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The Cover

Rocky Mountain Bighorn Sheep

Photo by Al Miller

HUNTER SAFETY TRAINING PROGRAM

Instructors Approved

Month of March	32
Total to Date	2,653

Students Trained

Month of March	446
Total to Date	178,858

Firearms Hunting Casualties Reported in 1972

Fatal	1
Nonfatal	3

Of Ecology and Environment

In recent months there has been much bandying about of the terms environment and ecology. The interest in these subjects is encouraging to those of us who have been working in the field for a couple of decades or more.

One disturbing aspect of this recent interest is the fear that it may pass as another popular fad, only to be forgotten in another few years. It appears, unfortunately, that a number of individuals who were frustrated by the social ills of the world decided to take up the cause of environment because they thought it was a nice, simple problem with simple solutions.

But any gains are worthwhile and those persistent souls who refuse to be befuddled by the complexities of ecology and the interrelationship of environmental problems deserve a tip of the hat. Whether they be hunter, angler, birdwatcher, hiker, or simply a soul who appreciates a clean, healthy world, we say — keep at it.

Concerning the problems of the use of our earth, there are probably as many ideas as there are writers and the fate of the truly interested person seems to be that of a constant reader. Sifting and sorting of ideas from many sources is essential if one is going to try to even begin to understand the basics of ecology.

A number of years ago Aldo Leopold told of such things in a friendly, easily readable manner when he wrote "A Sand County Almanac". His observations and philosophies still make good reading.

Another viewpoint from a more current frame of reference is the book "The Closing Circle" by Barry Commoner. Though we are not in the habit of running book reviews, we felt many things about this one recommend it. The following review is from the National Wildlife Federation.

RES

(Continued on Page 10)

BIG GAME LOSSES HEAVY ON EASTERN OREGON RANGES

Probably the heaviest mortality on mule deer on record is the report from game biologists as they assess the ravages of the 1971-72 winter on most eastern Oregon winter ranges, resulting in an estimated drop in deer numbers of as much as 30 percent or more in some areas.

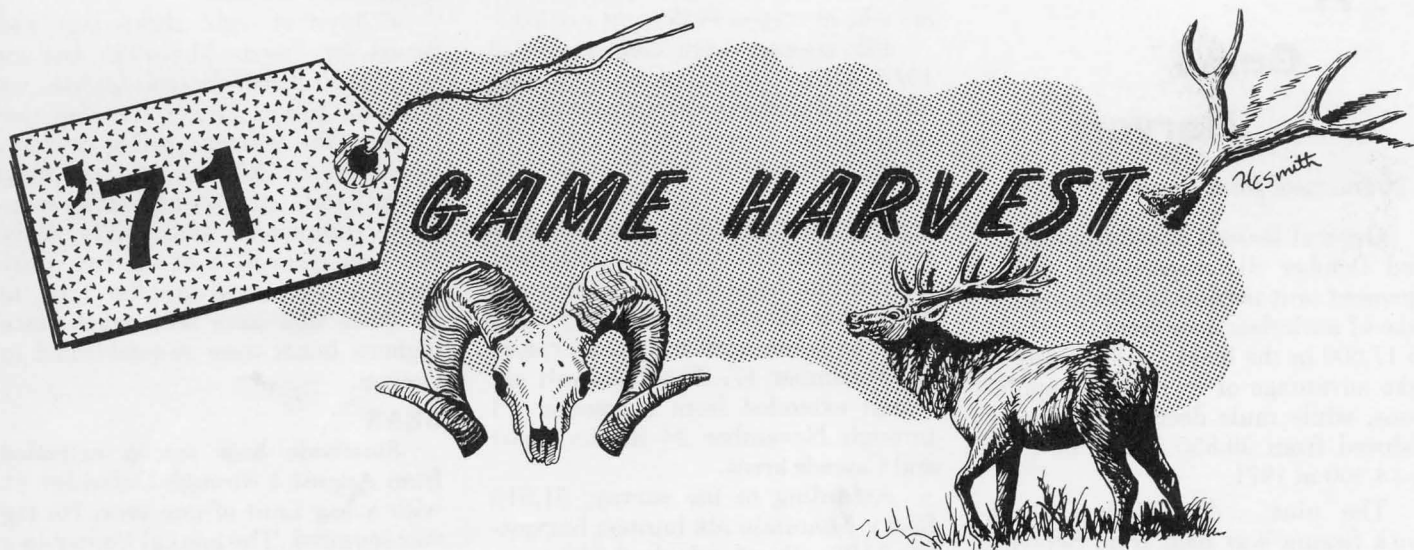
Paul Ebert, staff biologist in charge of the big game program, advised the Game Commission of the severe winter losses at its April business meeting. Although individual mule deer herds have suffered heavy losses in the past, at no time have the losses been so severe or on such a broad scale as the past winter.

Ebert outlined district by district what biologists have found as the spring breakup allows access into some of the more remote ranges. Biologists continue to assess the damage and the full picture will not be known until about the middle of May.

Observations in all areas indicate heavy fawn mortality. In the Snake River range about 73 percent of the fawns have been lost, while on the Keating range an estimated 62 percent of the fawns succumbed to winter stress. In a five-mile area along the lower Powder River 111 carcasses were found, 70 percent of which were fawns.

On the Powder River range in Union County, December herd composition showed 59 fawns per 100 does, while the spring count stood at only 19 fawns per 100 does, a loss of 67 percent. In southeastern Oregon, the Alvord deer herd dropped from almost 35 deer per mile in the spring of 1971 to only 9.2 deer per mile this spring. Fall herd composition showed 40 fawns per 100 does while the spring count was only 17. In the Ochocos a 62 percent fawn loss is reported. Heavy fawn loss is also reported from the Steens and all

(Continued on Page 12)



By P. W. EBERT
Staff Biologist, Big Game Management



Black-tailed deer hunters increased over the 1970 season with 109,120 participants reporting a take of 40,560 deer.

Oregon's big game hunters experienced only fair success during the 1971 hunting season. This was confirmed by the annual questionnaire which surveyed a random sample of individuals who purchased hunting licenses during the year. The survey shows that Oregon's 377,340 licensed hunters spent 2,293,600 days afield in pursuit of big game and harvested 87,800 deer, 10,270 elk, 708 antelope, 1,876 bear, 18 cougar, and 2 bighorn sheep.

In 1971 prospects for mule deer hunting were not optimistic but black-tailed deer herds showed some recovery from the effects of the severe winter of 1968-1969. Most mule deer herds continued to decline because of poor fawn production and survival necessitating additional curtailment of antlerless hunting.

The combination of early snowstorms alternating with warm weather was not conducive to good mule deer hunting and aggravated the problem of locating animals. Early and excessive snowfall during the elk season in northeastern Oregon restricted hunting activity in some of the more popular areas.

DEER SEASON

General deer season opened on October 2 and allowed 19 days of buck hunting east of the summit of the Cascades while 30 days of general season buck hunting were available to black-tailed deer hunters.

(Continued next Page)

Game Harvest

(Continued from preceding Page)

General seasons closed October 20 and October 31, respectively. Management unit permits authorizing the take of antlerless deer were increased to 17,600 in the black - tailed units to take advantage of increasing populations, while mule deer permits were reduced from 29,850 issued in 1970 to 18,400 in 1971.

The nine - day High Cascade Buck Season was held from September 11 through September 19. Extended deer hunting opportunities were also allowed in the Willamette Unit for 21 days in November to control game damage and eight special deer seasons were scheduled in specific problem areas. Use of the general deer tag was required for all permit seasons, thus limiting the hunter to one deer in 1971.

The 279,220 deer hunters reported taking 87,800 deer of which 54 percent were mule deer and 46 percent black - tailed deer. Mule deer hunting continued to be the more popular with 162,180 tag holders taking 47,240 animals. Black - tailed deer hunters increased over the 1970 season with 109,120 participants reporting a take of 40,560 deer. The overall harvest of 71,970 bucks and 15,830 antlerless deer represented an average success of 31 percent. Hunter numbers decreased by 2,780 compared with 1970 while the deer harvest declined 13,800.

The 36,000 hunters possessing management unit permits took 12,330 antlerless deer for an average success of 34 percent. An additional 6,360 deer were bagged during the early and late seasons and the archery hunts.

ELK SEASONS

A record number of 74,550 elk hunters harvested 10,270 elk for an average success of 14 percent. The general season harvest consisted of 7,830 bulls and 2,440 antlerless animals. A total of 1,874 antlerless ani-

mals was taken by 4,220 permit holders who averaged 44 percent success.

Elk seasons were comparable to 1970 with 19 days of bull hunting allowed for Rocky Mountain elk in northeastern Oregon from October 30 through November 17. Management unit permits were valid from November 13 through November 17. The southeastern area was open to either-sex hunting from October 30 through November 12 after which only bulls could be taken until the season closed on November 17. The Roosevelt elk season extended from November 13 through November 24 in the Coast and Cascade areas.

According to the survey, 51,640 Rocky Mountain elk hunters harvested 7,590 elk of which 5,330 were bulls and 2,260 were antlerless animals. Success averaged 15 percent. The 22,910 Roosevelt elk hunters averaged 12 percent success in taking a reported 2,680 animals, 2,500 of which were bulls and 180 were antlerless.



ANTELOPE

Antelope tag quotas were established for 16 management units rather than 7 areas as before to provide better disbursement of hunting pressure. A total of 1,440 tags was authorized and hunters reported taking 708 animals for an average success of 54 percent. Warm dry conditions prevailed during the season, although adequate water and forage supplies allowed the animals to remain widely dispersed, thus providing a challenge to the hunter. The total harvest declined 2 percent below 1970.

BIGHORN SHEEP

A total of eight sheep tags was issued for Steens Mountain and an additional three allotted for use on Hart Mountain. Heavy snowfall just prior to the season opening September 25 made hunting on the steep sheep habitat treacherous with some areas completely inaccessible. Only one ram from each of the two areas was harvested, raising the total to 24 sheep that have been taken since bighorn herds were re-established in Oregon.

BEAR

Statewide bear season extended from August 1 through December 31 with a bag limit of one bear. No tag was required. The annual hunter survey indicated a total of 10,341 bear hunters, a moderate increase over 1970. A total of 1,876 bear was harvested which was comparable to the number taken the previous year.

COUGAR

A controlled hunting season for 100 tag holders was allowed during the month of December in all areas of the state except for the extreme southeastern portion. Individual report cards issued with the tags and questionnaires returned by each hunter revealed that 68 tag holders hunted cougar, and harvested 18 animals. Although most of the better cougar habitat was hunted, a majority of the harvest was confined to the far northeastern corner of the state where 15 cougar were taken. An additional three animals were taken in the McKenzie River drainage on the west slope of the Cascade Range. Extremely variable weather west of the summit of the Cascades provided poor tracking conditions, contributing to the low harvest in western Oregon.

BOW HUNTING

Archers were permitted to hunt in 20 special areas which were open for varying periods of time, starting on August 21, 1971 and extending through February 29, 1972. The 14,694 bow hunters reported taking 1,232 deer and 120 elk.

The accompanying tables display results of the 1971 big game seasons. Data are projected from information supplied on questionnaires returned by hunters who were selected on a random basis.

DEER HUNTING TRENDS 1952 - 1971

Year	Deer Tags Issued	Total Deer Harvested	Percent Hunter Success	MULE DEER						BLACK-TAILED DEER					
				General Season Hunters	Number Harvested	Percent Hunter Success	Percent of Total	Antler-less Harvest	Percent Antler-less	General Season Hunters	Number Harvested	Percent Hunter Success	Percent of Total	Antler-less Harvest	Percent Antler-less
1952	188,250	77,897	41	126,719	53,030	61	68	20,570	39	61,531	24,867	40	32	5,210	21
1953	204,808	105,275	51	121,356	64,607	53	61	24,652	38	83,552	40,668	49	39	13,045	32
1954	215,047	112,622	52	134,617	76,877	57	68	22,410	29	80,430	35,745	44	32	8,043	22
1955	230,585	133,834	58	148,566	90,126	61	67	37,752	42	81,919	43,708	53	33	13,446	31
1956	233,842	146,568	54	146,568	85,394	58	68	37,978	44	87,274	40,277	46	32	13,340	33
1957	221,960	116,409	52	140,627	81,873	58	70	26,853	33	81,333	34,626	43	30	8,877	26
1958	233,885	116,251	50	139,183	71,250	51	61	19,308	27	94,702	45,001	47	39	15,251	34
1959	248,701	146,003	59	138,856	88,261	64	61	23,685	27	104,750	56,670	54	39	20,108	35
1960*	259,739	157,504	61	141,102	96,122	68	61	28,254	29	110,725	61,382	55	39	20,133	33
1961	265,326	163,939	62	147,597	97,951	66	60	30,538	31	101,971	65,988	65	40	24,529	37
1962	263,838	139,712	53	143,580	76,776	53	55	24,977	32	108,343	62,936	58	45	21,932	35
1963	258,375	117,619	45	136,676	64,678	47	55	15,403	24	105,603	52,941	50	45	16,754	32
1964	271,339	143,023	53	148,215	84,665	57	59	19,931	23	110,555	58,358	53	41	18,807	32
1965	277,857	119,369	43	143,618	71,637	50	60	19,242	27	108,281	47,732	44	40	13,348	27
1966	285,961	147,975	52	147,975	88,516	56	60	22,821	26	110,384	59,459	52	40	14,687	25
1967	287,600	142,000	49	153,950	87,180	57	61	29,518	34	109,250	54,820	50	39	15,089	27
1968	303,109	151,380	50	163,260	89,020	55	59	23,374	26	111,940	62,360	56	41	16,586	27
1969	280,981	101,500	36	166,350	68,860	41	68	14,265	21	88,850	32,640	37	32	5,757	18
1970	291,682	101,600	34	180,150	72,200	40	71	14,453	20	92,050	29,400	32	29	4,347	15
1971	284,670	87,800	31	162,180	47,240	29	54	7,840	17	109,120	40,560	37	46	7,990	20

*1960-64 estimates of hunting pressure revised.



ELK HUNTING TRENDS 1933 - 1971

Year	STATE TOTAL					ROCKY MOUNTAIN ELK					ROOSEVELT ELK				
	Hunters	Bulls	Cows	Total Harvest	Percent Hunter Success	Hunters	Bulls	Cows	Number Harvested	Percent Hunter Success	Hunters	Bulls	Cows	Number Harvested	Percent Hunter Success
1933	2,440	579	0	579	24	2,440	579	0	579	24	No Open Season				
1940	6,152	1,350	1,179	2,529	41	4,809	1,152	1,179	2,331	48	1,343	198	0	198	15
1945	8,597	2,398	67	2,465	29	7,270	2,176	67	2,243	31	1,327	222	0	222	17
1950	22,802	3,157	2,234	5,391	24	16,726	2,210	1,234	3,444	21	6,076	947	1,000	1,947	32
1955	27,709	4,228	1,855	6,083	22	21,504	3,361	1,749	5,110	24	6,205	867	106	973	16
1961	51,349	9,707	2,384	12,091	24	36,514	7,098	1,863	8,961	25	14,835	2,609	521	3,130	21
1962	52,991	7,998	2,178	10,176	19	39,432	6,460	1,925	8,385	21	13,559	1,538	253	1,791	13
1963	54,724	10,082	3,606	13,688	25	41,216	6,959	3,606	10,565	26	13,508	3,125	0	3,123	23
1964	62,898	11,846	5,311	17,157	27	41,010	7,576	4,879	12,455	30	21,888	4,270	432	4,702	21
1965	67,387	8,066	4,200	12,266	18	47,651	5,768	3,594	9,362	20	19,736	2,298	606	2,904	15
1966	68,178	8,030	3,372	11,402	17	49,504	5,529	3,189	8,718	18	18,674	2,501	183	2,684	14
1967	64,200	7,660	2,870	10,530	16	46,100	5,220	2,690	7,910	17	18,100	2,440	180	2,620	14
1968	65,900	7,160	2,250	9,410	14	45,600	4,170	1,980	6,150	13	20,300	2,990	270	3,260	16
1969	66,000	7,800	2,118	9,918	15	46,300	5,800	2,080	7,880	17	19,700	2,000	38	2,038	10
1970	73,560	10,150	2,530	12,680	17	52,190	6,920	2,420	9,340	18	21,370	3,230	110	3,340	16
1971	74,550	7,830	2,440	10,270	14	51,640	5,330	2,260	7,590	15	22,910	2,500	180	2,680	12

SUMMARY — 1971 DEER SEASON

Units by Region	GENERAL DEER SEASON							Additional Deer Harvest		Deer Harvested per Sq. Mi.		
	Number of Hunters	Bucks 1-2 Pt.	Bucks 3 Pt. +	Antlerless	General Season Total	Percent Hunter Success	Percent 1-2 Pt. Bucks*	Early Seasons	Late Seasons		Total Harvest	
Alsea	9,280	1,680	1,200	700	3,580	39	58	120	450	4,150	2.11	
Clatsop	4,040	410	460	50	920	23	47	0	0	920	.97	
McKenzie	13,730	1,870	1,320	1,010	4,200	31	59	280	260	4,740	1.25	
Nestucca	1,350	340	150	50	540	40	69	0	0	540	1.71	
Polk	3,340	650	290	70	1,010	30	69	0	0	1,010	2.11	
Santiam	8,110	700	800	0	1,500	19	47	170	0	1,670	.50	
Scappoose	1,800	260	70	70	400	22	79	0	0	400	.53	
Siuslaw	3,188	460	560	120	1,140	36	45	0	0	1,140	1.28	
Trask	7,190	890	940	220	2,050	29	49	0	0	2,050	2.01	
Willamette	5,820	650	430	120	1,200	21	60	10	3,210	4,420	1.56	
Wilson	3,660	550	430	200	1,180	32	56	0	0	1,180	2.17	
NORTHWEST	61,400	8,460	6,650	2,610	17,720	29	56	580	3,920	22,220	1.31	
Applegate	3,610	550	430	270	1,250	35	56	0	70	1,320	.96	
Chetco	2,380	220	510	0	730	31	30	0	0	730	.44	
Dixon	6,380	1,150	1,400	270	2,820	44	45	190	190	3,200	1.35	
Elkton	2,220	270	550	0	820	37	34	0	0	820	.81	
Evans Creek	1,660	190	290	290	770	46	40	0	0	770	.90	
Melrose	6,570	960	1,010	530	2,500	38	49	100	170	2,770	2.47	
Powers	1,830	410	630	0	1,040	57	39	0	0	1,040	1.04	
Rogue	8,900	790	1,390	310	2,490	26	36	240	220	2,950	1.70	
Sixes	5,050	1,300	770	550	2,620	52	63	30	170	2,820	2.80	
Tioga	1,900	390	410	0	800	42	49	0	0	800	.80	
SOUTHWEST	40,500	6,230	7,390	2,220	15,840	39	46	560	820	17,220	1.31	
Deschutes	8,030	520	490	0	1,010	13	51	50	0	1,060	.77	
Keno	1,590	120	140	0	260	16	46	0	0	260	.25	
Grizzly	3,080	360	430	0	790	26	46	0	0	790	.50	
Hood River	1,350	100	20	0	120	9	83	0	0	120	.32	
Klamath	6,690	580	770	0	1,350	20	43	0	0	1,350	1.08	
Maupin	530	100	70	0	170	32	59	0	0	170	.32	
Maury	2,190	240	190	170	600	27	56	0	0	600	.53	
Metolius	2,500	190	100	0	290	12	66	0	0	290	.37	
Ochoco	11,010	970	650	0	1,620	15	60	30	0	1,650	1.03	
Paulina	7,410	600	510	220	1,330	18	54	0	0	1,330	.60	
Sherman	1,760	360	220	0	580	33	62	0	0	580	.29	
Sprague	3,580	570	50	0	620	17	92	0	0	620	.82	
Wasco	4,280	430	290	0	720	17	60	20	0	740	.73	
CENTRAL	54,000	5,140	3,930	390	9,460	18	57	100	0	9,560	.61	
Baker	6,390	1,070	640	370	2,080	32	63	30	0	2,110	1.44	
Catherine Creek	3,770	720	240	480	1,440	38	75	0	0	1,440	2.76	
Chesnimnus	690	120	140	0	260	38	46	0	0	260	.39	
Columbia Basin	670	120	140	50	310	46	46	0	0	310	.11	
Desolation	2,670	500	190	220	910	34	72	0	0	910	1.24	
Heppner	10,440	1,760	550	1,040	3,350	32	76	0	0	3,350	2.29	
Imnaha	1,830	560	300	0	860	46	65	0	0	860	1.98	
Keating	5,050	850	390	1,110	2,350	46	69	50	0	2,400	2.98	
Lookout Mountain	2,160	490	250	460	1,200	55	67	0	0	1,200	2.10	
Minam	1,460	290	170	0	460	32	63	30	0	490	.85	
Murderer's Creek	6,320	750	580	670	2,000	32	56	30	0	2,030	1.62	
Northside	7,740	840	670	910	2,420	31	56	0	150	2,570	2.36	
Sled Springs	1,800	600	220	0	820	46	73	0	0	820	.93	
Snake River	2,310	430	510	290	1,230	53	46	0	0	1,230	1.60	
Starkey	2,520	430	220	70	720	29	66	20	0	740	.93	
Ukiah	3,530	550	340	120	1,010	29	62	0	0	1,010	1.12	
Umatilla	4,350	460	580	120	1,160	27	44	20	0	1,180	1.55	
Walla Walla	1,030	120	50	150	320	31	71	0	0	320	1.06	
Wenaha	860	220	100	0	320	37	69	0	0	320	.72	
Wheeler	7,810	1,070	800	530	2,400	30	57	0	0	2,400	1.77	
NORTHEAST	73,400	11,950	7,080	6,590	25,620	35	63	180	150	25,950	1.39	
Beulah	5,320	940	820	520	2,280	42	53	0	0	2,280	.83	
Fort Rock	5,410	420	570	0	990	18	43	0	0	990	.55	
Hart Mountain	1,080	170	220	0	390	36	44	30	0	420	.17	
Interstate	5,630	550	820	0	1,370	24	40	0	0	1,370	.62	
Juniper	360	30	120	0	150	42	17	0	0	150	.05	
Malheur River	3,940	860	520	0	1,380	34	62	0	0	1,380	.47	
Owyhee	1,350	290	310	0	600	44	48	0	0	600	.20	
Silver Lake	6,570	720	530	0	1,250	19	58	0	0	1,250	1.28	
Silvies	4,910	750	800	0	1,550	31	48	0	0	1,550	.89	
Steens Mountain	2,720	620	510	0	1,130	42	55	0	0	1,130	.59	
Wagontire	480	50	0	0	50	10	100	0	0	50	.02	
Warner	2,740	350	490	0	840	31	41	0	20	860	.90	
Whitehorse	1,490	340	480	0	820	55	41	0	0	820	.17	
SOUTHEAST	42,000	6,090	6,190	520	12,800	30	50	30	20	12,850	.41	
GENERAL SEASON TOTALS	271,300	37,870	31,240	12,330	81,440	30	55					
EARLY SEASON TOTALS	17,963										1,450	
LATE SEASON TOTALS	16,547										4,910	
GRAND TOTALS	**279,220						31			87,800	.46	
TOTAL HUNTER DAYS	1,779,361											

*Percent of Total Buck Kill. **Total omits Duplication of Hunters Participating in More Than One Season.

1971 ELK SEASON

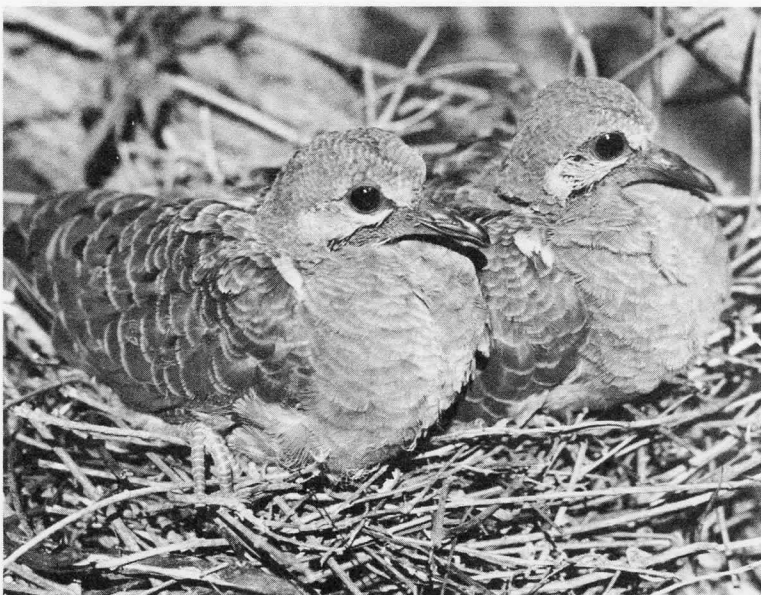
Units by Region	Number of Hunters	Hunter- Days	HARVEST				Percent Hunter Success	Percent* Yearling Bulls	Hunters per Sq. Mi.	Elk Harvested per Sq. Mi.
			Yearling Bulls	Adult Bulls	Antler- less	Total				
Alsea	840	4,030	40	64	0	104	12	36	.42	.05
Clatsop	7,750	36,430	602	270	51	923	12	69	8.19	.98
McKenzie	1,880	8,630	54	87	0	141	8	38	.49	.84
Nestucca	120	1,450	14	0	0	14	12	100	.38	.04
Santiam	150	570	2	17	0	19	13	11	.04	.01
Scappoose	250	580	28	14	0	42	17	67	.33	.06
Trask	980	8,330	68	11	0	79	8	86	.96	.08
Willamette	120	260	0	0	0	0	0	0	.04	0
Wilson	2,490	11,450	193	61	35	289	12	76	4.57	.53
NORTHWEST	14,580	71,750	1,001	550	86	1,611	11	66	.94	.11
Dixon	570	2,900	33	42	0	75	13	44	.24	.03
Elkton	1,390	8,200	146	56	41	243	17	72	1.37	.24
Melrose	680	4,830	35	30	0	65	10	54	.60	.06
Powers	620	3,220	63	14	0	77	12	82	.62	.08
Rogue	530	2,600	23	31	0	54	10	43	.30	.03
Tioga	4,410	18,480	346	150	50	546	12	70	4.40	.55
SOUTHWEST	8,200	40,230	646	323	91	1,060	13	67	.99	.13
Deschutes	90	440	0	0	3	3	3	0	.07	.00
Keno	40	230	3	3	0	6	15	50	.04	.01
CENTRAL	130	670	3	3	3	9	7	50	.05	.00
ROOSEVELT ELK TOTALS	22,910	112,650	1,650	850	180	2,680	12	66	.93	.10
Grizzly	60	360	5	0	2	7	12	100	.04	.00
Hood River	130	1,270	0	2	0	2	2	0	.34	.01
Maury	10	0	0	0	0	0	0	0	.01	0
Ochoco	940	5,360	10	27	52	89	9	27	.58	.06
Wasco	1,140	5,700	38	29	36	103	9	57	1.12	.10
CENTRAL	2,280	12,690	53	58	90	201	9	48	.40	.04
Baker	3,270	23,870	192	161	119	472	14	54	2.23	.31
Catherine Creek	1,040	5,930	68	28	46	142	14	71	1.99	.27
Chesnimnus	3,500	20,460	270	33	134	437	13	69	5.23	.65
Desolation	3,290	20,730	211	231	104	546	17	48	4.48	.74
Heppner	3,150	22,360	187	73	87	347	11	72	2.16	.24
Imnaha	1,720	12,900	139	45	87	271	16	76	3.95	.62
Keating	1,050	5,560	30	21	65	116	11	59	1.30	.14
Lookout Mountain	60	970	2	4	0	6	10	33	.11	.01
Minam	1,630	14,670	114	101	92	307	19	53	2.82	.53
Murderer's Creek	1,100	4,070	11	45	65	121	11	20	.88	.10
Northside	1,350	7,560	27	38	108	173	13	42	1.24	.16
Sled Springs	3,700	21,000	325	88	258	671	18	79	4.20	.76
Snake River	2,130	11,080	155	62	119	336	16	71	2.76	.44
Starkey	6,000	42,090	533	144	172	849	14	79	7.50	1.06
Ukiah	4,800	29,400	350	254	110	714	15	58	5.35	.79
Umatilla	3,680	29,440	404	75	4	483	13	84	4.82	.63
Walla Walla	1,440	8,210	158	43	113	314	22	79	4.78	1.04
Wenaha	4,240	26,290	404	56	306	766	18	88	9.55	1.73
Wheeler	450	2,430	16	21	23	60	13	43	.33	.04
NORTHEAST	47,600	309,020	3,596	1,523	2,012	7,131	15	70	3.01	.45
Beulah	790	4,580	21	25	92	138	17	46	.29	.05
Malheur River	590	4,310	10	32	37	79	13	24	.20	.03
Silvies	380	2,390	0	12	29	41	11	0	.22	.02
SOUTHEAST	1,760	11,820	31	69	158	258	15	31	.24	.03
ROCKY MTN. ELK TOTALS	51,640	333,530	3,680	1,650	2,260	7,590	15	69	1.78	.26
STATE TOTALS	74,550	446,180	5,330	2,500	2,440	10,270	14	68	1.34	.19

*In Bull Kill.

1971 ANTELOPE SEASON (86% RETURN)

Management Units	Tags Issued	Report Cards Received	Number Did Not Hunt	Number Hunted	Reported Harvest	Percent Success	Hunter- Days
Beulah	50	43	3	40	24	60	86
Ft. Rock-Silver Lake	35	29	1	28	11	39	63
Hart Mountain	150	137	3	134	73	54	351
Interstate (Lake County)	50	40	2	38	23	61	84
Juniper	100	85	2	83	49	59	201
Malheur	100	85	3	82	57	70	183
Maury	75	66	5	61	21	34	158
Murderer's Creek	15	13	2	11	8	73	14
Ochoco	50	41	0	41	24	59	100
Owyhee	125	99	1	98	70	71	243
Paulina-Wagontire	125	105	3	102	39	38	277
Silvies	75	71	2	69	24	35	136
Steens Mountain	125	104	3	101	65	64	242
Warner	100	89	2	87	50	57	211
Whitehorse	250	217	10	207	98	47	505
Nat'l Antelope Refuge	15	13	0	13	11	85	24
TOTALS	1,440	1,237	42	1,195	647*	54	2,878

*Estimated total harvest — 708

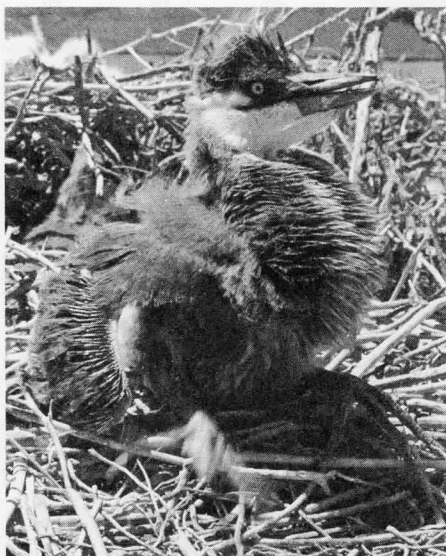


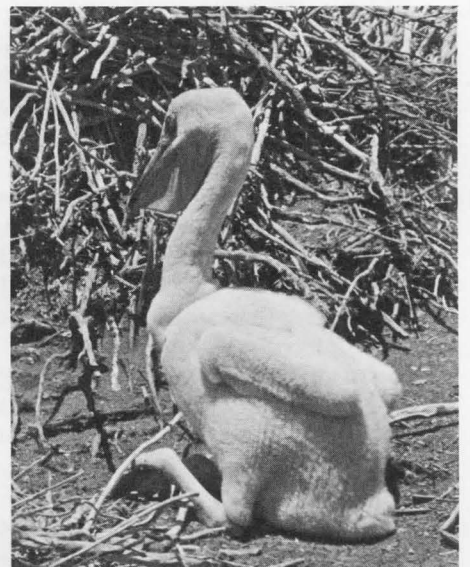
THE YOUNG ONES

With the arrival of spring and early summer comes the arrival of young wildlife. For your enjoyment we present a gallery of youngsters.

If you're in the outdoors and see any young wildlife, please leave them alone. The temptation is great to take them home, especially if the mother is not in sight. It is not only a crime against nature to kidnap these youngsters but is also against the law. You may later have the youngster taken away from you and a fine assessed.

There is one way and only one way to take them home . . . **That is on film!** Record the scene with a photograph, but leave the young one for the mother. Even if she isn't in sight, chances are she is not far away.





Vandals Continue Rampage

Vandalism during 1971 in the national forests of Oregon and Washington caused an estimated \$129,000 damage, according to Regional Forester Rexford A. Resler. The total does not include regular maintenance costs.

Typical examples of vandalism and theft included: Gasoline and batteries stolen from Forest Service vehicles; tools stolen; trees chopped down; signs shot up, smashed, defaced, and stolen; traffic counters destroyed; campground collection boxes smashed and money taken; private cabins burglarized; camps looted; gate locks destroyed by the dozens.

Of Ecology and Environment

(Continued from Page 2)

The Closing Circle—Nature, Man, and Technology, Barry Commoner, Alfred A. Knopf, Inc., New York, N.Y., 1971, hardbound, \$6.95.

Barry Commoner, best known for his previously acclaimed work, *Science and Survival*, has another environmental winner. Uniquely qualified, Commoner—biologist, ecologist, educator ("Time" called him "A professor with a class of millions".)—is presently Director of the Washington University in St. Louis Center for the Biology of Natural Systems and a nationally-noted environmentalist.

While arguments as to how much time we have left to save our planet are rarely persuasive, *The Closing Circle* gives us one of the clearest, most understandable explanations of how late it really is. In readable, layman's language, he tells us, first, of the nature of the ecosphere, the "planet's thin skin that supports all life and all human activities;" and second, gives concise statements of case histories of the poisoning of the air (e.g. Los Angeles), of the earth (e.g. Illinois), of the water (e.g. Lake Erie), and of our total life inheritance (e.g. radiation fallout).

One primary section of the 326-page book deals with his comments on the life cycle. In this section he describes the four basic laws of ecology that have no regard for history.

1. *Everything is connected to everything else.* If the system is to remain in balance, it can only proceed at the pace of the slowest part. So, if man dumps sewage into the water faster than the bacteria and the available oxygen can handle, we poison the water, kill the marine life, and start a chain reaction all along the circle.

2. *Everything must go somewhere.* In nature there is no waste, no garbage. What is excreted by one organism is utilized by another. We have broken this cycle by creating synthetics which cannot be utilized and by our failure to return human and animal wastes to the soil. By dumping them in the water where they do not belong, we are depleting the earth and destroying our rivers, lakes, and oceans.

3. *Nature knows best.* Technology is arrogant when it assumes it is superior to nature. Natural relationships have evolved over a period of billions of years, are extremely complex, and are very delicately balanced. Understanding as little as we do, we can't artificially disrupt the ecological circle without damaging something.

4. *There is no such thing as a free lunch.* Every gain is won at some cost. Altogether, it is thoroughly rational, dispassionate, description of our dilemma.

AUSTIN HOT SPRINGS

On April 29, Portland General Electric company closed its Austin Hot Springs park to overnight camping. The Clackamas River facility, 35 miles southeast of Estacada, will be utilized as a daytime picnic area.

Past use of the hot springs area for both picnicking and camping has led to overcrowding because of limited space for facilities. It is expected that use during daylight hours only will permit more public picnicking, bathing, fishing and enjoyment of the natural hot springs with minimum effect on the park environment.

Hunting, Fishing License Sales Top Million Mark



Hunting and fishing continue to be major attractions for Oregon citizens as evidenced by 1971 license sales which went almost 23,000 over the million mark.

License sales excluding salmon - steelhead licenses totaled 1,022,972, according to receipts received. Outstanding receipts may increase this total by a few hundred licenses. Salmon - steelhead licenses are treated similarly to deer and elk tags since a regular hunting or fishing license is a prerequisite to the other.

The number of regular angling licenses issued totaled 531,459. In 1970 just over 515,400 angling licenses were issued. The figure includes combination licenses, resident angler, nonresident angler, vacation angler, and other general licenses. Daily licenses issued continued to soar upward with sport fishermen who angle occasionally purchasing 303,162 of the daily permits, an increase of close to 17,800 over 1970.

Salmon - steelhead licenses issued totaled almost 360,000, an increase of about 6,800 licenses from the preceding year. About 30,200 of these licenses were issued free to juveniles.

Twenty years ago just over 416,000 licenses were issued, less than half the number issued in 1971!

FROM OUT OF THE PAST



1911-12 game protector's report

"The total number of trout reared in State Hatcheries, and released under the direction of the Commission in 1911, was 323,700."

In the Cascade Mountains, from Cazadero southeast to Bend, is a large territory with many lakes which heretofore contained no fish. One of

the most important works of the Commission during the past season was the stocking of these lakes with trout.

Fingerling fry were delivered to the pack train at Detroit and Bend and from there they were transported into the high mountain lakes. A total number of 97,420 small fish were distributed in 83 different lakes.

Within a few years, it is hoped, these fish will grow and increase, thus furnishing abundant fishing in this high mountain district.

In 1971, Game Commission fish hatcheries produced 23,465,239 fish for release into Oregon lakes and streams. Of these, 637,135 were dropped from aircraft into 520 lakes in the Cascades and Wallows.

1971 FISH PLANTS TOTAL 23.4 MILLION

Game Commission fish hatcheries produced over 23.4 million trout, salmon, and steelhead in 1971, according to Reino Koski, who heads the Commission's fish liberation program.

Weight of these fish totaled more than 1.6 million pounds. Much of this weight was accounted for by 8 to 10-inch legal trout totaling more than 2.6 million stocked in Oregon lakes and streams last summer, as well as steelhead and salmon smolts which totaled another 3.2 million stocked in early spring.

Koski said that 11 different kinds

of fish were reared and stocked during the year. The list includes coho salmon, spring and winter - run chinook, summer and winter-run steelhead, sea-run and Lahontan cutthroats, rainbows, brook trout, brown trout, Dolly Varden, mackinaw, kokanee, and Atlantic salmon. Rainbows, steelhead, and salmon are raised in the greatest numbers.

Game Commission liberation trucks chalked up 2,483 separate runs during the year. This averages out at more than 155 trips per tank truck for the 16 liberation units that comprise the fleet.



Agencies Seek Fish Protection at Sandy River

The Oregon Game Commission and Fish Commission in a joint letter advised Portland General Electric Company that the two agencies will seek adequate fish passage facilities and stream flows at the Bull Run Project on the Sandy River should the company request Federal Power Commission relicensing. PGE's license to operate the Sandy River hydroelectric complex expires in 1974.

The two agencies will intervene and request provisions in the license to correct several problems affecting fish and wildlife. The most serious problems are caused by inadequate stream flows and passage deficiencies which impede the full development of anadromous fish runs in the Sandy and Little Sandy Rivers.

The joint letter pointed out that lack of adequate flows for fish migration and rearing is most acute between Marmot Dam and the mouth of the Bull Run River. It was requested that PGE consider ways of altering the project's operation to provide adequate flows or natural stream flows in 1972.

The commissions provided an outline of stream flow requirements in both the Sandy and Little Sandy Rivers. It was also pointed out that late summer flows in the Sandy below the mouth of Bull Run have fluctuated from 50 to over 700 cfs in one hour's time. Observations show such fluctuations to be detrimental to fish migration, spawning and rearing, expose redds and often strand fish in shallow areas.

On the Little Sandy the entire flow is cut off at an upstream diversion dam except during heavy run-off. Adult salmon and steelhead attracted to the dam at high water are left stranded as the flow subsides. It was recommended that adequate flows be allowed at all times from the diversion dam to the mouth of the

BIG GAME LOSSES HEAVY ON EASTERN OREGON RANGES

(Continued from Page 2)

through Malheur County but percentage figures are not yet available for these areas. Ebert said that with the poor fawn crop going into the winter in most of eastern Oregon to begin with, the heavy mortality is even more significant.

Ebert outlined some of the contributing factors to the heavy winter mortality. These included a heavy infestation of grasshoppers last summer in Wallowa, Baker, and Grant Counties which denuded many winter ranges; a dry, late summer and fall throughout eastern Oregon with no greenup before winter; and heavy snowfall and below normal temperatures starting in late October with little moderation until March. Malnutrition was the principal cause of mortality, predation was heavy on weakened animals, and disease and parasites also contributed.

Ebert advised the Commission that a wide-range feeding program was initiated in early December which continued into March. Biologists were assisted by more than 40 individuals and two sportsmen's groups. During the course of the winter Commission personnel fed or provided more than 185 tons of alfalfa hay, just over 54 tons of high-protein pellets, and 14 tons of mint silage. It was not known how much feed was distributed by individuals on their own.

Ebert predicted a very poor fawn crop this coming spring. Adult does that pull through the winter, he said, will give birth to small, weakened fawns, if they have births at all. In their weakened condition, these little fawns will have a hard time making it.

In contrast to eastern Oregon, biologists on the west side report black-tailed deer herds wintered in excellent condition and population numbers are up considerably in some areas. Although incomplete when we went to press, spring counts indicate deer numbers about on a level with those of 1968. This is prior to the 1968-69 severe winter in western Oregon which cut down the blacktail herds.

Little Sandy for anadromous fish migration and production.

The commissions also requested the company to modernize the Marmot fish ladder or provide new facilities to insure adequate fish passage and to construct fish passage facilities on the Little Sandy diversion.

One important wildlife problem is also associated with the Bull Run Project — an unfenced portion of the Marmot Canal presents a hazard to black-tailed deer which accidentally enter the canal and become trapped. The company was requested to fence this portion of the canal and provide one deer crossing.

Big Game Regulations To Be Set

The Game Commission will hold a public hearing on May 20 prior to the setting of the 1972 big game seasons. The meeting, to solicit public suggestions concerning this fall's seasons, will start at 10 a.m. in the auditorium at the Western Forestry Center.

Following the hearing the Commissioners will set the length of the season and other details. Opening dates have already been established with general deer season opening on October 7, Roosevelt elk season November 11, and Rocky Mountain elk season October 28.



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