

Annual Report
July 1, 1936 - June 30, 1937

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY
FORT NIobrARA GAME PRESERVE
VALENTINE, NEBRASKA

R.
Niobrara
Reports

June 30, 1937.

Chief, Biological Survey,
Washington, D. C.

Dear Sir:

Annual report from July 1st., 1936 to June 30th., 1937
on the Fort Niobrara Reservation wildlife and activities appurtenant
thereto:

I. Report on Wildlife observed during the period:

1. Buffalo.-- At this writing there are 28 new buffalo
calves making a total of 140 buffalo on the refuge at the end of
this fiscal year, which indicates that it will be necessary to dis-
pose of 30 animals next fall as surplus.

On the 17th of April two calves were noticed, one of them
only a few hours old and the other apparently several days old.
This season there were 7 of the calves having very dark coats
of hair, and as this is the first time I have noticed calves of this
color I believe that it is due to new blood in the herd, because
last August one of the herd bulls was one that we acquired from
Custer State Park in South Dakota.

The buffalo went into the winter in good condition
last fall and remained that way throughout the winter and spring.
We brought the main herd of buffalo from the north pasture into
the east pasture on the 18th of November, and corraled them,

enabling us to cut out and retain in the pond pasture animals to be disposed of for breeding and exhibition purposes.

During the second quarter of the year a buffalo cow was noticed limping very badly and upon examination at the time they were corraled the injury appeared to be from a rattlesnake bite. The wound healed and the cow survived.

At the time the buffalo were brought from the north pasture we barricaded the east approach of the new bridge just as a precaution to keep the herd off and it was a good thing we did so, because before the last animal had gone into the river they had nearly broken down the barricade in their attempt to cross over the new bridge.

We started feeding the buffalo hay the latter part of January and they continued to eat hay until late in the spring when the new grass became abundant enough for them to graze. I kept the buffalo herd in the east pasture until the 26th of June at which time I returned them to the north pasture, and we did not have to ask them twice as they were very anxious to get back on the north side of the river, and I might add that last fall they were anxious to return to the south side of the river, as every few days they would come up to the gate at the lane leading across the river. A buffalo calf was born in the pond pasture on the 24th of April, and people enjoy looking at it from the highway.

2. Elk.-- At the time this is written it is not known how many calves have been born this season. Part of the

elk are in the north pasture, the balance of them in the east pasture, and we still 2 bull elk in the exhibition pasture south of Headquarters, and a bull, cow, heifer and yearlings on the west side of the road. The old bull in the north pasture with the large antlers is in good condition again this spring, and is apparently growing a larger set of antlers than ever.

During the disposal season last fall we did not ship any live elk. However, I disposed of some of the older animals and undesirable looking specimens for meat purposes. I did not kill any of the old bulls and I plan to let the number of old bulls increase because they are very attractive for people to see.

The elk herds have broken up and scattered out all over their respective pastures. Occasionally one will see a cow and calf track in a trail, but one never sees a calf in the day time, and will not for another month. I expect a calf crop of from ten to twelve this season.

3. Antelope.-- The last of the antelope on the Fort Niobrara Refuge were killed by coyotes last winter. A year ago we acquired 30 some antelope fawns and added to the few old antelope on the Refuge, and planned to build up a large herd in the 11 sections of sandhills in the southeast portion of the Refuge. They started dying at the first of this fiscal year from lump jaw and during the late summer and late fall coyotes took several small fawns. Throughout the late fall and early winter more of them died from lump jaw and during the winter the coyotes started killing them again and not only destroyed the remaining fawns but also killed the older animals in the small exhibition pasture

north of Headquarters. Every precaution known was taken to raise these little animals to maturity and it was certainly very discouraging to have them die.

Another attempt was made this spring to secure a few fawns from Buffalo, South Dakota, where apparently the healthiest specimens were received from last year, the people hired to capture them were only successful in getting three fawns by the 15th of June, and I instructed them to discontinue their efforts. The reason for being unable to get the fawns was due to heavy losses during the past two winters and the remaining antelope moving into a new territory and remaining there because of more food being available.

I have, during the past quarter, reconstructed an antelope holding pen in the small buffalo exhibition pasture a fourth of a mile south of Headquarters, and everything is in shape to handle another shipment of fawns in a new pasture and where it is hoped the coyotes will not get to them another time and another year instead of feeding them the native prairie grass that is full of what is commonly called "needle grass", I plan to give them nothing but home grown alfalfa until they are a year of age and at which time I hope they will have passed the period of being susceptible to lump jaw.

4. Deer.-- We now have 7 white tail deer on the Refuge, 5 of them carried over from last year and 2 of them acquired during May from Custer State Park in South Dakota. There are no fawn white tails this season.

We seem to be getting more mule deer on the Refuge each year. Two different times this spring we saw 3 mule deer bucks on the river strip which lies between the north pasture and the pasture on the south side of the river. We cannot count these animals, however, because at this writing they may be off of the Refuge. In the north pasture we still have mule deer and because they are scattered out it is difficult to determine how many there are. I am almost positive there are four animals and one of them is a doe with a fawn which was indicated by tracks recently noticed.

Several fawns were lost during the early part of the winter in the pond pasture. These were fawns we had raised on a bottle and two of them drowned in the ponds by breaking through the ice.

5. Texas Longhorns.-- The longhorns that were brought from the Wichita Mountains Wildlife Refuge a year ago are doing excellent on the Fort Niobrara. The bull has grown to an enormous size and the steer likewise. I actually believe the steer has made a six inch growth on his horns, and by the time he reaches the age of eight or nine years, he should have an unusual pair of horns. The four heifers, each had a calf and they are growing very rapidly. One of them was red and a rather odd colored red, two of them were white with red ears, red around the muzzle and eyes and a few red spots on their feet, and the other was spotted red and white.

During the last part of January we started to feed them soy bean pellets, a very nutritious food made from ground

soy beans and it balances their diet when they are fed prairie hay during the winter. They thrive very well on this feed, and the calves were born in excellent condition, one of them was born in a snow storm at night and the next morning he was as spry as could be.

6. Predatory, fur bearing, and rodent mammals.--

Predatory animals, both large and small are the greatest problem we have on the Refuge. The entire country surrounding the Refuge with coyotes and as soon as they are permitted they flock into the Refuge where food is more abundant and where they are not molested by dogs and people. The small predators increase very rapidly within the Refuge and I am positive they also move onto the Refuge for protection afforded them. To date I have noticed no young ducks on the ponds within the Refuge, and I feel certain that it is because we have too many racoon, skunk, mink and weasel. The skunk are very thick and are seen very often while riding over the Refuge. One occasionally sees a coon in broad day light and their tracks are to be found most any time. All of these predators live and work around the ponds, creeks and river and there is no possible chance for a duck to successfully rear young. A year ago these small animals were well under control and bird nesting was noticeably increased on the water areas within the Refuge. The coyotes, as related in the article about the antelope killed both old and young antelope during the last year, and their numbers should be controlled surrounding the Refuge as well as within the Refuge. During the winter months a large wild dog was seen several times, but we were never able to trap or shoot him. This animal was here a year ago during the winter months

and if he returns this winter I plan to capture him. The jack-rabbits are of the usual numbers. They do a little damage in the nursery during the winter and also on the trees and shrubs at the Headquarters site. The jackrabbits make excellent food for the bald and golden eagles that winter on the Refuge which keeps the eagles from disturbing the ducks. The muskrats have become very numerous again on the pond areas and it is going to be necessary to trap them very close this fall.

I certainly wish it were possible to have a trapper on the Refuge for at least six months of the year. In the fall months he could start controlling the numbers of small predatory animals and during the winter months the coyotes and in the spring, if indications were that small predators were too numerous, they could be controlled further to insure successful nesting of bird life, and also during the spring months he could keep the pocket gopher situation under control as well as looking for coyote dens in the surrounding country as well as on the Refuge.

Adolph S. Hamm, District Agent, from Cheyenne, Wyoming was here the 21st of April and went over the predatory animal and rodent control problem, and Mr. Hamm recommended that we have a predatory man on this Refuge for at least six months out of the year.

I nearly forgot to mention that my wife and I dug out 9 coyote pups in the north pasture during the last quarter and as near as we could determine this was the only den of pups within the boundary of the Refuge. However, a rancher reported a den east of the south portion of the Refuge, and quite a number of dens were reported down the Niobrara river east of the Refuge.

7. Reptile Life.-- Not many rattlesnakes were killed last summer, but in the second quarter 11 of them were killed at the den by the lookout tower in the north pasture. This spring we killed a rattlesnake the 9th day of March in the north buffalo pasture. This is unusually early in this section of the country, but at the time we had several days of very warm wind from the southwest and it must have aroused the snake enough to make him crawl out of the den. We have killed 2 bullsnakes at the Headquarters this spring, the first one that I killed was starting to eat a nest of Larksparrows that were nearly grown, and when I noticed him there were three pairs of Larksparrows twittering at the bush right in front of our garage trying to frighten the snake away. I killed the snake and he had eaten one, and the remaining birds grew up. Another bullsnake was killed between the Headquarters house and the Assistants house, and his stomach was filled with four Lark Sparrow eggs, nearly ready to hatch, and one brown thrasher egg. At this season of the year it seems whenever I have examined the stomach of a bullsnake there has always been either birds or eggs.

8. Birds.-- Last summer it was a pleasure to watch the birds come for water in the new flat reservoirs, or basins constructed at the windmills over the south portion of the Refuge. The windmill pumps directly into a stock tank and the tank over flows into these cement basins, there is never any danger of a bird drowning, and they come for their baths and to drink water and leave again. There is a constant stream coming and going, especially so on the dry, hot days. Last September the ducks, herons, bitterns, rails and other migratory birds started flocking onto the water areas of the Refuge and feeding on the foods that

had grown during the summer. There was large concentration of magpies last fall when they began to migrate. The crows also were very numerous last fall; they would spend the nights in the timber on the Refuge and then fly to the neighbors grain fields and eat in the day time and the neighbors would come and complain to me. The eagles started arriving at the Refuge the latter part of September and the turkey buzzards migrated south at the same time. We did not have as many ducks on the Refuge this winter as the year before, but I believe there was more of a variety. The eagles wintered on the Refuge, both the bald and golden and noticed very little damage to the ducks, as the rabbits were abundant and they seemed to satisfy their wants.

This spring I have not heard a quail on the Refuge although I have seen two large flocks of young pheasants. There are a few prairie chickens and grouse nesting, but we have seen none of their young. During the second quarter a foreman, Mr. Sather, saw a hawk trying to capture a cock pheasant early one morning. The pheasant was taking advantage of a barbed wire fence and was running towards some heavy weeds, he would duck on one side of the fence and run a short distance, and when the hawk would get close to him he would dodge to the other side, and as Sather was in a hurry he did not notice the outcome, but I would believe that the pheasant made his getaway in the weed patch.

We fed approximately 150 mallard ducks during the worst part of the weather. The first pintail ducks came from the south this spring and were noticed on the west arm of the Refuge the 10th day of March, and in a day or two other species began to arrive.

The great horned owls are getting too thick on the Refuge again. During the winter I saw several flocks of robins that wintered along the river and occasionally a yellow shafted flicker and the latter part of March several flocks of wax wings were noticed migrating north. The prairie chickens and grouse took advantage of what little grain was raised in the food patches last year. A flock of 23 prairie chickens fed daily in a rye patch just across the road west of Headquarters.

During the past year quite a number of bird specimens have been added to the Museum collection that is getting to be very interesting, but it will take considerable time yet to complete the collection.

The insectivorous birds over the entire Refuge, I believe, are more numerous than usual. It seems that the past dry years have encouraged the birds to nest on areas where water is available. At the Headquarters site we have more birds nesting this year than ever before. It seems that the lawn is full of insects because of the nice growth of grass and in the cotton wood trees right by the Headquarters house we have the following birds nesting: A pair of robins, two pair of Arkansas Kingbirds, one pair of common king birds, a pair of Orchard orioles and a pair of Baltimore orioles, two pairs of Vireos, the exact kind is not known. Under the eave of the pump house a pair of Say's phoebes have raised 3 young ones and the mother is back on the nest incubating 3 more eggs. The 3 young phoebes are very tame and I was able to get some close pictures of them, and Mr. Nelson, the boy who is putting up specimens, and I have been able to feed these youngsters flies from the end of a short stick.

On the ground under bushes in front of the garage there are 2 Lark-sparrow nests and another one by the rose bushes west of the house. Meadowlarks and turtle doves are also nesting very near by.

On the first day of April I saw 5 flocks of sandhill cranes flying north over the Headquarters site. There were from 95 to 115 cranes in each flock. On April 17 of this year there were many more birds on the Refuge than on the 28th of April a year ago when Dr. Gabrielson was here. The eagles were gone by the middle of April and the first turkey buzzard was seen on the Refuge on April 17.

II. Other Activities:

1. Grazing.-- Grazing conditions today are not very good, and there are no prospects for it to improve. The pastures went into the winter extremely dry last fall, we had very little moisture during the winter and this spring we have had only enough to keep the grass alive and start a few new plants. There will be no seed. For the above reason I kept the buffalo herd in the east pasture until the last of this month hoping that the grass would make seed in the north pasture, but I now find that it will be necessary to feed the buffalo hay part of next winter again. On the flat portions of the pastures there was a heavy growth of weeds, mostly June grass that flourishes for six weeks, cheat grass and Shepards wreath. All of these have now turned brown and the wild sunflowers, rag weeds and lambs quarters are still green and will make seed.

2. Protection.-- The Refuge has been adequately patrolled and checked on throughout the year for poachers and trespassers. The fire guards have been worked over during the spring months and our fire fighting equipment is all in working order.

3. Improvements.-- The most important improvement completed during this year was the bridge over the Niobrara river connecting the two big game pastures. This bridge was very neatly installed and has a very good appearance and certainly is worth while from the standpoint of time saving in getting back and forth to the north part of the Refuge. This bridge is a monument to ECW and was a super accomplishment to be performed by a camp of inexperienced CCC boys and due credit must be given to Mr. Otto Raecke, Chief Foreman, who spent nearly 12 hours every day supervising this job to have it properly constructed as it is, and first of all the Chief of the Bureau must be thanked for making the decision that this bridge should be constructed.

A 125 foot lookout tower was completed and painted at the Headquarters site.

The office and Museum building was completed during the first two quarters and the specimens placed therein consist of birds, mammals, reptiles and insects of the present day taken from within the boundaries of the Refuge, and an excellent collection of fossils of prehistoric mammals that formerly ranged on this area. During the last quarter we have excavated for a basement for an addition on this building. This was performed under WPA and also with WPA funds we have purchased cement for the

basement and foundations and the brick for veneering the building and also the shingles, doors and windows, and we now must retain the WPA labor long enough to complete this building.

Considerable work has been performed on fences throughout the Refuge. All of the corners were rebuilt in the big game pasture north of the river, several miles of boundary fence was constructed out of barbed wire, three barbed wires were buried under the fence around the 11 sections of antelope pasture, a fence was rearranged at the entrance to the corrals a number of new gates were installed in the big game fences at various places and a large number of minor rearrangements of the fences were made.

An irrigation system was installed by taking up and relaying a 6 inch water main from a pumping station at the ponds east of Headquarters and running through the Headquarters site, and west to the Highway entrance. Hydrants were set at proper intervals which will enable us to irrigate with 3 inch hose. This system was tested out two days ago and did not prove satisfactory because the pumping unit was not large enough to supply the water needed for irrigating.

The telephone and power lines were discontinued at poles at the highway and have been brought into the Headquarters site under ground. This has greatly improved the appearance by the removal of all the tall poles. These systems are both hooked up and are working nicely.

Improvements have been made on horse trails and new horse trails constructed throughout the roughest part of the Refuge where it is necessary to patrol by horse back. This makes parts

of the Refuge accessible by horse where formerly one had to walk on foot.

Some additional roads were completed during the first quarter and in fact the road work was not discontinued when the CCC camp left the last of November as it was taken up again in a few days by members of the 100 man WPA camp that moved in. These WPA men constructed a nice bridge over the mouth of Big Beaver Creek in the north pasture. They finished construction of a rack or pen around the new wagon scales that was installed by the CCC'S at the slaughter house. The WPA workers wrecked the 9 buildings of the CCC camp and we have material from 3 of them stored in the big storage barn for future use.

During the past few months we have had a small detachment of 25 WPA men that we transport from Valentine daily. All of the trees available were planted by these men and quite a number of large cedar, ash and hackberry trees were transplanted at the Headquarters site. They have half completed the construction of a new set of quarters which is a house consisting of 2 bedrooms, bath, living and dining room together, kitchen, nearly a full basement and a large back porch or wood shed. In addition they have excavated a basement for an addition on the Museum. I have kept one crew steadily operating the dump truck repairing roads and making fills where necessary.

4. Public Relations.-- In the first quarter I conducted over the Refuge a tour of 54 carloads of People from, Ainsworth, Nebraska. Dr. G.E. Condra, from the University of Nebraska, together with Mr. Harold Brokaw, head of the Extension Service from the Agricultural College at Lincoln and Dr. Anderson,

Regional Director of the Resettlement Administration visited the Refuge. Dr. Condra wanted these gentlemen to see the use the land was being put to and I did my best to show them and explain to them the uses we are making of the Refuge. The Honorable Senator Norris of Nebraska paid the Refuge a visit on the morning of Friday the 24th of October and expressed his desire to return and see more of the Refuge and our conservation activities at some later date.

Former Governor Arthur J. Weaver of Nebraska spent a Saturday forenoon going over the Refuge and was very surprised at the developments and improvements that have been made.

I spent May 5th and 6th in Lincoln, Nebraska conferring with different men in my attempt to get the road from Valentine to the Refuge improved and graveled. I spent some time with Representative Strong from this District. I conferred with Mr. Frank B. O'Connell of the Game, Parks and Forestation Commission and with Mr. Tilly, Chief of the Department of Irrigation and Roads, and I was successful in getting him to write down this requested project and asked him to have it executed whenever funds were available, and a short time ago I was informed by Mr. Clifford Shoemaker of the Bureau of Public Roads that this project was to be executed very soon, and the Resident State Engineer has made the preliminary arrangements of securing rights to cross lands in making the corners larger and I have been informed that actual construction will start in the very near future. I feel that my last trip to Lincoln on this road project was worth while.

This spring Dr. Condra of the University of Nebraska,

brought 30 students and instructors with him to the Refuge to make their apparently annual visit. We spent an afternoon on the Refuge.

The last part of May I conducted a tour over the Refuge consisting of 29 carloads of the county eighth grade graduates and their parents.

On June 2, I had the pleasure of escorting and talking to 76 Boy Scouts who visited the Refuge in the afternoon. They were given turns to climb the lookout tower in the north pasture and they all visited the Museum. These youngsters are all interested in wild life.

The fore part of June District Judge E.L. Meyer of Alliance, Nebraska spent some time on the Refuge taking pictures and enjoying the game animals. On Sunday June 13th we entertained State Representative Allen Strong and his family from Gordon. Representative Strong enjoyed his visit on the Refuge very much.

A few days ago we had the pleasure of conducting Mr. I. J. Dunn, an attorney from Omaha, Nebraska, and his family over the Refuge. Mr. Dunn is an old pioneer of Nebraska, a great sportsman and is a true conservationist today. He expressed himself that he had taken his share of game and fish and was now interested in conservation, and had been for a long time. I have been informed that Mr. Dunn was one of the leaders in the State of Nebraska in organizing the Walton League, ~~was one of the~~ main speakers and promoters in soliciting funds by the Izaak Walton League for the purchase of the hay for the starving elk in the Jackson Hole and for purchasing land for an elk Refuge. Mr. Dunn was also instrumental in taking the Nebraska Game

Commission out of politics and putting it in under the present system.

5. Miscellaneous Activities.-- Under ECW a marker was completed on the newly acquired Christopher land at the site of where the first voting place in Cherry County was. The local Historical Society has promised to purchase a plaque for putting on this monument. In connection with the new Museum I had a small adobe house built in the center of the basement out of the original adobe blocks of which the Fort Niobrara was originally constructed. This is just a miniature house but it gives a very good idea of how the adobe buildings appeared.

As usual hay harvesters were permitted to cut hay on the south portion on the Refuge and in addition I had the CCC boys cut and stack approximately 80 tons for our own use.

Last fall we gathered several hundred pounds of juniper berries for the Soil Conservation Department who has in the past so generously furnished us with trees for planting. I made an attempt to locate a quantity of western grown mountain ash seed for planting in the Refuge nursery, and was only successful in getting a few pounds from southeastern Montana.

A short time after the CCC camp left the Refuge, Mr. Otto A. Raecke, my Chief Foreman was transferred to Camp EF-5 at Mohall, North Dakota. I retained 2 of my Foremen to direct the WPA work. Mr. Daniel J. Fenton, who was formerly my ECW clerk was rehired as a Clerk in a CCC Camp at Medicine Lake, Montana, and Mr. Andrew J. Meyer, an LEM of the CCC camp, who worked in my office for over a year was hired as a Clerk in Camp EF-1, Foxholm, North Dakota. James Abdallah, who worked

in my office for some six months took a business course at Lincoln and has been working for Dr. Sharp since the first of the year.

The ice gource on the Niobrara river this year was the worst of any year since I came here. It piled up .8 to 10 feet high as it passed through the Refuge and broke down trees and scraped the bark off of others.

During January Mr. Rudolph Diffenbach spent a day on the Refuge. This was the first time he had ever goon over the Niobrara Refuge.

On the 25th of February Mr. George Mushbauch came to spend a short time going over the Refuge familiarizing himself with a Big Game Refuge as he was on his way to take charge of the Wichita Moutains Wildlife Refuge.

I received a few thousand jack pine trees from Halsey Nebraska ti fill in the former pine tree plantings. It has been very noticable in transplanting of native cedar trees that practically all the small trees planted die even though they are transplanted during the winter months while they are dormant and transplanted with a large ball of earth attached to the root system. Larger cedar trees transplanted under the same conditions invariably live. We received a pickup load of quaking aspen trees from Custer State Park in South Dakota, and I have planted two clusters of them here at the Headquarters site and at this writing they are doing nicely. The balance of them I planted on the river bottom below the old Stromberg farm.

The last part of April I transferred practically all the ECW equipment to the LaCreek Refuge at Martin, South Dakota and in May and June I transferred all but one dump truck to them.

In addition I transferred the lumber from one salvaged barracks.

In connection with food and cover plantings I seeded in oats, barley, spring rye, spring wheat and millet and planted cane, grohoma, wheatland milo and corn. It was necessary to replant most of the canes and corn because of the cold season and cutworm infestation.

I employed, under my LA, a young chap by the name of Harold Nelson, who was in the CCC camp here for two years, and who worked directly under my direction mounting birds and mammals as specimens, controlling small predators and other biological field work. Nelson is making additional collections for the Museum, doing Refuge patrol work and regular maintenance work. During the last winter he was transferred to the Valentine Lakes Refuge and this fall he has arranged to attend the University of Nebraska and will continue studying biology.

I have also employed under my LA, Mr. Edwin Wilson. He was an LEM in the CCC camp and worked in the ECW office nearly a year with D. J. Fenton. I have Wilson assisting me in my office mornings enabling me to get out in the field more. On some days and in the afternoons Wilson assists with general maintenance of the Refuge. Wilson is taking the Game Management course at Ames, Iowa, and attended all of last year.

Mr. Leo L. Laythe was here the fore part of April and spent a little time going over the Refuge. I certainly am going to miss Mr. Laythe now that this State has been transferred out of his territory.

Mr. Frank L. Earnshaw came to the Refuge the first of May and spent a few days going over the Refuge and discussing

Refuge problems with me. Mr. Earnshaw's visits are always beneficial, helpful and encourages one to carry on his work. It seems that Earnshaw has grown up with this Refuge, as all of the new developments have been made during the past seven years.

The WPA program has been very much worth while in completing some of the projects started under ECW and in doing some of the major maintenance jobs. I have had 100% cooperation from Mr. Bennett, who has directed and been responsible for this work in the State, and I hope that during the next few months I will be able to continue using WPA labor.

I wish to take this opportunity to thank each and all of the members of the Biological Survey, and my Superiors in particular, for the wonderful cooperation they have given me during the past year.

Very truly yours,

Geno A. Amundson,
U. S. Game Management Agent.