

E L K D A T A

Since their transplant on Afognak Island in 1939 elk have done well in Alaska. Seasons were first established on Afognak and Raspberry in 1950 on branch-antlered bulls by permit only. During that first year 50 permittees harvested 27 elk. In 1959 the first either-sex hunt was held on Tonki Cape. The following year, the Alaska Department of Fish and Game allowed 40 days of either-sex season over the entire island. Since 1961 elk of either sex have been legal game during the normal elk hunting season which has been between four and five months in length. In 1963 an attempt to attract hunters into the Tonki Cape area to harvest a growing and virtually unharvested herd was made by raising the bag limit to 2 elk of either sex. This attempt was not entirely successful, but resulted in a harvest of 19 animals or 22 percent of the total kill. However, herds in other areas were also expanding and the two elk bag limit was applied to Raspberry Island from 1964 - 1966. Here it appears liberal seasons and bag limits have worked together to help increase harvest where it was needed. The attached figure shows our composition and trend counts since 1957. Certain fluctuations on the graph show that some years the trend counts were low for no apparent reason. For instance, in 1964 the annual P-R report on elk states the total elk counted on Raspberry Island was 136 elk, and yet the 1965 count is 230. Such an increase is biologically unlikely since calf crops have varied between 20 and 30 percent of the total herd. This is explained by the 1964 count being incomplete as is stated in the 1964 P-R report.

The 1966 count of 115 elk on Raspberry Island is probably a true indicator of trend. The actual population at the beginning of the season was probably about 25 percent higher. This estimate is based on occasional surveys of the located herd and observing the number of bulls present in that herd and comparing it with observations made by several reliable hunters. Hunters located at least one other band of elk numbering approximately 30 animals in addition to the herd we were able to locate.

The Raspberry herd has since the opening of a two-elk bag limit contributed the bulk of the elk harvest (47%, 45%, 46%). It appears that the herd has been reduced in number to a point of about one half its former numbers either because of the harvest or because of a combination of natural factors and harvest. The 1965-66 winter was the most severe one for approximately ten years. Although we have not done any range evaluation on Raspberry, it appears the number present on the Island at this time could be sustained through most winters. Yet, terracing by trails is evident and it would not be wise management to allow the herd to increase to its 1964 level. Therefore a form of management allowing a take of approximately 20 percent of the herd or 30 animals per 100 cows would probably be the desired annual harvest. In 1966, 18 hunters harvested two elk on Raspberry Island. Since the estimated population was $115+30$ or 145 animals, a harvest of 20 percent or 29 animals would have probably not have depleted

the Raspberry herd below its 1966 population level nor would it have allowed any substantial increase in numbers. The 36 elk killed in 1966 as the first elk is only slightly higher than the desired estimated kill needed to maintain the herd at its present level. Barring winter kill or migration, our next years Raspberry Island herd may number about 113 elk. This size elk herd could most likely sustain a kill level of between 25-30 elk depending on their reproduction. With present seasons, we will probably exceed that kill. Hunters on Raspberry Island could easily exceed that kill even with the removal of the two elk bag limit; however, prior to the two-elk bag limit only in 1958 was this number exceeded.

It is therefore recommended that the present bag limit on Raspberry Island be reduced to one animal and that season remain the same. No other season changes are recommended, but the following information is submitted.

1. 1966 elk composition counts
2. Hunter harvest 1957 - present
3. Total elk count 1929 - present
4. Percentage males - females harvested 1960 - present
5. Graph showing relationship of harvest to population 1957-1966.

TOTAL ELK COUNTS 1929 - 1966

<u>YEAR</u>	<u>COUNT</u>	<u>ESTIMATED POPULATION</u>
1929	8	8
1941	64	147
1948	116	212
1949	161	-
1951	264	-
1952	345	-
1953	152 (Inc.)	-
1954	408	-
1955	273	450
1956	345	450
1957	456	600
1958	599	800
1960	294 (Inc.)	-
1961	720	1100
1962	452 (Inc.)	1200
1963	-	-
1964	-	-
1965	926	1200
1966	938	1250

1966 ELK COMPOSITION COUNTS

AREA	<u>NUMBER OF ELK CLASSIFIED</u>	<u>BRANCH ANTLERED BULLS %</u>	<u>CALVES %</u>	<u>OTHER %</u>
Raspberry Is.	115	1 (1%)	28 (24%)	86 (75%)
Raspberry Str.	180	21 (12%)	36 (20%)	123 (68%)
Malina	158	9 (6%)	31 (20%)	118 (74%)
Interior	170	26 (15%)	42 (25%)	102 (60%)
Tonki	284	8 (3%)	29 (10%)	247 (87%)

<u>YEAR</u>	<u>HUNTER HARVEST 1957 - 1966</u>		<u>PERCENT SUCCESS</u>
	<u>KILL</u>	<u>NO. OF HUNTERS</u>	
1957	70	250	28%
1958	110	345	32%
*1959	120	330	36%
1960	127	345	37%
1961	120	260	46%
1962	110	186	59%
1963	100	175	53%
1964	60	105	57%
1965	142	309	46%
1966	114	177	52%

PERCENT MALES FEMALES HARVESTED 1960 - 1966

<u>YEAR</u>	<u>BULLS %</u>	<u>COWS %</u>	<u>CALVES %</u>	<u>UNID.</u>	<u>TOTAL KILL</u>
1960	68 (53%)	43 (34%)	2 (2%)	14 (11%)	127
1961	69 (58%)	46 (38%)	4 (3%)	1 (1%)	120
1962	53 (48%)	40 (37%)	9 (8%)	8 (7%)	110
1963	60 (60%)	21 (21%)	4 (4%)	15 (15%)	100
1964	36 (60%)	24 (40%)	-	-	60
1965	89 (63%)	53 (37%)	-	-	142
1966	45 (39%)	69 (61%)	-	-	114

1966 RASPBERRY ISLAND HARVEST DATA

Total Kill ~~54~~
 Number Hunters 36
 Elk Per Hunter 1.4
 No. Hunters Killing Two 18

<u>Kill By Month</u>	<u>♂</u>	<u>♀</u>	<u>Total</u>
Aug.	0	2	2
Sept.	1	0	1
Oct.	0	0	0
Nov.	5	6	11
Dec.	10	30	40
Total - - - -	-	-	54

GRAPH SHOWING THE RELATIONSHIP OF ELK COUNTS TO
ELK HARVEST ON RASPBERRY ISLAND, 1957 - 1966

