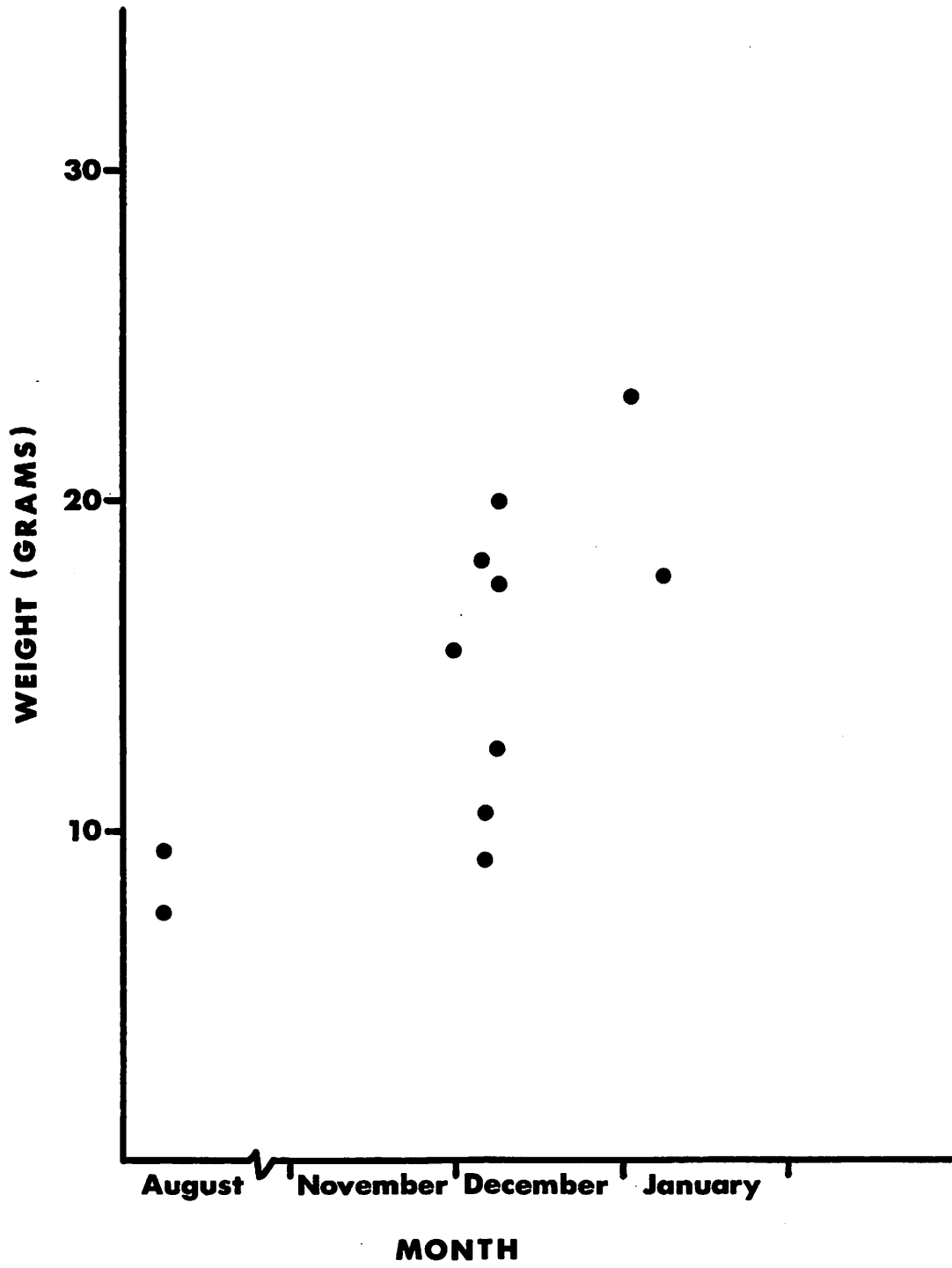
FIGURE 2. AGE STRUCTURE OF WOLVES TAKEN DURING 1977-78.

FIGURE 3. MEAN TESTES WEIGHTS (WITH EPIDIDYMUS) OF TWO SUMMER AND NINE WINTER WOLVES TAKEN IN ALBERTA DURING 1977-78.





(15)



APPENDIX 1. SPECIFICS OF WOLVES TAKEN IN THE 1977-78, ALBERTA WOLF CONTROL PROGRAM IN ALBERTA

SPECIMEN#	REGION	LOCATION	KILL DATE	SEX	DENT. AGE	COLOR	WT.	LENGTH	TAIL	HIND FT.	XIPHOID	OTHER
W369634	P.R.	NW14-83-19-W5	AUG.10/77	M	2 $\frac{1}{2}$	GRAY	45.0	162.0	46	31	94.1	COULD BE BULLET BLAZE ON R. FRONT LEG-STARTED TO HEAL BUT STILL QUITE RAW.
W369635	P.R.	NW14-83-19-W5	AUG.10/77	M	4 $\frac{1}{2}$	GRAY	55.0	172.5	48	32	73.3	5TH RIB BROKEN-HEALED OVER TO JUST A CHERRY SIZE LUMP
W369636	P.R.	NW14-83-19-W5	AUG.10/77	F	2 $\frac{1}{2}$	GRAY	39.1	165.5	44	30	N/C	
W369637	EDSON	NW14-6-54-17-W5	SEPT.3/77	M	2 $\frac{1}{2}$	GRAY	21.8	136.5	41.0	26.0	N/C	SHOT THROUGH CHEST
W369638	EDSON	NW14-6-54-17-W5	SEPT.3/77	F	1 $\frac{1}{2}$	GRAY	35.7	159.5	48.0	28.5	N/C	SHOT BEHIND RIBS
W369639	EDSON	SW14-30-56-14-W5	JUL. 3/77	F	1 $\frac{1}{2}$	GRAY	43.2	171.0	42.5	8.5	111.9	
W369640	EDSON	NE12-53-15-W5	AUG. 6/77	F	2 $\frac{1}{2}$	BLACK	15.9	-	-	-	25.6	BULLET THROUGH CHEST
W369641	EDSON	NE12-53-15-W5	AUG. 6/77	M	2 $\frac{1}{2}$	BLACK	15.9	118	35.0	25.5	20.2	HEAD SHOT. LICE HEAVY
W369642	EDSON	NE12-53-15-W5	AUG.18/77	M	2 $\frac{1}{2}$	BLACK	18.2	129	43	27.0	12.5	LICE HEAVY
W369643	EDSON	NE12-53-15-W5	JUL.18/77	F	2 $\frac{1}{2}$	GREY	46.8	176	50	29.0	82.1	SHOT IN SHOULDER
W369644	P.R.	CROOKED CREEK	JAN.19/78	M	1 $\frac{1}{2}$	BLACK	-	-	-	27.5	71.7	BULLET HOLE. 1 OLD BROKEN RIB TAPEWORMS
W369645	G.P.	NE15-67-9-W6 2 MI. S LITTLE	Nov.30/77	F	5 $\frac{1}{2}$	GR.BLU	47.7	178	47	27.5	100.7	BROKEN RIBS - OLD
W369646	P.R.	SMOKY NO LOCATION	JAN.21/78	M	2 $\frac{1}{2}$	GRAY	-	*150	*28	-	-	*PELTED BEFORE MEASUREMENT ROUNDWORMS
W369647	G.P.	NE15-67-9-W6	DEC. 8/77	M	1 $\frac{1}{2}$	GR.BRN	45.5	164	49.5	30.0	-	
W369648	G.P.	NW18-71-73-6	DEC.13/77	M	2 $\frac{1}{2}$	GRAY	35.4	165	48.5	29.5	61.2	THIN/ROUNDWORMS

APPENDIX 1 CONTINUED

SPECIMEN#	REGION	LOCATION	KILL DATE	SEX	DENT. AGE	COLOR	WT.	LENGTH	TAIL	HIND FT.	XIPHOID	OTHER
W369649	G.P.	NW14-70-13-6	DEC. 6/77	M	2 $\frac{1}{2}$	GRAY	34.1	173	46.0	30.0	1.8	SEVERE MANGE ON HINDQUARTERS, BACK LEGS, SIDE, FRONT LEGS
W369650	P.R.	NE-15-67-9-6	JAN. 4/78	F	1 $\frac{1}{2}$	GRAY	26.4	154	48.0	28.0	19.4	THIN /TAPEWORMS
W369651	G.P.	NE-15-67-9-6	DEC. 8/77	F	2 $\frac{1}{2}$	GRAY	-	160	48	28.0	-	CARCASS EATEN BY PREDATORS
W369652	G.P.	NE15-67-9-6	DEC. 8/77	F	1 $\frac{1}{2}$	GRAY	34.5	159	42	27.0	96.6	TAPEWORMS
W369653	G.P.	NE15-67-9-6	DEC. 8/77	M	2 $\frac{1}{2}$	GRAY	51.4	179	27.5	30.5	175.8	
W369654	G.P.	NW18-71-13-6	DEC. 13/77	M	1 $\frac{1}{2}$	GRAY	34.5	158	42.5	29.0	55.1	HOOKWORMS
W369655	G.P.	NE15-67-9-6	DEC. 8/77	M	3 $\frac{1}{2}$	GRAY	40.0	155	46.0	28.5	110	SMALL CABLE EMBEDDED IN LEFT FOREFOOT, SEIZED
W369656	G.P.	ECONOMY CREEK	JAN. 25/78	F	2 $\frac{1}{2}$	-	40.0	154	39.5	27.5	141.7	OLD FRACTURED RIBS, SEIZED
W369657	G.P.	ECONOMY CREEK	JAN. 2/78	M	1 $\frac{1}{2}$	BLACK	35.0	174.5	46	29.5	33.4	UMBILICAL CORD HAD OLD INFECTION OR HERNIA SEIZED
W369659	G.P.	ECONOMY CREEK	JAN. 2/78	M	1 $\frac{1}{2}$	BLACK	36.8	172	42	30.0	105	SEIZED FOR POISONING
W369660	G.P.	ECONOMY CREEK	JAN. 2/78	F	3 $\frac{1}{2}$	BLACK	40.0	158	42	29	132.5	SEIZED FOR POISONING
W369661	G.P.	ECONOMY CREEK	JAN. 2/78	F	1 $\frac{1}{2}$	BLACK	34.1	168	48.4	27.0	50.7	SEIZED FOR POISONING
W369662	G.P.	NE15-67-9-6	Nov. 30/77	M	2 $\frac{1}{2}$	BLACK	43.6	181	50.0	29.0	103.2	LIGHT MANGE; NECK, LEFT SHOULDER, SIDES, RUMP, TAIL
W369663	G.P.	ECONOMY CREEK	JAN. 2/78	M	3 $\frac{1}{2}$	BLACK	54.5	172	52.0	30.0	304.5	VERY FAT
W369664	G.P.	NE15-67-9-6	DEC. 8/77	M	1 $\frac{1}{2}$	GRAY	-	172	50	29.0	N/C	EATEN BY PREDATORS
W369665	G.P.	NE15-67-9-6	DEC. 8/77	M	2 $\frac{1}{2}$	GRAY	-	176	51	-	147.9	
W369666	G.P.	34-86-9-6	MAY 24/77	F	3 $\frac{1}{2}$	GRAY	-	-	-	-	-	HEAD ONLY & B McGOUGAN SAYS WAS NURSING

APPENDIX 1. CONTINUED

SPECIMEN#	REGION	LOCATION	KILL DATE	SEX	DENT. AGE	COLOR	WT.	LENGTH	TAIL	HIND FT.	XIPHOID	OTHER
W369667	P.R.	-	JAN.24/78	F	$\frac{1}{2}$	BLACK	-	-	-	-	-	HEAD ONLY DUE TO DECOMPOSITION
W369668	G.P.	NW14-70-13-6	DEC. 6/77	M	$1\frac{1}{2}$	GRAY	-	ONLY PELTED LENGTH	-	-	142	
W369669	G.P.	NW14-70-13-6	DEC. 6/77	M	$2\frac{1}{2}$	GRAY	-	173	27	-	22.1	HOOKWORMS, TAPEWORMS
W369670	G.P.	NW14-70-13-6	DEC. 6/77	M	$2\frac{1}{2}$	GRAY	-	ONLY PELTED	-	-	136.0	BROKEN & HEALED RIB
W369671	ST. PAUL	TP.90,R10&11 W4	DEC.30 OR JAN.11/18/27	M	$5\frac{1}{2}$	GRAY	-	171	46	-	188.6	LARGE, ALMOST BLACK SPLEEN, SAVED
W369672	ST. PAUL	TP.90,R10-11 W4	DEC., JAN., FEB	F	$1\frac{1}{2}$	BLUGR	-	154	39	-	96.5	
W369673	ST. PAUL	TP.90,R10-11 W4	"	M	$1\frac{1}{2}$	GRAY	-	168	48	-	55.4	
W369674	ST. PAUL	TP.90,R10-11 W4	"	M	$1\frac{1}{2}$	GRAY	-	168	48	-	57.0	
W369675	V.W.	GOOSE RIVER	13/2/78	M	$1\frac{1}{2}$	GRAY	-	TAIL CUT OFF	-	30	278.2	1 OLD RIB FRACTURE
W369676	V.W.	GOOSE RIVER	13/2/78	M	$1\frac{1}{2}$	BLACK	-	"	-	-	304.6	
W369677	ST. PAUL	TP.90,R10-11 W4	DEC., JAN., FEB	M	$1\frac{1}{2}$	GRAY	-	157	46	TOES CUT OFF	62.5	
W369678	ST. PAUL	TP.90,R10-11 W4	DEC., JAN., FEB	F	$4\frac{1}{2}$	GRAY	-	139	39	"	57.8	LOWER GUT REGION EATEN BY BIRDS
W369679	ST. PAUL	TP.90,R10-11 W4	DEC., JAN., FEB	M	$1\frac{1}{2}$	BLUGR	-	165	44	"	107.3	
W369680	ST. PAUL	TP.90,R10-11 W4	DEC., JAN., FEB	M	$1\frac{1}{2}$	GRAY	-	173	48	"	108.3	GOOD SHAPE, TAPEWORMS
W369681	ST. PAUL	TP.90,R10-11 W4	DEC., JAN., FEB	F	$1\frac{1}{2}$	GRAY	-	156	44	"	103.1	"
W369682	ST. PAUL	TP.90,R10-11 W4	DEC., JAN., FEB	F	$1\frac{1}{2}$	GRAY	-	161	45	"	31.3	
W369683	P.R.	30-91-21-5	FEB. 11/78	F	$\frac{1}{2}$	GRAY	38.2	150	42	27	135.1	SHORT HAIR ON RT.HIP-MANE WOOLY APPEARANCE MANGE TP.WORM

APPENDIX 1. CONTINUED

SPECIMEN#	REGION	LOCATION	KILL DATE	SEX	DENT. AGE	COLOR	WT.	LENGTH	TAIL	HIND FT.	XIPHOID	OTHER
W369684	P.R.	30-91-21-5	FEB.11/78	F	$\frac{1}{2}$	GRAY	39.1	170	47	31	127.7	HEALED FRACTURE ON RIBS, BODY HAIR-FEW GUARD HAIRS ON MANE & SHOULDER
W369685	P.R.	30-91-21-5	FEB.11/78	F	$\frac{1}{2}$	GRAY	35.9	158	43	27	64.3	FRESH HOLE ON THROAT, SMALL SCARS ON INSIDE R. THIGH & BETWEEN EYES
W369686	P.R.	34-86-9-6	JAN. 8/78	M	$\frac{3}{2}$	GRAY	49.1	166	45	31	40.7	SHOT BY FARMER, SNARE ON NECK, LACERATION ON BACK LEG SLASHES ON REAR SIDES, OLD FRACTURE ON RIB, SEVERE MANGE, SHORT HAIR ON MANE, GOOD SHAPE TAPEWORMS
W369687	G.P.	30-91-21-W5	FEB.11/78	F	$\frac{1}{2}$	GRAY	36.4	157	42	28	112.1	
W369688	G.P.	NW18-71-13-6	DEC.13/78	F	$\frac{3}{2}$	GRAY	37.3	175.5	40.8	27.2	68.9	
W369689	G.P.	SW31-67-6-6	FEB. 9/78	F	$\frac{4}{2}$	BLACK	31.8	167.2	43.3	27.0	157.4	TAPEWORMS
W369690	G.P.	NW14-70-13-6	Nov.25/77	F	$\frac{1}{2}$	-	30.4	166	40	26	68.1	PELTED PRIOR TO AUTOPSY
W369691	G.P.		MAR.17/77	M	-	-	43.6	161	47	31	205.5	NO SKULL, TAPEWORMS
W369692	V.W.	NE-26-73-26-5	FEB. 6/78	M	-	GRAY	48.6	173	48.6	29	211.5	NO SKULL
W369693	P.R.	36-86-14-5	MAR.26/78	F	$\frac{1}{2}$	GRAY	34.5	163	42	28	-	CRACKED TOE PAD ON FOOT WITH LONG HAIR, MANGE
W369694	P.R.	12-74-2-6	-	F	$\frac{1}{2}$	GRAY	34.1	159	43	27	100.6	FUR APPEARS GOOD, MANGE RUBBING, HOOKWORMS, 2 BROKEN HEALED RIBS, EATEN BY PREDATORS
W369695	G.P.	SW31-67-6-6	MAR. 1/78	M	$\frac{1}{2}$	BLKWH THROAT	40.5	171	45	32	-	
W369696	G.P.	SW31-67-6-6	FEB.17/78	F	$\frac{1}{2}$	GRAY	35.9	161	42	27	-	
W369697	P.R.	3-82-18-5	MAR. 6/78	M	$\frac{1}{2}$	GRAY	51.5	174	47	29	-	HIND WOUNDED ON LT. FOOT, (FRESH) SML. WOUND RT. LEG, TAPEWORMS
W369698	P.R.	NE22-108-17-5	JAN.30/78	F	$\frac{1}{2}$	BLACK	-	-	-	-	-	WOLF IN 2 PARTS, ONLY LEGS, HEAD
W369699	P.R.	SW28-107-9-5	DEC. 8/77	F	$\frac{1}{2}$	GRAY	31.8	139	39	27	126.8	PRIME PELT
W369700	P.R.	SW28-107-9-5	FEB. 7/78	M	$\frac{1}{2}$	GRAY	38.2	166	43	30	108.5	SOME RUBBING ON HINDQUARTERS, TAPEWORMS.

APPENDIX 1. CONTINUED

SPECIMEN#	REGION	LOCATION	KILL DATE	SEX	DENT. AGE	COLOR	WT.	LENGTH	TAIL	HIND FT.	XIPHOID	OTHER
W70886	G.P.	35-74-13-6	-	F	2 $\frac{1}{2}$	GRAY	47.7	186	52	31	214.2	TAPEWORMS
W70887	G.P.	NE26-73-26-5	FEB.27/78	F	7 $\frac{1}{2}$	BLUGR	38.6	168	49	29	-	
W70888	P.R.	SW28-107-9-5	FEB. 1/78	F	2 $\frac{1}{2}$	GRAY	-	156	44	30	71.8	PRED. DAMAGE
W70889	P.R.	3-82-18-5	MAR.28/78	M	1 $\frac{1}{2}$	GRAY	44.5	176	46	31	87.8	LARGE CLOT BELOW SKIN IN ABDOMINAL REGION-FUR POOR TAPEWORMS RUBBED
W70890	P.R.	NE22-108-17-5	FEB.14/78	M	2 $\frac{1}{2}$	BLACK	31.8	157	42	28	48.2	HOOKWORMS, POOR SHAPE
W70891	G.P.	NE26-73-26-5	FEB.29/78	M	2 $\frac{1}{2}$	BLACK	43.2	173	56	32	152.7	
W70892	P.R.	36-86-14-5	MAR.21/78	F	2 $\frac{1}{2}$	GRAY	42.3	169	45	29	185.6	LEFT FORELEG SCRAPED, FUR RUBBED IN AREAS HOOKWORMS, TAPEWORMS