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/hr. Krummes	451/24	SECTION OF ERA:    No. Regain   Dr. Bourn   Mrs. Fishman	2012 1/20/44 (030 1/20/4
Ma Paris N	13	STENOGRAPHERS: Miss Whorley	
NATIONAL	1-26-44 ELK REFUGE NARRAT:		
	R. SALYER  RS. WOODIN  R. ELMER  RS. GARVIN  R. DUMONT  ECTION OF CPERATI  Ar. Krummes  Mr. Gustafson  Miss Baum  Mrs. Kricun  ECTION OF LAND MA  Mr. Ection  Mr. Agreeite  National	R. SALYER  RS. WOODIN  R. ELMER  RS. GARVIN  R. DUMONT  ECTION OF CPERATIONS:  Mr. Gustafson  Miss Baum  Mrs. Kricun  ECTION OF LAND MANAGEMENT:  Mr. Accession  National ELK REFUGE NARRAT	R. SALYER  RS. WOODIN  R. EIMER  RS. GARVIN  R. DUMONT  ECTION OF CPERATIONS:  SECTION OF ERA:  Mr. Regan  Mr. Gustafson  Mrs. Kricun  ECTION OF LAND MANAGEMENT:  STENOGRAPHERS:  Miss Whorley  Mr. Acc.

Return to: Habitat Improvement

#### NATIONAL ELK REFUGE

Jackson, Wyoming. January 7, 1944.

Regional Director,
Fish and Wildlife Service,
P. O. Box 1306,
Albuquerque, New Mexico.

Dear Sir:

Attached is my narrative report for the period ending December 31.

In studying the NR Forms it does not seem to me that the other forms to be furnished and attached to the narrative report for the period ending December 31 comply to this refuge.

I will, however, appreciate any criticism on the contents of the report or any comments that will be helpful toward bettering future narrative reports from this refuge.

Tours very truly,

Almer P. Nelson
Refuge Manager.

B. S. FISH & WILDLIST SERVICE
REGIONAL OFFICE
A JAN 10 1244
RECEIVED
ALBUQUERQUE, N. MEX.

Jackson, Wyoming. January'7, 1964.

Regional Director,
Fish and Wilding Service,
P. C. Tax 1505,
Albuquerque, New Maxico.

Tear Sir:

Attached is my narrative report for the pariod anding December 31.

In studying the MR Forms to deep in sent actions of the the the other forms to be furnished and attached to the name tive report for the period anding December 51 comply to the falls refuge.

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Almer P. Melson Hefuge Manager.



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#### National Elk Refuge

September, October, November, December

#### 1943

#### I. GENERAL

A. Weather Conditions. The weather report is taken from the records of the Teton National Forest headquarters located on the southwest corner of the Refuge, one half mile from Refuge headquarters.

	Snowfall	Precipitation	Maximum Temp.	Minimum Temp.
Sept.	•0	0.15	82	16
Oct.	4.0	1.75	78	10
Nov.	1.5	0.12	56	4
Dec.	2.0	•38	50	-11
Tota	1 7.5	2.40		

A year ago for the same period there was 58.1 inches of snow-fall with a precipitation of 7.81 inches, while in 1941 the precipitation for the same period was 5.49 inches.

## Total for the Year, 1943.

Snowfall	Precipitation	Maximum Temp.	Minimum Temp.
68.6	13.40	89	-34

Total precipitation for the year of 1942 was 15.70 inches.

The first snowfall on the Refuge came on October 18 and during the storm from 15 to 18 inches of snow fell in the surrounding high mountains, while the greatest depth on the Refuge did not exceed 4 inches, and melted almost as fast as it fell. Fairly warm weather following the storm also melted much of the snow in the high mountains, where it receded to a shallow depth. At the end of December there was only a skift of snow on our meadow lands. On the Teton Pass and Twogwotee Pass roads two feet of snow is reported in late December.

- B. Water Conditions. The unusually high water level on our meadow lands during the irrigation period gradually receded until toward December, when the water in the Flat Creek marsh again reached its normal level.
- Fires. No fire of any kind occurred on the Refuge during this period. By cutting over a much larger acreage of our hay fields this season, it greatly lessened the fire hazard in the hay fields where the crops withered and dried following the discontinuation of the irrigation of the meadow lands.

#### II. WILDLIFE

### A. Migratory Birds.

- 1. Populations and Behavior. From the standpoint of the sportsman, as well as from my own observations, there were fewer waterfowl that used the Jackson Hole valley for a feeding and resting ground during the fall migration than there were a year ago. There were perhaps fully as many waterfowl hunters in the region the past season as there were a year ago, but the opinion among the hunters is that there were about one-third less waterfowl bagged than there were a year ago.
- 2. Food and Cover. The twenty acres of land that was prepared and seeded to wheat and barley in the spring, near the margin of the Flat Creek marsh, attained a growth of about two feet, but a heavy frost late in August froze the grain before it ripened, and as a result it offered little feed for the waterfowl on the Refuge. On a forty-acre grain stubble near Quarters No. 2, from which ripe grain had been cut for threshing, there was a quantity of shelled out grain on the ground. This grain field was used extensively as a feeding ground from the time the grain was cut early in September until late November by about 800 Canada geese and approximately 1,000 ducks. When not feeding on the grain field, the birds remained largely in the Flat Creek marsh on the Refuge. Three trumpeter swan were frequently seen in the Flat Creek marsh until toward the forepart of December, when Flat Creek and the became frozen. Nine other swan also came into the Flat Creek marsh in November and remained about ten days. These were most likely whistling swan. A few snow geese were also seen on the marsh in November.

Seven sandhill cranes remained near the marsh area until late November On October 18, seventeen sandhill cranes on their southern flight came over the Refuge and circled high over the marsh area for about thirty minutes and then turned southward.

B. Upland Game Birds. From my observations during the period, I have little to offer on these birds. A few sage hens, and only one sharp-tailed grouse were seen.

#### C. Big Game Animals.

1. Populations and Behavior. The population and behavior of the big game animals on the Refuge can not well be discussed under this heading by omitting the hunting, as the hunting is a contributing factor to the population and behavior. Therefore, I shall deviate slightly from the outline to be followed as shown in the manual.

In order to rid the Refuge of approximately 500 elk which had formed a habit of remaining on the north portion of the Refuge during the summer months, and to reserve the feed consumed by the animals for winter use, the north portion of the Refuge was, under Secretary's order, declared open to elk hunting conforming with the open season prescribed by the State Game Commission of Wyoming.

Ordinarily, the big game season in the Jackson Hole region opens on September 15, but in an effort by the State Game Department to reduce the elk herd, the season this year was declared open on September 5 and scheduled to close on October 31. Toward the close of October the Game Commission extended the season to November 15. These dates also applied to the open hunting season on the north portion of the Refuge.

In order to control the hunters hunting on the Refuge area, the State Department issued permits limiting the number of hunters to 25 daily, to kill on the north portion of the Refuge. In the first day of hunting, however, nearly all of the hunters had secured their elk by noon, and a few additional hunters were permitted to enter in the afternoon. A check-up foldowing the first day's hunting showed a total kill of 31 elk, and by the end of the first week a total of 89 elk had been taken by the hunters from the Refuge area. By the end of the ninth day, the bulk of the elk that were in the area had been forced out by the hunters and had been driven into the National Forest on the east side of the Refuge. By that time the hunters began to lose interest, and from then until the migration of the elk herd began, only a few hunters requested permission to enter. The final check-up before the migration of the elk started coming from the north, showed a total kill of 107 elk taken from that portion of the Refuge open to hunting -or about one-fifth the number that was on the Refuge during the summer. What effect the hunt will have on the elk remaining in the same area next summer remains to be seen.

Should we learn that the elk are again in that area next summer, I consider it will be a policy of good game management to again recommend an open season on the same area; or an open season for a short period for a number of seasons, as conditions may justify.

The snow storm that began on October 13 and prevailed for five days was not severe, but there was sufficient snow fall in the higher elevations to begin the migration of a portion of the elk herds from their summer ranges to the Elk Refuge. The first elk to arrive on the Refuge, which came from the north portion of the valley, made their appearance on the morning of the twenty-second day of October, with about 150 in two bands. We were certain then that the fall migration had begun. From then on the weather was most changeable--stormy weather with snow flurries, fog, warm days, and occasional clear, cold nights. The elk continued to dribble through from the north--not in large numbers--but by the time the

hunting season closed on November 15, I estimated there were 3,000 elk which had struggled through the firing lines and had reached the safety zone of the Elk Refuge. Following the close of the season, the elk continued their migration from the north in small bands, and by the end of December I estimate between 5,000 and 6,000 elk on the refuge area.

As soon as the people learned that the elk had begun their migration, a large influx of hunters began arriving in the valley. In order for the hunters to reach the National Forest on the east side of the refuge, it was necessary for hunters desiring to hunt that area to travel the main refuge road; and to control the hunters permitted to hunt on the north portion of the Refuge, after the migration of the elk began, a checking station was installed at the FlattCreek bridge near Quarters No. 6, where the road entered the open hunting area of the Refuge, while all other roads entering the area were closed to travel. A State Warden was stationed at the check station, where he issued permits to 50 hunters daily for hunting on the Refuge, and checked the hunters coming out. One additional State Warden and two regular employees of this Refuge were detailed to patrol the open and closed portions of the Refuge. Even with four men patrolling the field, we experienced difficulty in controlling the hunters, due largely to all of the National Forest on the east side being open to all hunters, and hunters not being familiar with boundary lines.

Warren J. Allred of the State Game Department visited the Refuge on December 24 and furnished information on the kill of elk and other big game in the Jackson Hole region, as compiled from the reports from the four checking stations leading out of the Jackson Hole region, which were maintained by the State Department from the beginning of the hunting season until three days following the close of the season.

This information is as follows:

Name of Stations and Killed Checked

	Dubois	Hoback	Snake River	Teton Pass	Kendall	Total
Elk						
Bulls	538	493	167	168	29	1395
Calves	391	431	88	46	7	963
Cows	878	942	335	210	19	2384
	1807	1866	586 -	424	55	4742
		Estina	ated local kill			800 /
				Grand Tot	al	5542 -
Deer						
Does	23	25	3	23	8	82
Fawn	7	6	1	5	1	20
Bucks	29	21	6	20	6	82
	59	52	10	48	15	184

	Dubois	Но	back	Sna ke	River	Teton	Pass	Ken da	11	Total	
Moose Budla Cows	38		6			20		7		81 8 89	
Bear	12		8			10	)	4		34	

The information offered by Mr. Allred also shows that there were 2,254 resident hunters and 94 non-resident hunters who were not successful in securing game, which would indicate—not including local hunters—that there were approximately 7080 big game hunters in the field. From the successful hunters, 915 are listed as non-residents.

Information is also furnished from the check-stations as to the locality where the elk kill was made. This information is, I believe, complete with the exception of the local kill of an estimated 800 omitted from the following tabulation:

Locality	Kill	Locality	Kill
*Pacific Creek	88	Slate Creek	76
*Lava Creek	73	N.F.Buffalo	364
*Box Creek	75	S.F.Buffalo	32
*Spread Creek	614	Soda Fork Creek	32
*Ditch Creek	347	Yellowstone	4
*Horse-Tail Creek	27	Black Rook	103
*Antelope Flats	1217	Fish Creek	48
*Turpin Creek	125	Upper Grovent	84
*Lower Grovont	220	South of Jackson	264
*Flat and Cache Creeks	350		1007
*Elk Refuge	599		
	3735		

\*These elk were taken in localities principally within the scope of the migration route from within the Teton State Game Preserve to, and including, the Elk Refuge, while the kill listed in the other localities can, I consider, rightfully belong to elk that do not winter within the Elk Refuge. Presuming that the 3,735 elk from a total of 4,742 elk that were checked through the checking stations were taken from the Elk Refuge herd, we can say that 79 percent of the kill in the Jackson Hole region was from the Elk Refuge herd. There is no accurate information as to the number of elk killed by residents of the Jackson Hole valley, as there are no means of recording the kill, although the estimated local kill has been given at 800 animals. Adding this figure to the 4,742 check-kill will give a total of 5,542 elk as taken from the Jackson Hole elk herd the past hunting season. Prorating the estimated 800 kill, indications are that 4,453 elk were taken from the Elk Refuge herd.

Even though there are only between 5,000 and 6,000 elk on the Refuge at this time this does not necessarily mean that the elk

Refuge National Elk Refuge,

Year 1945

IL Species	Density	Young Produced	R	move	4 ls			5 Losses		roductions	7 Estimates	Sex Ratio
Common   Cover type   Common   Cover type   Common   Cover type   Cove	Makes	Hunting	For res	sold	K.	Reation	Disease and Winter Losses	ber	Source	Total Refuge Pop. as of Dec. 31	Per centage 23.3% bulls 77.7% cows	
Deer mule		Approx 23% of total	Section (control of the control of t	$\mu\circ \kappa$	HONE	ноне	M Chformation	1175	0		Approx. 5,500	
			e de la companya del companya de la companya de la companya del companya de la companya del la companya de la c									

Year 1993 Bofuge Maxional Edit Beruse, 11 Young Ereduced Donasty sessal Species restablished Estimates 文章 Office Colde particel 20 Drocose Drocose to sever In Vi red Memo 28,38 Rafuge to as .got 37.77 Dec. Sl MORE NONE HIE Approx 25% of Ap.rox. AMAP 2 NOR 10 2.0 10 Leged COMMUNICATIONS PISH AND BY PECEL Pepr J ofun Mecae A refuge herd has been reduced to the desired number. Since we have had an unusually light snowfall, and elk migrations from the higher elevations is conditioned largely by snow conditions, I can not give an estimate that can be used with any degree of accuracy, on the number of elk remaining in the Jackson Hole elk herd.

Following the hunting season, many conflicting stories have been heard. Many are of the opinion that because of the losses among the herd last winter, and the kill this season, the herd is greatly reduced. I have recently been informed by residents of the upper Gros Ventre that in December there were approximately 1,000 elk seen in that region, and other small bands of elk have been reported in other regions.

To serve as a measure for making proper recommendation for a further reduction of the elk herd, it is most important that a census of the Jackson Hole elk herd be taken, providing conditions become at all favorable for such an undertaking.

When the elk began congregating on the Refuge in the fall, they gathered near the central part of the closed portion of the area. Here they continued to multiply and remained closely cuddled, at times milling, as though in much fear. The firing lines through which they had come in reaching the safety zone seemed to have taught them; they knew not where they were safe, and only at night after darkness did they venture out over the area; then as day began to break they could be seen from many directions hurriedly traveling toward the centre of the Refuge to cuddle for the day. This behavior continued until about the middle of December, when they began to secure a feeling of protection and they gradually began to scatter out on the area. Albert Feuz, who occupies Quarters No. 3, reported on December 19 that about 2,000 of the elk left the meadow lands and went back into the Sheep Creek foothills.

- 2. Food and Cover. There is still an abundance of feed available on the ground for the elk herd. So far, the feed in the Flat Creek marsh area has scarcely been touched. From all present indications, this is going to be one of those winters when very little, if any, artificial feeding will be required to carry the elk on the Refuge through the winter.
- 3. Diseases. The elk appear to be in a healthy condition. A few which have been found dead have died mainly from gunshot wounds. The scab is again noticeable, there being a few bulls in the herd infested with scab mites. This, of course, is not unusual with the elk here.

# D. Fur Animals: Predators and Rodents.

There are a few coyotes on the Refuge which feed principally on elk carcasses of those elk that died early in the season. No badgers have been seen since early in the fall. One small black bear

was seen in an aspen grove on the upper portion of the Refuge during hunting season.

#### E. Predaceous Birds.

Two bald eagles were seen feeding on an elk carcass on December 31, and a few golden eagles have been seen. There are no crows on this Refuge. Ravens are fairly numerous in winter months, with but little variation in number noted from year to year. Magpies are not as plentiful as they were two years ago. A number of our hawks left early in the fall. In December a few rough-legged hawks were seen.

#### III. REFUGE DEVELOPMENT AND MAINTENANCE

### A. Physical Development.

Work on the Refuge has been mainly general maintenance. Following the hay harvest all hay sheds which contained hay in storage were paneled against elk depredations. The main irrigation ditches, flumes, headgates and bridges were repaired. Fire guards were maintained; fence material from old interior fences was salvaged. About sixty truck loads of gravel from a gravel pile near headquarters was hauled on to a soft road-way leading into the field near Quarters No. 2. Much repair work has been required in maintaining trucks, tractors and other equipment.

# B. Plantings.

1. Cultivated Crops. Our alfalfa crop was about 50 percent short of a normal yield. Although we had an abundance of irrigation water, the cold and, at times, freezing weather until late June greatly retarded its growth. The native hay plants fared better, since by the middle of September the forage on such meadow lands had obtained a normal growth.

From one of our grain fields, we threshed 1,280 bushels of oats and have on hand about 35 tons of straw. The oats will be used for seed and feed for the work horses.

# C. Hay Harvest.

This season the hay harvest began on July 13, and the baling of the hay from the meadow lands ended on October 2. Due to a scarcity of laborers, we contracted the hauling of the bales from the meadow lands to the storage sheds, and about one-half of the bales produced were stored in this way—the other part being hauled by our own equipment, with local labor. The contractor finished his part of the hauling on October 15.

During the hay harvest, we ran through our three pickup baling machines 34.349 bales. or approximately 1,562 tons. As we had very little rain during the harvest, the hay was placed in the bales in good condition.

Including the hay left over from last winter, we now have in storage about 1,700 tons of baled hay.

The State Game Department purchased 850 tons of hay on the Elk Ranch about 30 miles nor the of Jackson. Seven hundred tons of this hay have been baled and trucked to localities in the valley where it will most likely be needed for elk feed. On request of Game Commissioner W. L. Spicer, permission was granted for the State Department to store a portion of this baled hay in our storage sheds near Quarters No. 2. When they completed their hauling late in December, I was informed by the State Warden that 380 tons of this hay had been placed in our storage sheds. This hay will be used for feeding elk whenever needed.

#### IV. PUBLIC RELATIONS

### A. Refuge Visitors.

Mr. R. O. Gustafson, of Chicago, inspected Refuge equipment on September 19. Messrs. Leo K. Couch, Clarence M. Aldous, D. I. Rasmussen and O. J. Murie of this Service spent November 16 on the Refuge discussing elk problems, and observing elk herd and waterfowl. State Game Commissioners Spicer and Christansen of Wyoming traveled over the Refuge for information on hunting conditions, and Lester Bagley, State Game Warden, spent the afternoon of November 28 here seeking information as to the number of elk on the Refuge.

# B. Fishing.

About six miles of Flat Creek within the Refuge is open to fishing during the months of August and September. Two stiles are set up over the woven wire fence on the west side along the highway for use by fishermen in reaching the stream. The stream is fished fairly well, and some good catches of cut-throat trout-ranging in size from a few ounces to five pounds—are made. No check is made on the number of fishermen, or the number of fish taken during the season. In addition to the cut-throat, there are also a few brook trout, white fish and a number of suckers in the stream,

## C. Violations.

In cooperation with the State Game Warden, during the open elk season on the Refuge the following cases were arraigned before the State Court, with a plea of guilty being entered by each defendant:

	No. of cases	Character of Violation	Fine	Cost	
	3	Hunting without proper Wyoming license	\$10.00 each	\$5.00 each	
	1	Hunting without proper license	\$25.00	\$5.00	
	1	Removing elk without coupon	\$10.00	\$5.00	
	1	Killing two elk	\$10.00	\$5.00	
	1	Killing elk without permit	\$10.00	\$5.00	
	2	Hunting without Red on cap or hat	\$10.00	\$5.00	
	1	Killing elk on closed part			
		of Refuge	\$25.00	\$5.00	
5	1	Hunting elk on closed part			
ì		of Refuge	\$10.00	\$5.00	
	1	Killing buck deer on Refuge	\$20.00	\$5.00	

Albert Feuz, regular employee of this Refuge, with Commission as Deputy State Warden, did the major part of the patrol work on the Refuge, from this Service. Four of the arrests were made by Mr. Feuz, with violations listed as killing elk and hunting on closed part of Refuge, killing buck deer on Refuge, and hunting without Wyoming license. During the season Mr. Feuz also recovered ll elk that were either badly wounded, or killed and unclaimed; one confiscated elk and one buck deer, all of which were turned over to the State Game Department. The 12 elk and one deer taken by Feuz were sold at public auction and netted the State Department \$405.00.

Respectfully submitted,

January 7, 1944

Almer P. Nelson,

Refuge Manager.

Approved:

JAMman 1/14/44

Forms NR-1

Refuge: National Elk Refuge, Jackson, Wyoming. October to December, 1943

(1) Species	First	(2) Observed	(3) Became Common		centration (4)	Last Ob	(5) served	Young	Produced	(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Brood Obsvd.	Avg.mated Size Total	Number Using Refuge
Mallards Pintail Fadwall Feal Greenwing Feal Bluewing Foose-Canada Swan Trumpeter Swan Whistling Fandhill Crane		Nov.10 )	Sept.	Oct.			) Nov. 20 )			700 200 50 25 25 800 3 9
				PREDACEO	JS BIRDS					
tavens dagpies nawk, Eagles										200 100 30 6

Remarks: A few mallards and pintail remain on the area during the winter months.

Information is not available on dates pertaining to predaceous birds and peak concentrations.

Form MR-2

Refuge National Elk Refuge, Jackson, Wyoming. Months of October-December, 1943

(1) Species	(2 ) Density	Young Produced	(4) Sex Ratio	A5) Removals	(6) Tota 1	(7) Remarks
Common Name )	Cover types; total) acreage of habitat)		}		) Estimated ) number ) using ) Refuge	
Sage Hens ) Sharp-tailed ) Grouse					30	) Most likely this number ) has been on the Refuge ) during the summer ) months.
Grouse )			}		) 5	) months.

Refuge National Elk Refuge, Jackson, Wyoming

Year 194

	TALK TAN	Sport Fishing			l Fishing	Rest	ocking	Number re-	
Species	Relative Abundance	Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	moved for Restocking	
Cutthroat Brook White fish Suckers	above average below average	no record	no record	none		none		none	
								5//	
								1	
					2				

REMARKS: Flat Creek, which flows through this Refuge for a distance of about nine miles, is considered one of the best fly fishing streams in the Jackson's Hole region. The lower two and one half mile of the stream flowing through the march area is closed to fishing throughout the year, while the balance of the stream on the refuge is open to fishing August and September. Ho check is taken on number of fishermen or number of fish taken. During the two months of open season several good eatches of outthroat trout are taken.

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		mmorcial Fishing of Founds Fmits Taken		

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# CULTIVATED CROPS

Refuge National Elk, Mackson, Wyo. Year 194.3.

Permittee		Unit	18 8 8 8 8	Ave.	Permittee's		Government's Share or Return				
If farmed by refuge	Permit	or	Crops	Yield	Sha	are	Harv	ested	Unhar	rested	Compensatory
ersonnel, so indicate)	No.	Loca-	Grown	per	B	Bu.Har-		1 1 0			Services, or
a 4 9 1 1	2 6 8 9	tion	9 2 8 2 2 7	Acre	Acres	vested	Acres	Bu.	Acres	Bu.	Cash Revenue
By Refuge	8	8 Tracts on Refuge	oats oats sheat- barley	1 ton 32 bu	the svers	A sirmetal inte ta trong se	235 40 25	235 T 280 bu	Aller Sales	frozen	8-RW NF
Woods to the second sec	of bu	0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	alfalfa mixed clover-	3/4 ta		urdert.	275	732 T	125		114 ps 105.2 106.50
	Tedmut		timothy native hay			Stratem spratem	300	375 T 220 T	100		LED CE MELSKI
	ada To	CTARE COLOR	person to be the value of the v	pould by		To outl	30.00				COLLIAN WAS LOS :
THE THE PART OF TH	of and the	Legalies Legalies Legalies Sistem	DOWNER OF THE CALL	Daly r	T - eng	STETAGE STETAG					aborr a
A COOPER	in shift	Special of the second of the s	orob yu eq anop meq to	Space -	A Ted bi	by asch	THE PERSON			Decame	Trops.

Summary of Crops Grown: Crop	Acreage Permittee's Share Acres Bushels		Government Harvested	Total Revenue	
· · · · · · · · · · · · · · · · · · ·	A RELEASE		Acres Bu.	Acres Bu.	\$
Alfalfa mix	1100		975	125	
Clover-Timothy	400	3 0 4 0	300	100	
Native	900		930	620	
Grain	300		275 1280	25	
		,,			

# DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

<u>Permittee</u> - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the <u>Permittee</u> column.

Permit No. - List the number of the Special Use Permit issued to the individual.

<u>Use or Location</u> - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

<u>Crops Grown</u> - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. <u>Unharvested</u> - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the <u>Bushels</u> column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If this permit is on a fee basis, the total cash revenue received by the Service.

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