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FORT NIOBRARA NATIONAL WILDLIFE REFUGE
Valentine, Nebraska

*revised this copy
JMS 3/10/78*

ANNUAL NARRATIVE REPORT
Calendar Year 1977

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR



Staff photo 1, 11, 5, 7, 2, 6, 3, 9, 4, 8, 10 in relation to list below.

Personnel

1.	Robert M. Ellis	Refuge Manager	GS-12	PFT	xxx
2.	Leonard L. McDaniel	Asst. Refuge Mgr. (EOD 10-10-77)	GS-9	PFT	x
3.	Forrest W. Brooks	Adm. Assistant	GS-7	PFT	xxx
4.	Larry E. Vaughn	Biological Tech.	GS-7	PFT	x
5.	Arthur Aufdengarten	Auto Worker	WG-10	PFT	x
6.	James E. Vaughn	Maintenance Worker (Retired 11-31-77)	WG-8	PFT	xx
7.	David Kime	Maintenance Worker	WG-6	PFT	x
8.	Ivan Wiley	Maintenance Worker	WG-8	PFT	xx
9.	C. Randall Arment	Refuge Mgr.(trainee) (EOD - 8-14-77)	GS-5	PFT	x
10.	Janice Edwards	Clerk-typist	GS-3	PPT	xxx
11.	Mark Kniefel	Laborer (EOD 8-16-77 Terminated 12-9-77)	WG-1	Temporary	xx

x Primary work site Valentine NWR, secondary Fort Niobrara NWR
 xx Primary work site Fort Niobrara NWR, secondary Valentine NWR
 xxx Primary work site Complex Headquarters

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Personnel

(continued from first page)

12.	Robert E. Nagel	Asst. Refuge Mgr.	GS-9	PFT	x
		(Transferred 5-22-77)			
13.	James D. Spence	Maintenance Worker	WG-8	PFT	xx
		(Transferred 8-13-77)			
14.	William L. Turner	Biological Aid	GS-4	Temporary	xx
		(EOD 4-18-77 Terminated 11-19-77)			
15.	Galen R. Sherman	Laborer	WG-1	Temporary	x
		(EOD 5-23-77 Terminated 6-21-77)			
16.	Robert R. Shelbourn	Laborer	WG-1	Temporary	x
		(EOD 5-23-77 Terminated 6-21-77)			
17.	Robert C. Stoeger	Carpenter Worker	WG-7	Temporary	xx
		(EOD 9-6-77 Terminated 9-14-77)			
18.	Dean Peed	Laborer	WG-1	Temporary	xx
		(EOD 9-6-77 Terminated 9-14-77)			

x Primary work site Valentine NWR, secondary Fort Niobrara NWR
 xx Primary work site Fort Niobrara NWR, secondary Valentine NWR
 xxx Primary work site Complex Headquarters

Review and Approvals

Submitted by

Date

3-7-78

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Date

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Refuge

Regional Office

Date

David J. Wilson 6/9/78

Complex Office

Robert M. Ellis

FORT NIOBRARA N.W.R.

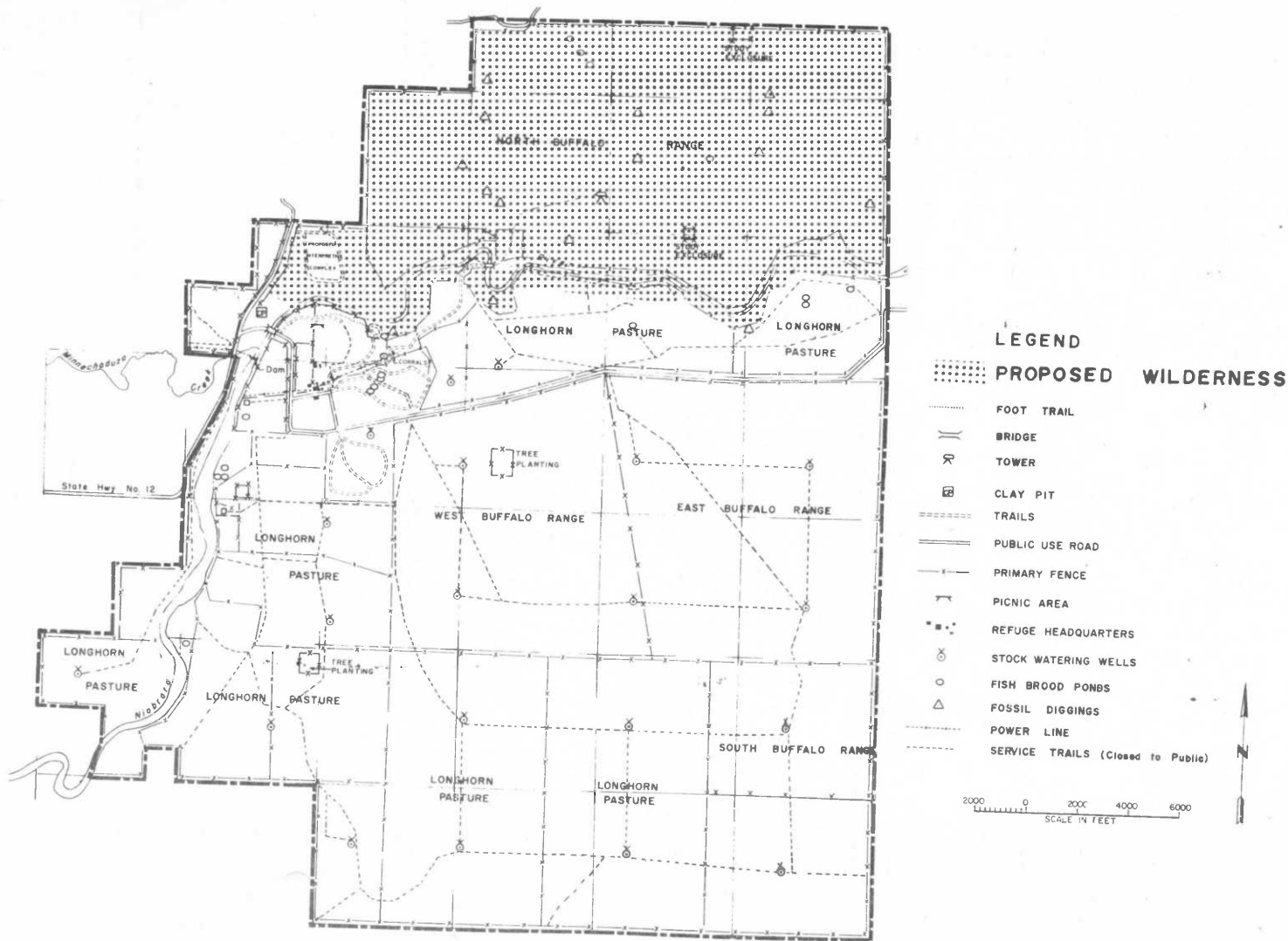


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I. GENERAL

A. Introduction

Fort Niobrara Refuge is located five miles east of Valentine, Nebraska in Cherry County. The refuge consists of 19,123 acres of highlands and rolling plains, traversed by the Niobrara River. It is managed as part of a Complex with Valentine National Wildlife Refuge.

B. Climatic and Habitat Conditions

1. Weather

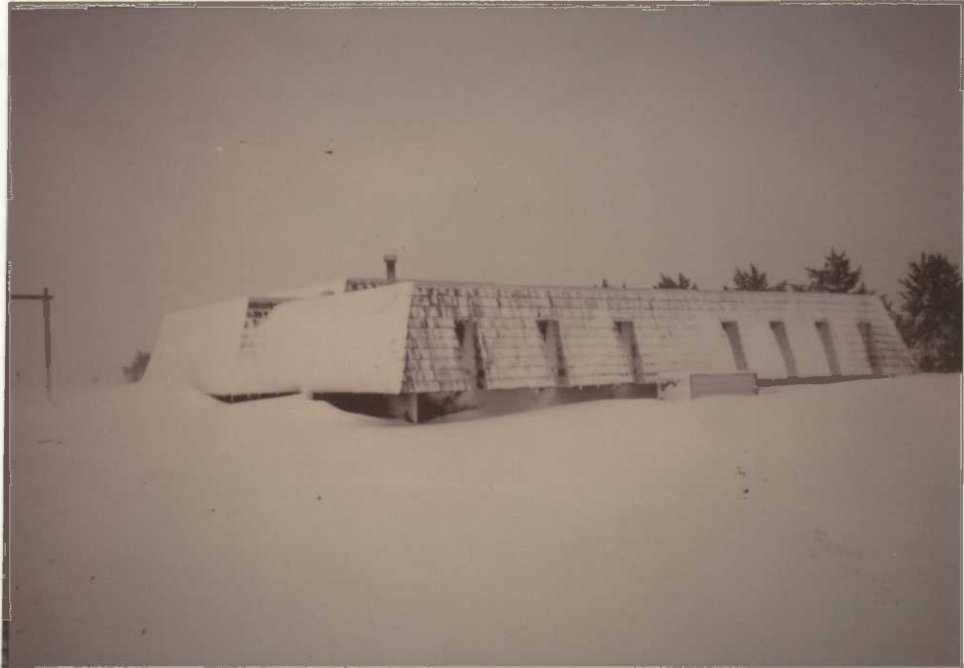
In 1976 we received 11.21 inches of precipitation. That was the third year of below normal moisture. The range on most ranches around the refuge was starting to show serious deterioration. This year the moisture cycle did a reverse and by the end of 1977 we had received 32.68 inches of moisture; most of the precipitation was received in the spring and summer months. The total for 1974, 75 and 76 was 32.98 inches, so 1977 nearly equaled the previous three year's total moisture.

The year started out cold and dry during the months of January and February.



The first blizzard in March surrounded our vehicles and in the next storm this Dodge pickup disappeared. (FTN 3-13-77 & RME)

On March 11, a rain and snow storm completely paralyzed the western half of Nebraska. The Valentine area received one inch of rain, then the temperature dropped just 2° and 15 inches of snow was whipped over the area by 60 mph winds. All roads were closed in the area and many rural residences were without electrical and telephone service for several days.



During the March 11 storm, the windbreak north of the visitor's center, prevented the Center from being totally covered.
(FTN 3-11-77 8 RME)

Although November and December were dry and cool, the precipitation received earlier restored our subsoil moisture to normal levels. The excellent stands of vegetation should help hold any precipitation received as snow this winter.

2. Habitat

While we didn't expect our grasslands to fully recover from three years of drought in one year, it was amazing the amount of growth achieved during the year. Meadow areas that had produced 50 stacks of hay in 1976, produced 100 stacks this year and also had excellent regrowth before freeze down.

Although a late frost did reduce some of the wild plum production, there was an abundant crop of chokecherry and sandcherries. The stands of sand bluestem and prairie sandreed were over four feet tall on most sites.

C. Land Acquisition

1. Fee Title

Nothing to report.

2. Easements

Nothing to report.

3. Other

Nothing to report.

D. System Status

1. Objectives

Under the current funding level we were able to fully meet the buffalo, elk and longhorn cattle management objectives. The public use programs were not up to Service standards. Visitors continue to use the refuge in increasing numbers but our facilities such as tour, museum and information systems are deteriorating or non-existent. All refuge activities are in compliance with approved objectives. As funding is approved under BLHP, we will achieve the quality in activities required by Service standards.

2. Funding

The following table represents the man-days, operation and maintenance funds and special funds programmed for the Fort Niobrara-Valentine NWR Complex.

Fiscal Year	Total Man-Days	Permanent Man-Days	O&M Funds	Special Funds	
74	2,076	1,950	\$137,936	\$21,095	Lake renovation equipment for Valentine.
				26,731	Grazing facilities materials for Valentine.
				4,351	Interpretative and Administrative Center. at Fort Niobrara.
				<u>\$52,177</u>	
75	2,638	2,184	\$154,258	\$10,000	Upgrade water and electrical systems on both refuges.
				<u>\$10,000</u>	
76	2,638	2,418	\$150,347	\$10,000	Upgrade electrical systems on both refuges.
				10,000	Rehab big game fence at Fort Niobrara.
				30,000	Purchase posts for big game fence at Ft. Niobrara.
				<u>26,000</u>	YCC Camp
				<u>\$76,000</u>	
77	2,573	3,416	\$177,286	\$48,500	YCC Camp
				9,800	BLHP Purchase fire equipment, horse, saddle, and horse trailer for Valentine.
				3,900	BLHP Insulate ceiling and outside walls of Q-1 & 2 at Fort Niobrara.
				<u>\$62,200</u>	
78	3,331	3,331	\$234,200	\$48,500	YCC Camp
				30,400	BLHP Construct exhibits and signs at Ft. Niobrara.
				8,100	BLHP Conduct an Archeological Survey of Ft. Niobrara.
				67,600	BLHP Repair buildings and 12 miles of road, replace oil storage sheds and radio at Valentine.
				65,700	BLHP Replace Q-3 water system and electrical service at Fort Niobrara.
				27,500	BLHP Purchase airboat and backhoe-loader for Valentine.
				19,000	Renovate Pelican Lake on Valentine.
				<u>\$266,800</u>	

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Under BLHP Project RPS-15 FY-77, residences Q-1 and Q-2 had insulation poured and blown into the ceiling and outside walls, two new storm windows and a new storm door were installed on Q-1.

A new leach field and lift station were constructed for Q-2 and 3. This project was accomplished under contract No. 14-16-006-3155. The contractor for the project was Tyndall Plumbing Company, 1104 Flack Avenue, Alliance, Nebraska 69301.

B. Maintenance

Routine maintenance was performed by the regular maintenance crew on 48 miles of big game fence, 36 miles of six wire stock fence, big game corrals, sale arena, five miles of tour road, 20 windmill systems, picnic area, two shops, three residences, horse barn, granary, roadgrader, D-7 tractor, W-9 tractor, hay fork and sled, jeep, 6x6 fire truck, stock trailer and three 4-wheel drive pickups.



Cleaning this autogate in the big game exhibition pasture would have been routine if our tractor loader was operational.
(PTN 3-13-77 35 RME)



The snow was removed from the autogate to the point that big game animals would ordinarily not attempt to cross. (FTN 3-13-77 35 RME)



Administrative Assistant Brooks surveying some of the seven foot high big game fence around the east buffalo range. (FTN 3-13-77 15 RME)



The fence suffered some damage but it would be flat if the snow had not been removed. (FTN 3-13-77 27 RME)

Many minor rehab projects and some maintenance were accomplished by a 30 person YCC crew assigned to the refuge complex. These projects included erosion control on the Fort Falls foot trail, one coat of paint on the horse barn and corrals, removal of dump materials from the Wilderness Area, painted the sale office, restrooms, and slaughter house, constructed a horse trail into a remote section of pasture #25, and put one coat of red wood stain on half of the big game corrals.



A YCC enrollee clearing brush from a horse trail that was originally constructed by the CCC. (FTN 6-22-77 18 RME)



This blond YCC enrollee became totally involved in putting redwood stain on the big game corrals. (FTN 8-2-77 34 RME)



The red wood stain treatment was given to corrals, vegetation and enrollees. This project will be completed in 1978.
(FTN 8-2-77 32 RME)



In 1976, the YCC enrollees resurfaced the Fort Falls foot trail with clay. This lasted until this spring. This summer the trail was resurfaced with oil mix.
(FTN 6-27-77 7 RME)

C. Wildfire

The Service has an agreement with the Valentine Rural Fire Protection District in which we assist them in fighting fires off Service lands and they in turn will assist us in controlling wildfires on the refuge. Regardless of the location of fires and resources for suppression, neither agency will seek reimbursement from the other.

We also have an agreement with the U.S. Forest Service; under this agreement the agencies will seek reimbursement for expenses incurred depending on whose land the fire is located.

There were no fires observed on the refuge during the year. Our crews and equipment were on stand-by call for several off-refuge fires but we were not dispatched to these fires.

III. HABITAT MANAGEMENT

A. Croplands

Nothing to report.

B. Grasslands

1. Grazing and Haying

About 18,138 acres were included in the grassland program this year. Most of the grazing units were included in a rest rotation system.



During the severe winter, the longhorn brood cows were fed grass hay twice a week. (FTN 3-14-77 1 RME)

About 6,059 AUM's were utilized by the herds of buffalo, elk and Texas longhorn cattle and other animals. In addition to the grass resource of Fort Niobrara, 624 tons of native grass hay were imported from Valentine refuge as part of four cooperative farming agreements. This hay will be used during the winter of 1978.

Of the 378 tons of native hay imported in 1976, about 320 tons were fed to big game animals in 1977. This represents 960 AUM's that were utilized in addition to the 5,099 AUM's used by grazing. There were 9,792 AUM's available for grazing, and big game animals used 52.1 percent. There was 1,134 AUM's available in hay supplement and 84.6 percent was used. In the total program, about 55.5 percent of total available AUM's were utilized.

FORAGE UTILIZATION 1977

Unit	Acres	Available AUM's	Buffalo	Longhorn	Antelope	Elk	Horse	Total AUM	% AUM Used
1	3828	1664	1356	16				1373	83
11	100	106		49				49	46
10	206	103		12				12	12
12-13	213	99					99	99	100
16A	700	333		159			24	183	55
16B	345	147		107				107	73
19	65	19		19				19	100
21	57	16		16				16	100
24	101	50						0	0
25	212	71		71				71	100
27	403	196	76	60	7	30		173	88
28A	2077	1038	537	164		74		775	75
28B	2326	1103	373	15		62		450	41
29	446	222						0	0
30	523	258		60				60	88
31A	133	40						0	0
31	338	197		69				69	35
32	542	329		80				80	24
33	480	336		139				139	41
34	789	552		77				77	14
35	789	552		308				308	56
36	1493	1045	392	37				429	41
37	320	160		30				30	19
38	826	578		581				581	101
39	826	578						0	0
Sub-									
total	18,138	9792	2734	2182	7	166	123	5099	52.1
Hay	378 T.	1134		960				960	84.6
TOTAL		10,926	2,734	3,142	7	166	123	6,059	55.5

2. Weed Control

About 10 acres of puncturevine (Tiebelus terrestris) and field bindweed (Convolvulus arvensis) were sprayed with 2, 4-D at a rate of 4 pounds per acre with a water carrier. Most of this weed control occurred along the service roads and around the corrals. This work is required by the Cherry County weed control district.

C. Wetlands

Nothing to report.

D. Forestlands

Nothing to report.

E. Other Habitat

The Cherry County road maintenance crews used about 50 yards of clay from the refuge clay pit east of Cornell bridge. This material was used to repair the county roads that traverse the refuge.



Would you believe there is a horse and rider under that hat in the chuck hole? (FTN 5-27-77 18 RME)

F. Wilderness and Special Areas

The YCC enrollees nearly completed the removal of old fence and other junk that were scattered in the canyons of the Wilderness Area. The steel tower that originally was a fire observation post is the only major item in the area that is now scheduled to be removed.

The management plan for the Fort Niobrara Wilderness should be prepared in 1978. It was originally scheduled for 1977 but was delayed due to scheduling conflict with the longhorn cattle management program.

G. Easements for Waterfowl Management

Nothing to report.

IV. WILDLIFE

A. Endangered and/or Threatened Species

Nothing to report.

B. Migratory Birds

1. Waterfowl

The duck population continues a normal cycle with many migrants using the hatchery ponds in the exhibition pasture and the beaver ponds in the Wilderness Area. The summer population was less than 100 birds. The winter population consisting mostly of mallards and a few goldeneye sought the ice free spring ponds in the exhibition pasture during the real severe weather. This population varied between 500 - 2,000 birds.

A two funnel box trap was set near one of the springs in the exhibition pasture on 1-5-77. This trap produced 96 unbanded mallards on 1-06-77; then the unbanded catch rate rapidly dropped below the retrap rate of newly banded birds. Trapping was discontinued on 3-07-77. A total of 209 mallards were trapped, banded and released.

The five pinioned Canada geese in the big game exhibition pasture produced one brood of five goslings of which two reached flying stage and migrated this fall.

2. Marsh and Water Birds

By mid summer, five species in this group were using the refuge ponds and the Niobrara River. They were pied-billed grebes, western grebes, American bittern, great blue heron and black-crowned night heron. All these species were observed most

frequently on the beaver ponds in the Wilderness Area.

3. Shorebirds, Gulls, Terns and Allied Species

During the late March and April snow storms, the killdeer were on the refuge attempting to set up their nesting sites.

4. Raptors

The peak population of eagles occurred in February, we observed six golden eagles and four bald eagles. The golden eagles were observed over all portions of the refuge and the bald eagles usually were on or near the Niobrara River. No dead or injured eagles were located this year.

5. Other Migratory Birds

Nothing to report.

C. Mammals and Non-Migratory Birds

1. Game Mammals

a. Buffalo

The objective level for the buffalo herd has been set at 225 animals after the fall disposal program. The following table shows the herd structure as of 1-1-77.

<u>Age</u>	<u>Cows</u>	<u>Bulls</u>	<u>Total</u>
Calf	16	17	33
1	13	17	30
2	10	12	22
3	9	9	18
4	14	8	22
5	12	8	20
6	11	7	18
7	8	10	18
8	9	5	14
9	8	7	15
10	9	2	11
11	1	3	4
12	0	1	1
<hr/>			
TOTAL	120	106	226

The main buffalo herd was wintered in Unit #1, then moved to unit #36 on 3-1-77. Usually, this round-up occurs in early April but the available forage was about 50% below normal, so the herd was moved one month early. Eight horsemen were able to complete the herd transfer to the south buffalo range by 1:30 P.M. Normally, we will leave a few stragglers but this year skill or luck prevailed and all buffalo were removed in the final sweep.



The crew heading back to headquarters after a successful round-up of the buffalo herd in the Wilderness Area.
(FTN 3-1-77 19 RME)

On 4-14-77, four buffalo cows were removed from the main herd and added to the exhibition herd in Unit 27. The first new calves were observed 4-14-77.

The main buffalo herd was moved into the east range (28B) on 6-1-77. By 6-21-77, sixty-one calves were observed in the herd. On 7-19-77, the herd was moved into the west range (28A) where they remained until fall round-up on 9-21-77. During the round-up, the carcasses of two mature bulls were located. They had been gored to death.

During the round-up and culling operations, one bull calf, one yearling bull, one yearling heifer and one two year old heifer were gored to death by older herd bulls.



A yearling buffalo cow was knocked into a watering tank during the culling process. After she was unceremoniously dumped out of the tank, the helping hands were chased up the corral fence. (FIN 9-23-77 17 RME)

On 9-22-77, sixty-six calves were age branded and vaccinated for Hemorrhagic Septicemia, Blackleg and Malignant Edema. After the keeper herd was turned into the north range, three more calves were born so known births for the year was 70. With 91 breeding age females and 70 calves, the production rate was 76.9 percent.

Sixty-two buffalo were selected for disposal by donations to tax-supported organizations and public auction. Three animals were killed before sale or transfer, and three other animals were turned back into the main herd to recover from their injuries. Forty-eight head were sold at public auction on October 5, and eight head were donated to tax-supported organizations. All animals selected for disposal were tested for Brucellosis and T.B. by State Veterinary R.F. Dougherty.

Buffalo Sale - 1977

<u>Age</u>	<u>Cows</u>	<u>Bulls</u>	<u>Total</u>
Calf	21	12	33
2		1	1
7		1	1
8		1	1
10	1	1	2
11	7	1	8
12		2	2
<hr/>			
TOTAL	29	19	48

Summary - 1977 Buffalo Sale

<u>Class</u>	<u>Age</u>	<u>No. Sold</u>	<u>Price Paid</u>	<u>Top Price</u>	<u>Average Price</u>
Bull	Adult	7	\$ 5,775.00	\$950.00	\$825.00
Bull	Calf	12	4,655.00	425.00	388.00
Cow	Adult	8	5,900.00	800.00	738.00
Heifer	Calf	21	10,210.00	550.00	486.00
TOTALS		48	\$26,540.00		

The average price paid in 1976 for 57 head was \$518.68. This year's average was \$552.92 which is a gain of \$34.24. About 500 people attended the sale.

Eight buffalo were donated to tax-supported organizations for breeding and exhibition purposes during the year.

<u>Date</u>	<u>Number</u>	<u>Sex</u>	<u>Age</u>	<u>Organization & Location</u>
9/26	2	Bull	2	U.S. Army, Fort Riley, Kansas
10/14	1	Bull	3	Polk County Conservation Board, Granger, Iowa
10/14	1	Bull	2	Audubon County Conservation Board, Audubon, Iowa
10/14	1	Cow	2	Carroll County Conservation Board, Carroll, Iowa
10/14	1	Bull	1	Mills County Conservation Board, Pacific Junction, Iowa
	1	Cow	2	
TOTAL	8			

At the end of the year, the herd numbered 232 animals, the following table gives the herd composition.

<u>Age</u>	<u>Cows</u>	<u>Bulls</u>	<u>Total</u>
Calf	20	16	36
1	16	15	31
2	10	11	21
3	11	10	21
4	7	9	16
5	13	8	21
6	13	9	22
7	11	6	17
8	9	9	18
9	10	4	14
10	5	7	12
11	1	1	2
12	1		1
<hr/>			
TOTALS	127	105	232

b. Longhorns

At the beginning of the year the herd numbered 269 animals.
The objective level is set at 275.

<u>Age</u>	<u>Cows</u>	<u>Bulls</u>	<u>Steers</u>	<u>Total</u>
9 months	29	6	22	57
21 months	15	3	15	33
33 months	11	2	8	21
Mature	79	7	72	158
<hr/>				
TOTAL	134	18	117	269

Throughout the year, the longhorns are divided into individual herds according to age class and sex. All herds were rotated through a pasture system which promoted excellent range conditions and provide maximum numbers and variety of animals for public viewing and enjoyment.

During the winter season, all the herds received some hay. The bulls and cows received shelled corn during periods of severe winter weather. The weaner calves received a daily

ration of hay and a pound of barley and corn per animal. All the longhorns came through the winter in excellent condition.



After one March snow storm, the drifts in some places reached the top of the seven foot high fence that encloses the longhorn weaner calf pasture. The entire weaner herd moved into the next pasture. This was the only incident of animals escaping from their pasture as a direct result of the snow storms. (FTN 3-14-77 7 RME)

The longhorn brood cows were moved into the calving pasture (19) on 3-18-77 and the first calf was born on 3-21-77. Of the 90 cows in the herd, 86 produced calves. The dry cows were #531, #358, #189 and #452. Cow #469 calved during a blizzard and the calf froze; cow #257 produced an abnormal calf and it was destroyed; cow #41 produced a dead calf. The birth rate was 95.5 percent, in 1976 the birth rate was 94.4 percent. Calving was completed on 5-28-77.

Castrating, branding, and vaccinating was accomplished on 6-10-77. All calves were vaccinated for Blackleg, Malignant Edema and Hemorrhagic Septicemia. In the past, our age brands have been placed on the ribs, this year we were required by Nebraska State brand laws to put our age brand on the right shoulder. The top digit represents the year of birth, the two lower digits represent the birth sequence.

All the cows, two year olds and older, were divided into five herds and each herd put with a bull from June 15 to August 15.

LONGHORN BREEDING SCHEDULE - 1977
June 15 - August 15

Unit #38 BULL #322		Unit #32 BULL #212		Unit #35 BULL #3107		Unit #36 BULL #462		Unit #16A BULL #430	
Cow	Calf	Cow	Calf	Cow	Calf	Cow	Calf	Cow	Calf
021	741	007	771	136	775	134	742	16	786
108	709	106	773	189	DRY	146	760	48	729
109	728	126	769	194	752	167	754	114	713
110	763	132	753	199	778	244	762	137	743
124	718	136	782	206	740	301	772	175	731
181	761	229	777	215	750	325	781	186	774
208	707	246	715	223	710	347	732	187	706
241	768	250	755	226	770	358	ABOR.	219	746
261	711	257	757(D)	232	751	452	DRY	235	702
276	759	345	708	237	747	455	766	294	736
310	722	357	756	281	727	488	744	317	723
339/7	738	403	765	309	719	504/7	H	364	735
372	784	434	758	339	720	505/7	H	384	783
407	717	436	745	395	730	526/7	H	403/7	748
418	733	447	764	402	779	528/7	H	435	716
421	785	477	734	450	701			441	725
461	749			461/7	714			466/7	721
466	726			500	737			473	705
469	704(D)			508	739			498	780
481	724			1839	703			553/7	H
503	712			510/7	H			556/7	H
1830	767			512/7	H				
523/7	H			513/7	H				
531	DRY			516/7	H				
538/7	H			518/7	H				
550/7	H			542/7	H				

TOTALS

26 21 16 15 26 19 15 9 21 19

Total number of cows = 104

Total number of calves = 83

In early June, the main steer herd was moved into Unit 31. This pasture borders the Niobrara and is not fenced from the river. This year the steers refused to stay in Unit 31 and kept crossing the river into Unit 25 which is a winter pasture. The steers finally had to be moved to Unit 28B to prevent misuse of Unit 25.

In 1977, use on Units 31, 31A and 24 was minimum even though they were supposed to be part of the spring rotation grazing system for the steers.

On 8-24-77, all the bachelor bulls were moved from the north pasture (1) to 16A. Bull #3108 was killed by lightning. One of the yearling steers in Unit 11 ran off a cliff during a storm and broke it's right foreleg. This animal was moved to Unit 30 where it is recovering. Bull #673 broke his foreleg while being moved from the north pasture and the leg was amputated at the knee. This animal is recovering. One brood cow #434 died in Unit 34 of unknown causes.

On 9-12-77, the longhorn herds were rounded-up and the surplus animals were selected for disposal. All the brood cows were pregnancy tested as part of the process. Dr. Larry Sinn, DVM tested 104 cows of which 11 were considered as open.

During this fall round-up, all the calves were given a booster shot for Blackleg, Malignant Edema and Hemorrhagic Septicemia.

A total of eighty-two longhorns were disposed of during the year. Cow #41 was donated to the Division of Animal Damage Control to make coyote bait and the rest were sold to the public at auction and donated to tax-supported organizations for exhibition purposes.

All the surplus longhorns, except calves, were tested for T.B. and the breeding age bulls and cows were tested for Brucellosis. On October 5, we sold at auction, seventy-three head of longhorns for a total of \$37,800. The average price in 1976 was \$392.08. This year's average price was \$517.80. The sale was attended by about 500 people.

SUMMARY - 1977 LONGHORN SALE

<u>Class</u>	<u>Age</u>	<u>No. Sold</u>	<u>Price Paid</u>	<u>Top Price</u>	<u>Average Price</u>
Heifer	1 yr.	13	\$10,725.00	\$1,400.00	\$825.00
Cow	Adult	9	6,945.00	1,075.00	772.00
Heifer	Calf	8	4,425.00	675.00	553.00
Bull	1 yr.	2	1,600.00	1,075.00	800.00
Bull	Adult	3	1,460.00	500.00	487.00
Bull	Calf	1	750.00	750.00	750.00
Steer	1 yr.	6	1,480.00	325.00	247.00
Steer	Adult	18	7,140.00	750.00	397.00
Steer	Calf	13	3,275.00	330.00	252.00
		73	\$37,800.00		

Eight longhorn steers were donated to tax-supported organizations for exhibition purposes during the year.

<u>Date</u>	<u>Brand</u>	<u>Sex</u>	<u>Age</u>	<u>Organization and Location</u>				
10/14	609	Steer	1	Corps of Engineers, Fort Peck, Montana				
10/14	604	Steer	1	Corps of Engineers, Fort Peck, Montana				
10/14	662	Steer	1	Theodore Roosevelt National Park, Medora, South Dakota				
10/14	605	Steer	1	"	"	"	"	"
10/14	670	Steer	1	"	"	"	"	"
10/14	428	Steer	3	"	"	"	"	"
10/14	543	Steer	2	"	"	"	"	"
10/14	535	Steer	2	"	"	"	"	"

On November 1, thirty-two heifers, twenty-four steers, and five bulls were weaned and started on a ration of hay, oats and shelled corn.

All the longhorns were in excellent condition at year's end.

TEXAS LONGHORN HERD COMPOSITION 12-31-77

<u>Age</u>	<u>Cows</u>	<u>Bulls</u>	<u>Steers</u>	<u>Total</u>
9 months	32	5	24	61
21 months	16	4	11	31
33 months	15	1	7	23
Mature	79	7	67	153
<hr/>				
TOTAL	142	17	109	268

c. Elk

On 1-1-77, the elk population totaled 40 head; consisting of 4 calves, 23 cows, 3 spike bulls and 10 mature bulls.

The main elk herd moved from 28B to 28A on 4-14-77. A bull and cow were left in 28B, these two were selected for disposal by donation to a County Park.

Most of the calves were born by mid-June. One calf in Unit 27 had a broken right foreleg which now appears mended. A total of ten calves were alive by fall season.

During the rut in September, the mature bull in the exhibition pasture started fighting tourist vehicles. He was removed from the pasture and died of shock.



Maintenance Worker Vaughn preparing to collect a new herd bull for the elk herd in the exhibition pasture.
(FTN-11-7-77 1 RME)



It took two ropes to make a secure catch but this bull will shortly be in the exhibition pasture. (FTW 11-7-77 8 RME)

On 10-12-77, all the young of the year were marked with a yellow tag in their right ear. The calf class consists of seven females and three males.

The surplus elk were donated to tax-supported organizations for breeding and exhibition purposes.

<u>Date</u>	<u>Number</u>	<u>Sex</u>	<u>Age</u>	<u>Organization and Location</u>
10/14	1	Bull	Adult	Black Hawk County Conservation Board
	1	Cow	Adult	
10/14	1	Bull	Adult	Polk County Conservation Board
10/14	1	Cow	Adult	Clayton County Conservation Board

At year's end, all animals appeared in good condition. The herd consisted of the following:

<u>Age</u>	<u>Cows</u>	<u>Bulls</u>	<u>Total</u>
6 months	7	3	10
18 months	2	3	5
Mature	21	10	31
<hr/>			
TOTAL	30	16	46

d. Deer

Both mule and white-tailed deer populations on the refuge were stable. The animal increment was removed by egress and coyote predation. The deer population on private lands surrounding the refuge were very depressed. We credit this decrease to effects of epizootic hemorrhagic diseases in 1976 and the severe overuse of vegetation by grazing animals during the previous three years of drought.

e. Antelope

The antelope population varies with the movement of a few animals visiting the south west units of the refuge, usually in Unit 37. The buck and doe in the exhibition pasture (27) produced one kid this spring. It was about one month old when last observed. This fall, two more does appeared in the pasture and couldn't find their way out, so at year's end, our antelope population consists of one buck and three does in the exhibition pasture (27).

2. Other Mammals

a. Coyote

Coyotes still are very much a part of the wildlife scene despite intense trapping and hunting for \$60 furs around the refuge boundary. The surplus animals in the refuge population moved out into private land and most were harvested. One pair of coyotes was harvesting deer near the buffalo bridge. The female was trapped and the deer loss stopped. These particular coyotes had learned how to use the seven foot high big game fence to corral the deer, thus their hunting success was abnormally high.

b. Bobcats

None of these animals were observed but their tracks were observed along the Niobrara River.

c. Black-tailed Prairie Dogs

The dog population was unable to keep up with the growth of vegetation in their town this year. Perhaps this subjected the population to more predation. The population appears to be about 50 percent of the level in 1976.

3. Resident Birds

a. Sharp-tailed Grouse

The dancing grounds survey was accomplished during the week of April 13 through 16. We observed 103 males and 25 females on 9 grounds.

In 1976, we observed 137 males and 53 females on 10 grounds. Reports from private landowners indicate that grouse populations are scarce so taking that information at face value would lead us to believe that the reduction in habitat has reduced populations around the refuge. Usually our population follow the pattern on the surrounding lands.

b. Greater Northern Prairie Chicken

Chicken use was observed on one ground on the refuge and on one ground 1/4 mile outside the south boundary of Unit 38. A total of 7 males and 4 females were noted.

c. Bobwhite Quail

Quail were seen and heard frequently along the Niobrara River and around headquarters. During the snow storms in March, some birds were observed feeding among the weaner calf feed bunks on spilled barley and corn.

d. Merriam Turkey

Flocks of turkeys were common along the Niobrara River in the late summer and fall seasons. Most flocks numbered between 7-25 birds.

4. Other Animal Life

a. Fish

The Nebraska Game and Parks Commission continued to use the stock ponds on the south side of the Niobrara River for brood fish holding ponds. The control structure for the ponds in 16A and 30 washed out and were replaced. Cause of

loss was heavy rains coupled with very active beavers. Beaver plugged the drain pipes and the above normal precipitation in heavy thunder storms overfilled the ponds.

b. Rattlesnakes

Three rattlesnakes were removed from refuge work areas during late summer.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On Refuge

a. Wildlife Trails

The Fort Falls trail continued to be a popular attraction to about 95 percent of our visitors. During the summer, the trail was maintained by the YCC enrollees and their interaction with some of the visitors developed a real appreciation for litter control. The trail still needs a better information system to warrant full RBU value. The trail from Fort Falls to the picnic area received light use but anyone brave enough for the adventure thought it an excellent nature trail. This trail was developed and is maintained by the YCC; we estimate about 2,000 visitors tried out the new trail in 1977.

Unit 27 remains the only exhibition pasture open to the visitor on a year around basis. This year the visitors created many new trails so that the overview experience has been seriously downgraded. Renovation of the existing motor route system is scheduled in the BLHP. Total visits to the refuge was down 17.4 percent and this is credited to the decline in local use which relates to deterioration of the exhibition auto route and the museum.

b. Interpretation Exhibits

We closed the old museum because of the loss of quality in exhibits due to vandalism. The visitors put on enough pressure that we reopened the building even though visiting it certainly is not a quality experience. The funds are available in FY-78 to upgrade the exhibits, with that and the addition of a public use planner to our staff, perhaps our interpretative program will become what it should be. The new Interpretative Center remains closed because of incomplete exhibits and no access road.

2. Off-Refuge

a. News Releases

News releases during the year covered subjects as Jim Spence's receipt of a 200 dollar award for outstanding performance, Bob Nagel's receiving his 10 year Service pin, the outstanding success of the 1977 surplus animal auction, and the weekly progress reports of the Fort Niobrara ICC camp.

b. Slide Talks and Demonstrations

Personnel from the refuge complex presented programs about Fort Niobrara and Valentine refuges to all the local schools during National Wildlife Week.

Personnel presented a special Fort Niobrara Wilderness program to the Pine Ridge Service Club and members of the biology department at Chadron State College. Programs was also given to the high school biology class and to the Rotary Club of Valentine.

B. Recreation

1. Wildland Appreciation

a. Boat

The public continues to have a growing interest in canoeing the Niobrara River, particularly that portion from Cornell Bridge on Fort Niobrara to Rocky Ford, a distance of about 15 miles. In 1975, we had 6,366 canoeists, in 1976 we recorded 6,994 canoe visits and in 1977 visits reached 7,550.

The Nordan Dam irrigation project has been temporarily halted by court action and canoeists seem to want to get in as many trips on the river as possible before the dam builders have their shot at the river.

b. Censusing Method

The use estimate on the Niobrara River is derived from a visitor registration and visual spot checks. All of the vehicle routes into the refuge are monitored by traffic counters. The estimates of participation of most activities except river use, is developed from this data.

c. Enforcement

During the year, the Fish and Wildlife Service did not file

on a case involving Fort Niobrara. We were always just behind the hunter who shot the deer on the county road at the east end of the refuge, or the fisherperson who harvested the fish stocks from the refuge ponds.

The Cherry County Sheriff's department and refuge personnel did become very expert at breaking up the mid-night beer and pot parties at the refuge picnic area and at the canoe launching site. The Sheriff's department handled the legal proceedings which usually amounted to warnings and discussions with irate parents.

Some of the high schoolers liked the refuge so well they came back to work during daylight hours as YCCer's.

During the winter and fall seasons when the picnic area is closed, we could not keep the night visitors out. With their four wheel drive vehicles they developed new roads around the barriers we had established on the entrance road. To combat the problem, we constructed 1/8 mile of five wire fence which eliminated all the opportunities for vehicle trespass into the picnic area from the county road.

VI. OTHER ITEMS

A. Field Investigations

None to report.

B. Cooperative Programs

1. Youth Conservation Corp

The Fort Niobrara Refuge was the administrative headquarters for a 30 person non-residential coeducational YCC camp. The enrollees started the eight week camp on June 13 and finished on August 5. In 1976, we had a 20 person camp and were not able to get ten girls interested in the program. In 1977, we had 15 boys and 22 girls apply. When all the dust cleared, we had 14 boys and 16 girls enrolled. All the original enrollees were able to complete the camp.

The YCC staff was recruited from the Valentine, Cody-Kilgore, and Todd County school systems. The YCC staff consisted of Mr. Boyd D. Powell as Camp Director, Mr. Kenneth E. Cox as Environmental Educational Coordinator, Mrs. Lynda A. Bennett, Mr. Walter Cady, Mr. Michael L. Cox and Ms. Rhonda Ringdahl as group leaders.

The enrollees worked on projects on both Fort Niobrara and Valentine Refuges. These projects included; litter control

on public use areas, Wilderness Area clean-up, banding Canada geese, repainting horse corral and barn, staining the big game corrals, developing a refuge herbarium, constructing an ecology park in City of Valentine, removal of wind damaged trees, livestock fence maintenance, profile maps of Whitewater and Pelican Lakes, developed parking lots on waterfowl hunting areas, conducted a lead shot survey on Duck Lake and set up a booth at the Cherry County Fair.



The YCC enrollees toured the Halsey-Bessey unit of the Nebraska National Forest. The highpoint of the tour was the fire lookout tower. (FTN 7-28-77 20 RME)



During the first week of the YCC camp, all the enrollees received instruction in first aid. The enrollees were very impressed with the mouth to mouth training.
(FTN 6-15-77 8 RME)



The YCC enrollees were very interested in those procedures involving group activities. (FTN 6-15-77 15 RME)

C. Items of Interest

Mr. Bob Nagel, Assistant Refuge Manager of the Fort Niobrara-Valentine NWR Complex received his 10 year Service pin in March. Bob has worked at Spearfish Fish Hatchery, Tamerac NWR, Lake Andes NWR and Muscatatuck NWR.

On May 22, Bob Nagel and family transferred to the Fort Peck unit of the Charles M. Russell NWR. Bob will be the Assistant Refuge Manager in charge of the Fort Peck unit.

Mr. Jim Spence, Maintenance Worker at the Fort Niobrara NWR was presented a \$200 award for outstanding performance on a special electrical rehabilitation project.

On 8-13-77, Jim Spence and family transferred to the Fort Peck unit of the Charles M. Russell NWR. Jim was selected to fill the position of range technician at Fort Peck.

Mr. C. Randall Arment was selected to fill the Refuge Manager (trainee) position in the Complex. He entered on duty on 8-14-77. His previous assignment was with the National Park Service at Independence National Historical Park, Philadelphia, Pennsylvania.



Jim and Ruby Vaughn enjoying a dinner held in their honor by the refuge staff. (FTN 11-30-77 6 CS)

On November 30, Mr. Jim Vaughn, Maintenance Worker at Fort Niobrara NWR for the past 17 years, 9 months, 22 days was required to retire from the Service. Jim had reached the young age of 70. Jim and Ruby moved from their refuge home to a new house in Valentine where he is enjoying the well earned vacation. During his last year with the Service, Jim received a \$290 Special Achievement Award for his efforts on a big game fence renovation project. Jim and Ruby were honored at a special dinner at which he was presented a Certificate-of-Service, photo album full of history and a pair of longhorn steer horns.

Larry Vaughn, Biological Technician completed a course of instruction in supervision and group performance at the Denver Regional Training Center on November 7-11. He also completed the Law Enforcement Training Course at Glyncro, Georgia on March 20 to April 6.

Ivan Wiley, Laborer was promoted to Maintenance Worker on 11-20-77. Ivan has worked for the Service for several years as a biological aid and a laborer.

Janice L. Edwards, Clerk-typist completed a course of instruction in Effective English on September 19-21 at the Denver Regional Training Center.

Robert M. Ellis, Refuge Manager completed the 120 hour reserve officer's training program conducted by the Nebraska Law Enforcement Training Center at Grand Island. The Cherry County Sheriff's Department was sponsoring agency in Valentine, Nebraska.

On September 27, Special Agents Bosak, Scar and Scrafford conducted a law enforcement work shop at Fort Niobrara. Included in the program was a FP2 firearms course. The following personnel successfully completed this program: Arment, Aufdengarten, Brooks, Ellis, Kime, McDaniel, Vaughn and Wiley.

Personnel assigned to the Complex attended the training-testing pesticide meeting for commercial applicators at Ainsworth, Nebraska. In addition to a general standards test, tests were taken on categories like Ag. Plants, Ag. Animal, Aquatic and Right-of-Way.

Leonard L. McDaniel, Wildlife Biologist in the Pierre Area Office was selected to fill the Assistant Refuge Manager position. Len reported for duty on 10-10-77.

D. Safety

1. Accidents

On October 12, 1977, a horse fell with Robert Ellis, Refuge Manager, while ear tagging elk. Ellis was attempting to rope an elk when his horse hit some gopher holes, fell and rolled completely over him. An ambulance was called and he was admitted to the hospital. No bones were broken but the bruises took a long time to heal.

On September 14, 1977, during the longhorn round-up a steer broke away from the herd and while chasing it on horseback, James Vaughn, Maintenance Worker wrenched his back.

On May 12, 1977 Dave Kime, Maintenance Worker had a pickup stuck in the mud. When he jacked up the truck to put dry material under the wheels, the jack handle slipped out of his hands and struck him in the eye. Eight stitches were required to close the cut.

Another injury occurred to Dave Kime, Maintenance Worker on October 13th. While driving on a sandhills trail with his hand on top of the steering wheel, he hit a sharp bump. His elbow struck the bottom of the steering wheel causing a severe bruise to the elbow.

On August 15th while backing up a truck, Ivan Wiley, Laborer was struck in the eye by a foreign object. No lost time, but medical attention was required.

Another accident was reported by Ivan Wiley, Maintenance Worker on November 11th at the close of the work day. Ivan was in the crew room and reached down to pick up his dinner bucket and pulled a muscle in his leg. Ivan was off work for two days with this freak accident.

Accidents in YCC Camp.

Diedre Todd, YCC enrollee, was participating in a spike camp July 13, 14 and 15. On the night of July 13 while swimming and playing a water game, she was dumped over backwards and lost her sense of position in the water. She took in a little water and immediately over-reacted to the situation causing hyper ventilation of the respiratory system and then shock followed the incident. The location of the accident was at Dewey Lake, Valentine Refuge.

On August 1, 1977, Allison Klingbeil, YCC enrollee got paint in her eye while painting the corrals at Fort Niobrara. The paint contained a wood preservative and the eye required medical attention.

James Harris, YCC enrollee was carrying a creosote post on his shoulder on July 6th. The post rubbed against his bare neck causing a caustic burn. Medical attention was required.

Shawn Gothard, YCC enrollee was tamping a fence post with the handle of his shovel. He was tamping with his left hand, with his right hand resting on top of the post. The heel of the shovel struck his right arm causing laceration to the arm. He was taken to the doctor, treated and returned to work.

On June 16th, while on spike camp at Dewey Lake, Bill Assarsson, YCC enrollee contacted poison ivy. The exact time this was contacted is not known, but several trips to the doctor was made before the allergy was cleared up.

On August 5th, Walter Cady, YCC group leader dropped a ten gallon water cooler on his foot while loading it into a pickup. X-rays revealed no broken bones but was a painful bruise.

2. Meetings

January	Chairperson:	Arthur Aufdengarten
	Subject:	Safety in operation of heavy equipment.
	Film:	"It always happens to the other fellow" It was an exceptionally good film put out by John Deere Tractor Company.
February	Chairperson:	Forrest W. Brooks
	Subject:	Safety in sports
	Discussion:	Safety in sports and physical fitness, also stalled vehicles in a blizzard.
March	Chairperson:	Robert M. Ellis
	Subject:	Severe Storms
	Discussion:	Clair Mancuso was guest speaker and dealt with storms and other violent acts of nature.
April	Chairperson:	Bruce Haines
	Subject:	Boating safety
	Discussion:	All aspects of water safety

May	Chairperson:	Jim Vaughn
	Subject:	Hazards in repairing grazing facilities
	Film:	"Natures Perils"
	Discussion:	Fencing tools and safety clothing.
June	Chairperson:	James Spence
	Subject:	Electrical safety
	Film:	"Hot cords can burn" and "Fire, Not in my House"
	Discussion:	Lightning and thunderstorms and accident reports.
July	Chairperson:	Larry Vaughn
	Subject:	Shop safety
	Film:	"Safety in the Shop -- Power Tools"
	Discussion:	Eye safety and proper care & use of tools.
August	Chairperson:	Ivan Wiley
	Subject:	Law enforcement
	Discussion:	Mick Gray was guest speaker and dealt with law enforcement
September	Chairperson:	David Kime
	Subject:	Range fires
	Film:	"Say Goodby"
	Discussion:	Fires and fireman safety
October	Chairperson:	Janice Edwards
	Subject:	House and yard safety
	Film:	"Safety Everywhere, All The Time"
	Discussion:	Safety precaution while chasing wild animals on horseback.
November	Chairperson:	Leonard McDaniel
	Subject:	Defensive driving
	Film:	"Drive and Survive"
	Discussion:	Defensive driving
December	Chairperson:	Arthur Aufdengarten
	Subject:	Winter sports
	Film:	"Shelter Construction in Winter" and "Survival Kit"
	Discussion:	Winter survival and law enforcement training.

This report was written by Ellis and Brooks. The entire report was typed by Edwards.