PLEASANT, WILLOW CREEK, BENTON LAKE

NATIONAL WILDLIFE REFUGE

MONTANA

May 1 to August 31, 1948

Personnel -- Regular:

GEORGE E. MUNDBACH, SUPT. OF REFUGES, BOZEMAN, MONTANA

LEON C. SNYDER, REFUGE MANAGER, CHARLO, MONTANA

Personnel -- Temporary

NONE

I GENERAL

A. Weather Conditions:

Table of Monthly Precipitation and Maximum and Minimum Temperatures.

Year	Month	Precipitation	Maximum	Minimum
1948	May	4.19	80	24
	June	9.11	89	42
	July	1.54	89	42
	August	1.72	92	41
Total		16.52		
1947	May	.90	80	18
	June	2.78	81	37
	July	----	94	39
	August	1.51	91	39
Total		5.98		
1946	May	2.88	75	15
	June	3.29	94	37
	July	1.25	94	38
	August	1.07	92	34
Total		7.49		
1945	May	1.19	79	35
	June	3.83	89	35
	July	.93	93	37
	August	.23	90	40
Total		6.18		
1944	May	2.48	85	23
	June	3.22	90	36
	July	1.46	91	36
	August	2.04	86	39
Total		9.20		
1943	May	1.43	77	17
	June	6.64	76	30
	July	1.94	86	41
	August	.48	91	31
Total		10.49		
1942	May	4.99	82	25
	June	2.04	78	33
	July	.96	84	39
	August	.22	94	35
Total		8.20		
1941	May	2.73	86	26
	June	2.40	96	36
	July	1.02	96	43
	August	.88 7.03	94	36

All weather data in this report was compiled by the Refuge Manager from statistics and data maintained and recorded in the County Extension office in Choteau.

A glance at the preceding table will show that there was an enormous amount of precipitation in the general areas of Pishkun, Willow Creek and Benton Lake Refuges during May, June July and August. No equipment or personnel are available for recording weather data on the refuges themselves so it is necessary to do the next best thing and that is take the figures recorded in Choteau. One of the heaviest sustained rainfalls ever recorded fell in this general area during May and June. In the last 25 days of May, 4.19 inches of rain fell at Choteau in 13 different days. During June 9.11 inches were recorded between the 1st and 23rd. On June 3rd., 1.28 inches fell on on the 16 and 17th 3.27 inches were recorded. There were several other very heavy rains also during June.

According to the County Extension Agent, weed growth was a growing worry to farmers during May and June. Wet weather prevented summer fallowing which normally would have been done by the end of May. Many of the rains during May and June were accompanied by sever lightning and thunder storms and hail fell heavily in some instances. Hail totaling .61 inches precipitation was very heavy and general on the afternoon of May 31. The four month total of 16.52 inches of precipitation is far above the 8 year past average of about 7.50 inches. This year it was even more than the average annual precipitation for this area.

B. Water Conditions:

General: At the end of May rivers and small streams were at the highest level they had been for several years, however there was no flooding to speak of yet. During June it was a different story. Every stream in this general area except possibly in the south eastern part of Teton County were out of their banks for a week or 10 days, and remained exceedingly high for a much longer period. Depressions and low areas all over the area were flooded and turned into numerous lakes and potholes. Mr. Wyn Freeman, State Waterfowl Biologist, flew over this entire area the latter part of August on a reconnaissance trip and reported that there were very many potholes and lakes, especially in the area north and east of Choteau. This is the vicinity surrounding the Malone Sloughs, an area which has for many years been considered the best waterfowl area in Teton County.

Pishkun: Waterlevels at Pishkun were up to near maximum heights on May 20th. There was slightly more than a two foot drop during June and then a three foot rise during the 1st 10 days of July. From July 10th to 31st there was a 6.7

drop but by the 31st of August it had come up 4 feet again. The flowing table gives the month end readings this year in comparison with past years.

	Zero--4342			Maximum--4374		
End of month	1948	1947	1946	1945	1944	1943
May	4370.5	4368.4	4370.4	4366.3	4370.9	4369.7
June	4367.6	4371.0	4371.0	4368.5	4370.9	4369.7
July	4364.1	4363.7	4365.3	4353.9	4364.8	4355.8
August	4368.2	4366.6	4363.4	4367.7	4361.4	4362.0
Willow Creek.						
May	4135.1	4134.8	4131.5	4137.0	4137.2	4131.5
June	*4139.2	4138.4	4136.6	4139.5	4140.1	4134.3
July	4139.4	4131.2	4135.5	4134.9	4136.4	4137.7
August	4132.7	4127.8	4125.9	4128.2	4132.7	4136.6

A maximum of 4140.1 was obtained at Willow Creek on June 20. Water levels at Willow Creek Refuge climbed slowly but steadily upward during May. The rise was more rapid during June up to the 20th. From June 20th throughout July the reservoir level was fairly constant but during August there was a steady drop from 4139.4 to 4132.7.

Benton Lake.

With all the rainfall that come during May and June in the Choteau-Great Falls and surrounding areas it would generally be expected that Benton Lake should have almost filled up this spring. This however was not the case. Infact there was much less water in Benton Lake Refuge this year than there was last year. Rainfall must have been much lighter in the Benton Lake drainage than it was else where because there was not enough runoff into this lake basin to even soak up the ground very much. When the refuge area was visited the fore part of July there was no water at all in the lake basin and much of the lake bed was dry enough to drive over. The creek bed in the northwestern portion of the refuge however, was full of water and there was still some flooding over the hay units in this portion, but the runoff from the flooded areas was not reaching the lake bed. No visits were made to this area after the fore part of July so it is not known how long water lasted in the western end of the refuge.

According to several farmers up stream from this refuge, Lake creek did run quite a stream of water for several weeks and they were surprised that none had built up in the lake bed. Lake Creek for about 15 miles above the refuge has numerous dams in it and these were all full and running over when the area was visited during July.

C. Fires:

There were no fires reported on these refuge areas this season and it is not believed that there existed no fire hazard during the period. All the areas were very green yet when visited during July. All fire guards at Benton Lake Refuge were maintained and put in good condition during July and August.

II WILDLIFE

Very little data is available on wildlife populations on these three refuges during this period. The refuges were visited twice during the period, once during the middle of May in company with Mr. Anderson from the Regional Office and once during July, and while waterfowl observations were made on these visits, the refuge manager does not feel that these observations were conclusive enough to give much of a picture of what the waterfowl pictures were this summer. If the true picture was anything like it was in the past on very wet years the refuge manager would say that there were very few birds stayed on either Pishkun or Willow Creek Refuge during the summer months. The reason for this would be that water and nesting conditions were so good in other areas away from the refuges and so much closer to good feeding habitat that the birds did not have to depend on the refuges.

Pishkun: When Pishkun was visited on May 14th there was not a duck noted on the whole reservoir. On July 10th a few birds, probably 50 or 60 were noted far out on the water to far for identification but none were noted along the shorelines. About 100 Long-billed Curlew of which about 75% were young birds were noted from the road in the north side of the refuge. Enroute to Willow Creek on July 10th the refuge manager drove through the length of the easement areas of Pishkun Refuge and observed waterfowl on the potholes along the road. The road brings one within observing distance of about 25% of the potholes in this easement area, probably about 12 or 15 potholes. All of these small water areas contained a few ducks most of which were adult males and mostly mallards and pintails. Nine broods were noted while passing through, 4 of mallards, 2 of pintails, 2 of shovellers and 1 of canvas-backs.

Willow Creek: On May 15, Mr. Anderson and I noted a scattering of mixed ducks, probably 3 or 4 hundred. Mallards, pintails, baldpates, blue-winged teal, gadwall, shovellers, redheads, canvas-backs, lesser scaups and ruddies were identified. In addition to these one holboell's grebe, about 150 horned grebe, one common loon, 2 blue heron, and 4 canada geese were observed on Willow Creek Refuge. These were mostly all in the area close to where the creek empties into the refuge.

On July 10th., the refuge manager noted about 1000 ducks on Willow Creek Refuge. All species identified May 15th were again noted. Three broods of mallards, 2 of pintails, 2 of shovellers and one of baldpates were also noted.

Benton Lake: On May 14th., Mr. Anderson and I noted a few pairs of mallards, pintails and blue-winged teal along the creek in the upper end of this refuge. Full coveredge of the creek bed and flooded areas was not made so we did not know just how many ducks were present. When the refuge was visited during July 8th and 9th., about 200 adult ducks and severl broods of mallards, pintails and blue-winged teal were noted in a small slough created from runoff from the flooded hay units in the north western portion of the refuge. About 9 broods were also noted in the main creek channel inside the refuge. In following up the creek channel from Benton Lake to Power about 25 broods were counted.

General: Some good waterfowl data was received from Mr. Wyn Freeman, State Waterfowl Biologist, as a result of his air reconnaissance trip over the Choteau area. He stated that ducks were quite numerous but widely scattered. In the area surrounding the Malone Sloughs all potholes and small lakes had a good duck population but the only real large concentrations were found on the Bynum Reservoir and on Freezout Lake. He said that Bynum Reservoir had about 9 or 10 thousand ducks. He also stated that there were only a very few birds on Pishkun and Willow Creek reservoirs. No geese were observed in the entire area.

III REFUGE DEVELOPMENT AND MAINTENANCE

No development or maintenance work was performed on these refuges this period.

IV ECONOMIC USE
(Benton Lake)

A. Grazing:

Six grazing permits were issued for Unit I-G of Benton Lake Refuge. Total utilization of the six permits is for 1478 A.U.M.'s of grazing between July 15th and November 14th. Payments in full were received on all grazing permits totaling $739.00, based on a 50 cent rate per A.U.M.

B. Haying:

Four permits were granted to harvest hay on various hay units within unit I-G and one permit was granted to put up hay in unit 5-G. A total of 265 tons of hay at $1.00 per ton is requested in these permits.

Completed Sept. 7, 1948

Leon G. Snyder
Refuge Manager

Regional Office