KODIAK-Distribution, size, sex of bear kills & composition 1957

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DISTRIBUTION, SIZE AND SEX OF BEAR KILLS AND COMPOSITION OF KODIAK ISLAND BEAR POPULATION

by
Troyer, Willard A.

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Wildlife Administrator, FWS, Juneau, Alaska 2 April 1957

Refuge Manager, FWS, Kodiak

Distribution, Size and Sex of Bear Kills and Composition of Kodiak Island Bear Population.

During the recent meeting in Juneau we discussed the effect that the elimination of the Guide Law might have on hunting pressure on the Kodiak bear. At the time you requested I check past records to determine the distribution of bear kills by period. This I have done and the attached Table IV gives a breakdown of the kills by 15 day periods from April 1 to November 30. Any kills prior to April and after November are negligible. Figures I and II give a graphic distribution of the spring and fall kills. As you can see the heavy spring kill occurs in May and the heaviest hunting pressure in the fall is usually in September. Note that closure of the bear season on Kodiak during the first portion of September did not effect the kill during this period greatly.

After checking over these figures I decided to compile some of the other data which has been kept since 1950 to determine trends and so forth. Tables I and II give the bear kill by sex, resident and non-resident kills, and also compares fall and spring kills. As was expected, the female kill is higher in the fall than the spring. Usually the larger males come out first in the spring thus raising the male kill.

Since 1950 we have also recorded size of bear hides taken. These figures, I realize, depend entirely on the individual doing the measuring. I did not include any resident measurements as these are usually not measured accurately. Guided hunts have been measured by the same individuals for several years and might eventually give us a trend; however to date the trend is not great enough to be significant. I also feel that during the first few years these measurements were recorded, the tendency of the guides was to measure only those hides which were extremely large, hence this would give a higher average size. The difference in size between spring and fall hunts is great enough to be significant. Note the smaller percentage of 10 foot bear taken in the fall.

As you know, we have very little data on population composition and census; however I have compiled what we do have available. In Table V I have compiled the composition of the bear population as sighted by Don Bevan of the FRI who has recorded these data while making stream surveys. These data indicate that there might be a loss in the cub population from the first to the second year; however this is not indicated in the Karluk Lake population in Table VI. The population count in Karluk Lake indicates a larger number of yearlings than cubs. This might be due to a shift in population or some other factor not apparent at this time.

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SUBJECT: Distribution, Size and Sex of Bear Kills and Composition of Kodiak Island Bear Population

2 April 1957

It is quite apparent that we badly need better figures on population composition as well as kill data. I'm determined that we check at least 400 bear on the Island this year in different areas to get a better idea of this composition. If we had such figures for the past 10 years we would know where our bear management program is leading us. If we can get extensive enough count on composition over a period of years and correlate this with our kill figures, size of hides, etc., we should be able to come up with some index which will give us a kill figure that we can strive for.

cc: Kenai

Will Troyer

FIGURE I

DISTRIBUTION OF SPRING BEAR KILLS BY PERIODS

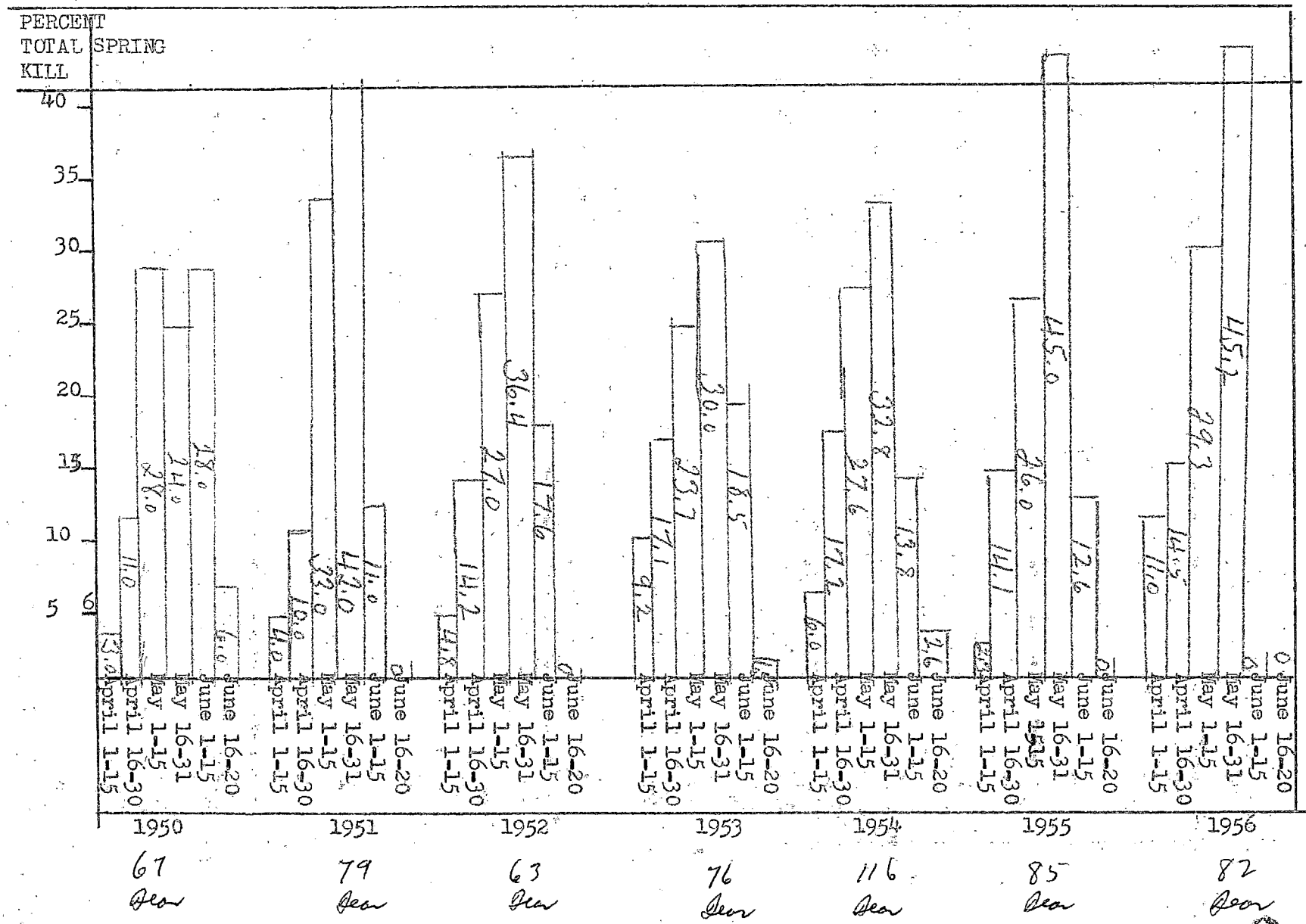

FIGURE II

DISTRIBUTION OF FALL BEAR KILLS BY PERIODS

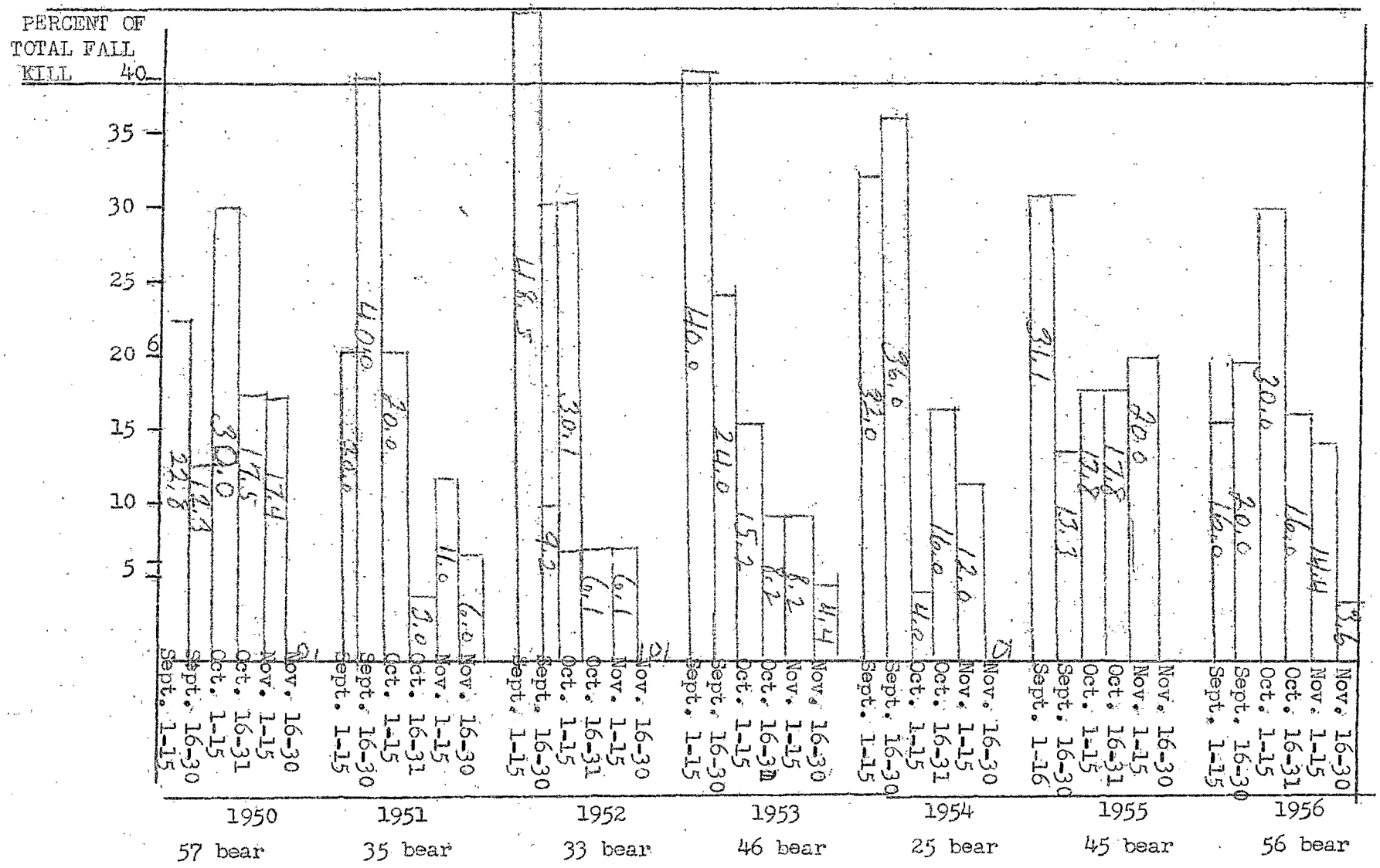

Table I.

BEAR KILLS 1949-1956

Year	Sex				Unkown sex	Known Kill	Estimated Kill	Resident Kill*	Non-Resident Kill
	Male	%	Female	%					
1949	38	75	13	25	30	81	106	40	27
1950	90	66	47	34	11	148	171	98	43
1951	87	63	50	37	6	143	161	65	64
1952	51	57	39	43	50	140	178	57	73
1953	105	67	51	33	22	178	225	58	105
1954	100	65	54	35	14	168	212	60	91
1955	95	66	49	34	14	154	193	64	76
1956	101	64	58	36	18	177	201	72	97

* Only includes those resident hunters who took bear for trophys. Does not include native take for food and etc.

Table II.

COMPARISON OF SPRING AND FALL KILLS *

Year	Spring Kills			Fall Kills		
		% Male	% Female		% Male	% Female
1949	51	75	25	14	57	43
1950	73	74	26	64	57	43
1951	91	65	35	44	59	41
1952	63	64	36	36	51	49
1953	94	70	30	62	63	37
1954	122	70	30	32	47	53
1955	97	67	33	47	64	36
1956	94	64	36	65	65	35

* Only includes kills of known sexed animals

Table III

SIZE OF BEAR HIDES TAKEN BY GUIDED HUNTERS *
1950 - 1956

	Spring Kills				Fall Kills				Total for year			
Year	No. Represent.	Avee Size	Per Cent 9' plus	Percent 10' plus	No. Represant.	Avee Size	Percent 9' plus	Percent 10' plus	No. Rep.	Ave. Size	Percent 9' plus	Percent 10' plus
1950	24	9'4"	71.0	50.0	7	8'3"	14.0	0.0	31	9'1"	58.0	39.0
1951	44	9'	47.7	34.0	14	8'2"	14.3	14.3	58	8'10"	40.0	29.1
1952	41	9'1"	61.0	36.6	21	8'1"	14.3	9.0	62	8'9"	45.1	27.4
1953	43	9'1"	60.4	25.6	39	8'5"	33.3	15.3	82	8'9"	47.5	20.7
1954	68	8'8"	51.5	26.5	17	8'7"	29.4	11.8	85	8'8"	47.0	23.5
1955	37	9'2"	59.4	35.1	27	8'6"	22.2	11.1	64	8'9"	43.7	25.0
1956	49	8'8"	55.0	20.4	40	8'5"	27.5	7.1	89	8'7"	42.7	14.6

*Size recorded to nearest inch.

Table IV

DISTRIBUTION OF BEAR KILLS BY 15 DAY PERIODS IN PERCENT ~~OF KILLS~~*
1950 - 1956

Year	April		May		June		Sept.		Oct.		Nov.		Total Kills
	1-15	16-30	1-15	16-31	1-15	16-20	1-15	16-30	1-15	16-31	1-15	16-30	Represent.
1950	1.6	5.6	15.3	13.0	15.3	3.2	10.5	5.6	13.7	8.1	8.1	0.0	124
1951	3.5	7.2	23.0	29.0	8.0	0.0	6.1	12.2	6.0	1.0	3.5	1.5	114
1952	3.0	9.0	17.1	23.5	11.4	0.0	16.5	3.3	10.5	2.7	3.0	0.0	99
1953	5.8	10.7	14.8	18.8	11.4	1.0	14.9	9.0	5.8	3.2	1.4	3.2	122
1954	5.0	14.2	22.7	27.0	11.3	2.0	5.6	6.4	.8	3.0	2.0	0.0	141
1955	1.6	9.2	17.0	29.0	8.5	0.0	10.7	4.6	6.2	6.2	7.0	0.0	130
1956	6.5	8.7	17.2	26.8	0.0	0.0	6.5	9.0	12.3	6.5	5.1	1.4	138

Table V

COMPOSITION OF BEAR SIGHTED ON KODIAK ISLAND BY DON BEVAN, FRI, 1952 - 1956 *

Year	Total Bear Seen	Total Cubs	Per Cent of Total	Sows with Cubs	Average Litter	Total Yearlings	Per Cent of Total	Sows with Yearlings	Average Litter	Total Bear 2 Yrs. Plus	Per Cent of Total
1952	166	51	31	20	2.6	9	6	6	1.5	109	63
1953	121	19	16	7	2.7	21	17	9	2.1	81	67
1954	125	27	22	12	2.2	10	8	5	2.0	88	70
1955	291	76	27	33	2.3	31	10	15	2.1	180	63
1956	265	64	24	29	2.2	20	8	11	1.8	181	68

* All bear observed from plane while making salmon surveys

Table IV

COMPOSITION OF KARLUK LAKE BEAR POPULATION 1954 - 1956 *

Year	Total Estimated Population	Total Cubs	Per Cent of Total	Sows with Cubs	Average Litter	Total Yearlings	Per Cent of Total	Sows with Yearlings	Average Litter	Total Bear 2 Yrs. Plus	Per Cent of Total	Known Kill	Per Cent of Total
1954	132	22	17	10	2.2	25	19	10	2.5	85	64	19	14
1955	125	22	18	10	2.2	23	18	9	2.6	80	64	31	25
1956	117	21	18	11	1.9	27	23	13	2.1	93	59	17	14

* No information on cubs recorded prior to 1954

Refuge Manager, FWS, Kodiak, Alaska April 9, 1957

Wildlife Administrator, FWS, Juneau, Alaska

Bear Kill Data - Kodiak

Many thanks for the information contained in your memo of April 2, above subject. We realize a lot of work and information is boiled down into a single chart.

Perhaps it would be a good idea to let the guides know we may be obliged to close the season on rather short notice. They probably will object to the idea but surely they cannot deny our responsibility in this matter.

As you point out in connection with the curtailment of dates there, the difference in kill was not very substantial. A closure about mid-May, however, might have quite a pronounced effect, especially if unexpected.

Information on the man hours of hunting per bear might be indicative of population trends but it is complicated, too, by weather and other factors. Surely we need the information you have spelled out and perhaps your forthcoming conference on this subject will result in some new ideas. I cannot help but believe it will not be too long before we see a noticeable decrease in the size of trophies, even if total numbers are not materially changed.

CLARENCE J. RHODE

cc: Spencer ✓

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