

ROUTING SLIP

DIVISION OF WILDLIFE REFUGES

DATE: 11-28-1941☒ MR. SALYER gls(1) ☒ ~~MRS. WOODIN~~ W☒ MR. ELMER G~~MRS. GARVIN~~ ACF 1/17☒ ~~MR. DUMONT~~ PAD 1-19

SECTION OF HABITAT IMPROVEMENT:

~~Mr. Kubichek~~~~Mr. Smith~~ PAD 12/1/9~~Mr. Griffith~~ REG 12/11/41~~Miss Cook~~ Jwe 12-18-41☒ SECTION OF OPERATIONS:~~Mr. Krummes~~ WR 1/17~~Mr. Gustafson~~ WR 1/20(2) Miss Baum W

Mrs. Kricun _____

☒ SECTION OF ERA:

Mr. Regan _____

Dr. Bourn _____

Mrs. Fishman _____

☒ SECTION OF LAND MANAGEMENT:~~Mr. Earnshaw~~ B~~Mr. Ackerknecht~~ 11-21
W☒ STENOGRAPHERS:Miss Whorley VW 12-18-41☒ SECTION OF STRUCTURES:

Mr. Taylor _____

REMARKS:

Bowdoin Quarterly
August - October 1941Return to: D. W. FilesWildlife Refugees

148
IN REPLY REFER TO

R
Hart Mountain
Lake Bowdoin

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

OFFICE OF REGIONAL DIRECTOR

630 AMERICAN BANK BUILDING
600 Weatherly Building
PORTLAND, OREGON

REGION 1
WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA

November 29, 1941

The Director
Fish and Wildlife Service
Washington, D. C.

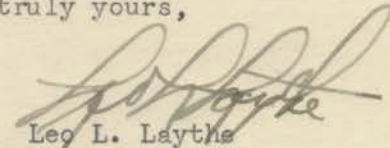
Dear Sir:

Further reference is made to our letter of November 22 which covered the submission of narrative reports submitted from Bowdoin, Camas, Deer Flat, Fort Peck, Hart Mountain, Malheur, and Fishkum National Wildlife Refuges for the period August, September, and October, 1941.

In order that your files may be kept separate, as well as the files in this office, we are covering these reports separately.

We have gone over the Bowdoin narrative report and feel that Mr. Hazeltine has covered the work on the Bowdoin Refuge in good shape. We do not have any suggestions to make at this time, with the exception of the fact that Mr. Hazeltine will be advised to keep in close touch with the easement areas in order that the control structures may be watched closely for damage through rodents and other animals.

Very truly yours,


Leo L. Laythe
Regional Director



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UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

OFFICE OF REGIONAL DIRECTOR

PORTLAND, OREGON

November 29, 1941

The Director
Fish and Wildlife Service
Washington, D. C.

Dear Sir:

Further reference is made to our letter of November 22 which covered the submission of narrative reports submitted from Bowdoin, Gunn, Bear River, Hart Mountain, Malheur, and Fish Lake National Wildlife Refuges for the period August, September, and October, 1941.

In order that your files may be kept separate, as well as the files in this office, we are covering these reports separately.

We have gone over the Bowdoin narrative report and feel that Mr. Heston has covered the work on the Bowdoin Refuge in good shape. We do not have any suggestions to make at this time, with the exception of the fact that Mr. Heston will be advised to keep in close touch with the assistant warden in order that the control structures may be watched closely for damage through rodents and other animals.

Very truly yours,

W. L. Layton
Regional Director



LAKE BOWDOIN NATIONAL WILDLIFE REFUGE
MALTA, MONTANA
NOVEMBER 7, 1941

BIOLOGICAL NARRATIVE REPORT
PERIOD AUGUST 1, to OCTOBER 31, 1941

I. General

A. Weather Conditions

Rainfall during this period has been about normal, and moderate temperatures have extended throughout October with the exception of a couple of short blustery spells.

Weather, in relation to migration, has been quite satisfactory thus far and the birds are stopping regularly at the refuge to feed and rest on their way South.

B. Water Conditions

Approximately 1000 acre feet of water has been received from the Bureau of Reclamation during September and October, which has raised the main lake area about three to four inches and the water level now stands at the 2205.60 ft. contour with some water still coming in. The lake area south of the Great Northern Railroad tracks is standing up well with the small amount of waste irrigation water picked up from time to time. Lakeside Marsh is quite low but plans are being made to divert some of the water now flowing into the main lake area into this unit to prevent possible damage to vegetative plantings as well as the considerable number of muskrats that are now inhabiting this area. This will depend on the amount of water that may be available from the Reclamation and as to whether weather conditions will permit the flow of this water before winter sets in.

gd

Dry Lake, for which there is no water supply, remains dry

but plans are being made for burning the vegetation off from this area as botulism preventive measures, should it be possible to flood this unit from Beaver Creek during the spring run off.

C. Fires

On September 17 a fire broke out on the north side of the right-of-way Great Northern ~~right-of-way~~ and burned over approximately 100 acres of valuable nesting area. This fire was strung out over a distance of nearly two miles along the ~~right-of-way~~ right-of-way and appeared to be the result of carelessness on the part of the engine crew operating one of the freight trains. This fire was brought under control by regular refuge personnel assisted by a few members of our Fire Suppression Cooperative Crew. This incident has been reported to the Superintendent of the Great Northern Railway and a special report submitted to the Regional Office.

II. Wildlife

A. Water Birds

1. Population and Behavior.

Although the weather has been quite moderate, the migration, in my opinion, is fairly well over at the close of this report. A few days ago the lake became almost completely frozen over, but this was followed by a couple of days of moderate weather and high wind, which has opened the lake up again and some 20,000 or more birds still are on the refuge at this time.

Although this year the migration shows some increase, possibly 10% as a whole, no migration check list has been prepared at this time, as the migration is not yet completed on most species and might yet fluctuate to some extent before freeze-up. I am, however, enclosing with this report my check list of birds showing the spring

migration and summer residence.

2. Food and Cover

Between the latter part of August and mid October, there was a very noticeable influx of birds to the refuge. The more prominent species of these were: Green-wing Teal, Baldpate, Gadwall, Redhead, Canvasback, Blue-wing Teal, and Shovelers. These birds, in the most part, concentrate very heavily in feeding on the immense *sago beds spread across the south central portion of the main lake.* The Mallards and Pintails as well as the Canada and White Fronted Geese that come in mostly during the early part of October, have fed considerably on food patches provided for them. The heaviest concentration of goose feeding has been on the newly established food patch on the north side of the refuge between the main lake and the dry lake areas which was seeded this year for the first time to spring wheat. The geese have also taken advantage of the winter wheat that was seeded on one of the older food patches on the south side of the refuge. They especially seemed to appreciate the availability of this green feed which is somewhat scarce in this locality at this season. The grain eating species of ducks have fed quite heavily on the patches of spring wheat planted on the west end of the refuge, south of the Headquarters, some of which has been mowed down for them under which circumstances they have taken immediate advantage.

Nesting cover on the north and west sides of the refuge, as well as on Big Island continues to improve and recover from the over grazing that took place prior to the establishment of the refuge. The Black Coulee Area is a virtual duck nesting paradise. Under improved conditions of the past few years and the nesting area south

of the Great Northern tracks is rapidly becoming a very valuable
nesting area

3. Disease

Only 132 Botulistic Birds were picked up on the refuge this year. A final survey made at this time and in connection with the muskrat census revealed that some birds were lost in inaccessible isolated areas that could not be recovered without an enormous cost and expenditure of regular funds, since no W.P.A. or other similar help was available. It is estimated that not over a total of 400 birds were lost on the refuge this season. This compares with a loss of between four and five thousand birds in 1940. The heaviest loss of birds was in some isolated pot hole in the south bay area (Picture No. 647). On August 6, Dr. Quartrup and Mr. Lakin visited the refuge and made various investigations and tests (Picture No. 648 & 649)

For complete information and comparison, I have prepared a Botulism Record Chart showing the losses, recovery, and other data on Botulism since the refuge was established in 1936 which is attached to this report. (see next page)

B. Upland Game Birds

On October 9, I observed three Sharp-tail Grouse on the refuge, which is the first time I have had the great pleasure of seeing these birds on the refuge since it was established. One of these birds was seen a short distance north of the Headquarters. Considerable planting and other preparation have been made to reestablish these birds on the refuge, since it is known that they did inhabit this area in large numbers several years ago, and there are still a few of them quite close to the refuge, especially in the Beaver Creek Vicinity.

BO ISM RECORD FOR LAKE BOWDOIN RE E

BIRDS TREATED

REMARKS

YEAR:	PERIOD	AREAS AFFECTED	ECOLOGICAL FACTORS	BIRDS LOST	AND RELEASED	
1936:	July	North shore of lake	Water low and stagnant	25	12	A few birds treated at temporary Hdqts. in cabin at Lake shore with 75% survival.
			Water very low and stag-			No Botulism noted, even though lake dried up completely late in July.
1937:	None	None	nant. Lake entirely dry in latter part of July	0	0	
1938:	Aug. 1 to Oct. 12.	Began on small lake south of railroad track, and gradually extended to all of Lake Bowdoin proper.	Rainfall above normal; extra water from Reclamation raised water level of L. Bowdoin 16 inches.	5380	Treated; 342 Released; 248	Excellent hospital facilities; 72.5% saved. Situation relieved by water from Reclamation. 72.5% recover
1939:	July 11 to Sept. 22	Rush Point, N. E. and West shores of Lake Bowdoin. Dry Lake most toxic.	Dry Lake flooded first time in 8 years.	12465 ducks 1613 other birds	Treated; 1529 ducks, 109 other Released 559 ducks 35 others.	Temporary hospital operated without aid until WPA resumed (July 25) 41 species handled. Dead birds disposed of estimated at 80% of total loss.
1940:	July 3 to Sept. 6	Lakeside marsh. SE & SW bays of main Lake, gradually spreading to most of L. Bowdoin proper.	Lakeside marsh is new area, mostly flooded for first time this yr. Water normal in main lake but with heavy concentrations of algae & waterbloom in areas where outbreak started	3810 ducks 844 other birds	Treated; 629 ducks 87 others Released; 347 ducks, 25 others	No help available till July 12 when WPA work resumed. Conditions generally much better than 1939. Birds disposed of estimated at 85% of total loss.
1941:	July 10 to Sept. 1	Nearly all birds found were in South Bay or on Rush Point or in that vicinity.	Small outbreak seemed to originate in small stagnant isolated pools in midst of excessive growths of hardstem rush patches.	132 by actual count. Estim - ate not over total of 400 birds lost on entire area	Treated 23, 10 recovered & released 43 1/2% recovery.	First outbreak on July 10 looked serious, but proved to be only a flair-up. Seasonal outbreak comparatively mild, but continued prevalent to some extent throughout July & Aug. Believe serious outbreak averted by proper manipulation of water level and probably assisted by removal of part of enormous decaying sago drifts along lake shore by use of raft-dozer.

Pheasants and Partridge continue to increase exceptionally well and are taking advantage of the paradise provided for them by the establishment of food patches and tree and shrub plantings in Black Coulee and in the vicinity of the Headquarters. Their presence is especially obvious at this time while the State Hunting Season is open on these birds outside the refuge. It is estimated that there is close to 1,000 pheasants and probably 500 or more Hungarian Partridge on the refuge at the present time.

C. Big-Game Animals

The antelope continue to thrive here on the refuge (Pictures No. 650 & 651) under natural habitat and are now beginning to form one large band in the Big Island Vicinity, as is customary each year at this time. Food conditions on Big Island and in the Black Coulee Area where they will spend the winter are excellent and these animals should come through the winter in the best of condition. The first rutting that was observed in the herd this year was on September 18, and is believed over at the close of this report (October 31).

D. Fur Bearing Animals

On August 28 and 29 a census or estimate was made of the muskrats on the refuge. In this work I was assisted by Mr. Pulling of the Fort Peck Game Range, and although we found it very difficult to make any reasonable accurate estimate of the rats on the refuge at the time, we agreed that at least 500 rats or possibly a thousand or better should be taken during the coming winter as surplus. We found that, although some areas are quite heavily inhabited ~~there~~ numbers should still be increased or at least maintained to provide for removal of excessive hardstem rush growth (Picture No. 652). We found also that in some areas where the population was ordinarily not of sufficient extent to require trapping that it might be necessary to remove a part of the existing breeding stock

to avoid the loss of animals during the winter because of existing low water levels. (Picture No. 653)

A trapping program was prepared and submitted to the Regional Office on September 16, but to which I have as yet received no reply. At the time my trapping program was prepared, it was assumed that the State Trapping Season would begin on December 1 as it did last year and plans were made accordingly. However, I now understand that the state regulations provide for muskrat trapping during the month of March only, and although sufficient water has been received to raise the lake water levels to some extent, it has probably not been sufficient to avoid a considerable loss, if muskrat trapping is not permitted prior to March 1. As soon as my trapping program has been approved, I plan to, or think it would be wise at least, to make a request to the Montana State Game Commission for an exemption whereby we could trap at least a part of our muskrats not later than January or February.

E. Fish

At the time water was turned into the lake from the Reclamation Canal at the Headquarters, a very heavy concentration of carp was noted in the spillway apparently attempting to migrate up the canal, but of course could not negotiate the Reclamation weir (Pictures No. 654 and 655). In an attempt to eliminate at least a portion of the carp from the lake, as they will undoubtedly in the future do considerable damage to aquatic vegetation, two temporary permits were issued to local residents to remove these fish from the spillway, pending final approval of an application to be submitted covering a special use permit for seining of carp from the main lake and spillway. One of these permittees is Elmer Knopfle, who resides adjacent to the refuge and operates a mink farm. The other is the McNeil Brothers,

local commercial fisherman, who also plan to do considerable seineing beneath the ice during the winter months.

III. Refuge Development and Maintenance

A. Physical Development

As no W.P.A. labor was available during this period, no development work was undertaken or accomplished except the dike construction which has been continued with the help of regular personnel only. Mr. Dodge has continued in operation of the dragline; Mr. Braaten was employed during September and October to assist with the dragline operations and to operate trucks and tractor equipment necessary in connection with the dike construction. Since considerable work was involved in connection with this dike construction other than merely operating of the dragline, it has been necessary for both Mr. Ekedahl and myself to divert considerable of our time from regular refuge activities to assist in carrying out this work. During the first part of August, it was necessary to make a fill across the channel extending south from the southeast arm of the main lake in order to continue west around the south side of the lake to join Dike "C" to the mainland, or which was commonly known as Big Island. This work involved considerable equipment operation, and it was necessary to pool the entire refuge force for a matter of four or five days to carry on this work. This was somewhat of a mixed crew consisting of: one dragline operator, one caterpillar and dozer operator, one laborer-patrolman, one N.Y.A. truck driver, and one refuge-manager - truck driver. (Pictures No. 656, 657, 658, & 659). After this fill across the channel was made, it was then possible to cross ^{with} the dragline and to continue the dike construction to the west. Before this could be done, however, it was necessary for Mr. Ekedahl and Mr. Braaten to operate the D7 caterpillar tractor and grader for several days to strip the base of the dike of new and decaying vegetative matter and to trench it out to prevent seepage. (Pictures No. 660, 661, 662). After the dike was cast west of the lake channel

it was necessary to cut an opening at the location of the proposed 100 foot water control structures providing for an inlet of Beaver Creek flood water to the main lake area. This cut was made only down to the original ground level which will act as a spillway or inlet for flood water from Beaver Creek at such time as it is possible to build this structure. This will allow flood water to flow through this opening to the main lake, but will not permit it to flow out as the flood recedes below the normal lake level. (picture No. 663) Various odd jobs in connection with this dike work was accomplished such as widening of the inlet channel from the completed 100 foot structure east to the natural lake channel to provide an inlet for dry lake. (Picture 664) 30,050 cubic yards of earth fill was cast in the dike by the dragline during this period. Dike "C" was extended westward and connected to the mainland about mid October (picture No. 665), and Dike "A" was completed just prior to close of this report which connects a point of the mainland to the Big Island Area (picture No. 666).

Mr. Dodge has now been transferred to the Tule Lake Refuge for a special assignment during the winter, to return here April 1 to resume his activities as dragline operator.

B. Maintenance

The regular periodical equipment checkups were made during this period and repairs made where necessary. Several days have been spent in trail maintenance involving dragging with an ordinary road drag and tractor, and dragging of the shoulders with a harrow behind a truck to remove thistles which would tend to catch and hold snow during the winter months.

The Public Shooting Grounds was posted in very much the same manner as last year wherein steel shafting was used, in

marking out the water boundaries on which was mounted a red flag and a small sign designating the boundary as such.

Considerable clean-up work has been undertaken in the vicinity of the Headquarters such as mowing and raking of weeds, etc.

C. Seed Collection

Although plans are made to collect some hardstem bulrush and sago seed, it was necessary to abandon this work since no W.P.A. or N.Y.A. assistance was available, nor was any regular funds with which to hire labor for this work.

D. Distribution of seed and nursery stock is as follows:

<u>ITEM</u>	<u>QUANTITY ON HAND</u>	<u>SURPLUS TO NEEDS OF REFUGE AND AVAILABLE FOR TRANSFER</u>
Prairie bulrush	133 bu.	33 bu.
Hardstem bulrush	150 lbs.	0
Wild Millet	100 lbs.	0
Pennsylvania Smartweed	14 bu.	0
Sago Pondweed	15 lbs.	0

Seed listed here is stored in granary at Refuge Headquarters where adequate storage is available. The average cost of harvesting the 133 bu. of Prairie Bulrush was approximately 50¢ per bushel.

During this period 100 lbs. of Prairie bulrush and 50 lbs. of Pennsylvania Smartweed was transferred to the Hill County Wildlife Association as authorized by the Washington office. Five hundred pounds of crested wheat grass which was obtained from the local Grazing District without cost was transferred to the Medicine Lake Refuge for Mr. Horn's use.

IV. Public Relations

A. Recreational Uses

Except for being a little too moderate, hunting conditions

225

412
total
lake

on the Public Shooting Ground have been quite good so far this season. Sportsman have enjoyed 167 man days of shooting and 301 ducks and 8 geese have been taken from this area during October. This compares closely with the figures of the first thirty days of hunting of last season. One complete list of birds by species and other relative information will be submitted to accompany the next narrative report after the close of the hunting season.

B. Visitors

1. Dr. Quartrup and Mr. Lakin	August 6 and 7
2. Fred Gabriel	August 20
3. Mr. Ashbrooke (Washington Office)	August 29
4. Paul Kreager	August 30 and 31
5. Elmer Johnson (State Game Commission)	September 23
6. Joe Hocking (Editor of Glasgow Courier)	September 23
7. Niel Hotchkiss	September 24
8. R. O. Gustafson	September 25
9. Tom C. Horn	September 25
10. H. L. Lantz (SCS Project Manager)	September 26
11. Lewis Moose (SCS Area Biologist)	September 26
12. K. F. Roahen	October 1 to 5 Also October 10 to 12

C. Violation

Accompanied by Mr. K. F. Roahen, U. S. Game Agent, I spent some time checking hunters in the vicinity of the refuge during the early part of October, and one violator was apprehended near the refuge for shooting with a short gun plug. His case was handled by Mr. Roahen and disposed of in Federal Court with a resulting fine of \$25.00 and costs of \$2.50. Mr. Roahen and I also spent some time patrolling along the Canadian border

between Turner and a point north of Havre, which is in the vicinity of three of the easement areas under my administration. On October 1 we apprehended three men who were crossing the border into Canada and shooting ducks without a Canadian license and transporting them back into the United States which is in violation of our Lacey Act. These cases have been filed and are being held by Mr. Roahen.

No violations have been observed as yet on the Public Shooting Ground.

D. Publicity

On August 10 I was successful in having several pictures printed in the Sunday edition of the Great Falls Tribune showing the activities conducted in the refuge in connection with removing of decaying sago drifts from the lake shore. These pictures showed up well in print, and are considered a somewhat valuable piece of public relations activity. A copy of the pictures will be found following the photographic illustrations accompanying this report.

On October 31 I took an active part in broadcasting production No. 2 of "Your Wildlife" at station KGDX in Wolf Point, in which Mr. Horn and Mr. Pulling also took part.

V. Economic Uses of Refuge

As there has been very little demand for grazing on the refuge, no permits have been issued thereby permitting the upland range to continue to reseed and recover from over grazing in past years. A couple of requests were made to cut hay in the Black Coulee Area, and although the Reclamation Service was authorized to grant permits covering a limited amount of hay, no harvest operations have been undertaken.

VI. Field Investigation or Research

Because of the extreme shortage of help and the need for contributing a great deal of both mine and Mr. Ekedahl's time to assist

with dike construction and because of the lack of assistance in the office, it has been impossible to conduct any bird banding operations during this past season. This is regretted very much as I especially desire to carry on as much of this type of work as possible, and plans are being made to do as much banding during this next season as other situations will permit.

Attached to this report is a summary of returns and recoveries obtained during the past year

VII. Other Items

A report covering the four Easement Areas under my administration follows. Also following is a group of illustrative photographs for these reports.

BIOLOGICAL NARRATIVE REPORT ON HEWITT LAKE, BLACK COULEE,
LAKE THIBEDEAU AND GREEDMANS COULEE EASEMENT AREAS ADMINISTERED
FROM AND IN CONNECTION WITH THE BOWDOIN REFUGE
PERIOD AUGUST 1 to OCTOBER 31, 1941

On September 2 fencing operations were undertaken to enclose water control structures on the Thibedean Refuge. This protection from stock was badly needed and regular funds were provided for the hire of some local labor to assist with this work (Picture #667). The Mud Lake - Grassy Lake Spillway was enclosed as was the entire dam and spillway between Lake Thibedean and Grassy Lake (Pictures No. 668, 669, 670, and 671).

The wing walls and small side inlet-drop at the Thibedean Diversion Reservoir were fenced, weeds cleaned out and minor repairs made (pictures No. 672, 673, and 674).

In connection with this structure fencing program at Thibedean, a predatory animal and rodent extermination campaign was also launched and several skunks (Picture No. 675) were removed. Richardson Ground Squirrels (Gophers) were poisoned in the vicinity of all structures. (Pictures No. 676, 677, and 678) A few very large Bull Snakes were also exterminated at the Diversion Reservoir unit where some duck nesting activities are usually prevalent. (Picture No. 679)

The main Thibedean Lake area as well as Grassy and Mud Lake units are completely dry, but the Diversion Reservoir water supply holds up well and this small but very fine area has ^{yielded} ~~accomplished~~ a considerable number of birds throughout the summer as well as during the fall migration.

Since no executive order was obtained on the Greedman Coulee Refuge prior to opening of the hunting season, existing refuge signs and markers were removed, and when this area was last inspected on October 7, there was evidence of considerable shooting and ^{only} ~~few~~ birds remained.

Black Coulee is a Model Easment Refuge ^{on my} ~~and~~ inspection of September 30,

A large number of birds, (about six thousand) were observed and seemed to be perfectly contented here where adequate water, food and shelter was available.

Hewitt Lake continues to be unmercifully grazed off by sheep and other stock. Water is holding up fairly well in the lower lake but upper lake is dry. Inspection of September 29 revealed only a few ducks, but on visiting the area again on October 10, 165 Canada and White Fronted Geese were observed on the lower lake, evidently driven off the near by Nelson Reservoir by hunters.

SUMMARY OF RETURNS AND RECOVERIES - 1941

[illegible]

LAKE BOWDOIN REFUGE MIGRATORY WATERFOWL RECORD (Estimate) - 1941

SPECIES	SPRING MIGRATION		SUMMER RESIDENTS		DATES FIRST OBSERVED	
	1941	1940	1941	1940	1941	1940
1. Pintail	6300	4000	2800	2500	3-1	3-10
2. Shoveler	4400	3000	2000	2000		
3. Baldpate	6500	4000	1600	1500		
4. Teal, Blue Wing	3500	3000	2400	2000		
5. Gadwall	4200	1000	1000	1000		
6. Mallard	4500	3000	1500	1000	3-10	3-10
7. Scaup	2000	2000	400	500		
8. Redhead	1800	1000	500	500		
9. Ruddy	800	500	300	300		
10. Canvasback	1500	800	600	300		
11. Teal, Green Wing	1200	1000	100	50		
12. Teal, Cinnamon	300	200	20	50		
13. Bufflehead	500	500	30	30		
14. Goldeneye	500	500	30	20		
15. Merganser, American	300	300	0	0		3-6
TOTALS	38300	24800	13280	11750		

GEESE

1. Goose, Canada	1400	800	300	275	3-17	3-5
2. Goose, Snow	1500	1500	0	0	3-29	3-29
3. Goose, White Fronted	100	0	0	0		
4. Brant	50	0	0	0		
TOTALS	3050	2300	300	275		

SWAN

1. Swan, Whistler	50	100	0	0		
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CRANES, RAILS, SHOREBIRDS, ETC.

1. Avocet	400	500	450	300		
2. Dowitcher	500	0	0	0		
3. Coot, American	4000	2500	2000	2000	4-6	
4. Crane, Sandhill	1500	500	0	0	4-10	4-16
5. Curlew	200	300	50	200	4-16	4-25
6. Godwit	400	300	250	250		4-25
7. Killdeer	1500	1000	1000	800		4-25
8. Morning Dove	300	200	100	200		
9. Phalarope, Wilson's	2000	1000	1000	800		
10. Plover, Black-billed	400	400	100	100		
11. Sandpiper, Spotted	250	200	100	100		
12. Sandpiper, Stilt	200	100	50	50		
13. Sandpiper, Least	300	0	0	0		
14. Sandpiper, Pectorial	200	0	0	0		
15. Snipe, Wilson's	250	200	100	100		
16. Willet, Western	400	300	300	200		
17. Yellowleg, Lesser	200	200	100	100		
18. Yellowleg, Greater	150	200	200	200		

LAKE BOWDOIN REFUGE NON-GAME BIRD RECORD - 1941 (Estimate)

SPECIES	SPRING MIGRATION		SUMMER RESIDENTS		DATES FIRST OBSERVED	
	1941	1940	1941	1940	1941	1940
1. Bittern, American	40	25	30	25		
2. Grebes, Eared	3000	3000	3000	2500		
3. Grebes, Western	800	200	800	100		
4. Gull, Ring-billed	4000	2500	4000	2500	3-18	3-23
5. Gull, California	2500	2500	2500	2500		
6. Gull, Herring	500	500	500	500		
7. Gull, Franklin	0	500	0	400		
8. Heron, Great Blue	500	400	300	250	4-2	3-29
9. Loon, Common	20	5	0	0		
10. Pelican, White	2000	1500	3000	1500	4-6	4-14
11. Tern	2500	2000	2500	2000		
12. Tern, Black	300	300	100	150		

INSECTIVOROUS BIRDS - 1941

SPECIES	EXTENT OF INHABITATION			DATES FIRST OBSERVED	
	RARE	MODERATE	COMMON	1940	1941
1. Bunting, Snow ✓			x		
2. Bull-Bat			x		
3. Blackbird, Yellow-headed ✓			x		
4. Blackbird, Red-winged ✓			x		
5. Blackbird, Brewer's ✓		x			
6. Crow		x			
7. Grackle ✓		x			
8. Horned Lark, Prairie ✓			x		
9. Junco ✓			x		
10. Kingbird ✓			x		
11. Lark, Bunting ✓			x		
12. Longspur, McCown's ✓			x		
13. Longspur, Chestnut-collared ✓			x		
14. Meadowlark, Western ✓			x		
15. Pipit, American ✓		x			
16. Phoebe ✓			x		
17. Robin ✓	x			5-5	3-31
18. Swallow, Barn ✓			x		
19. Sparrow, English ✓			x		
20. Sparrow, Gambels ✓	x			5-6	
21. Warbler, Northern Yellow-throat ✓			x		

LAKE BOWDOIN REFUGE MISCELLANEOUS BIRD AND MAMMAL RECORD - 1941

OWLS

SPECIES	EXTENT OF INHABITATION			DATE OBSERVED OR REMARKS
	RARE	MODERATE	COMMON	
1. Burrowing			x	
2. Short-eared			x	
3. Snowy	x			
4. Richardson's		x		

HAWKS

1. Marsh			x
2. Coopers			x
3. Western redtail		x	
4. Swainsons		x	
5. American Rough-legged			x
6. Duck			x
7. Prairie Falcon		x	
8. Sparrow			x

EAGLES

1. Golden	x appear in fall & stay throughout winter
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UPLAND GAME BIRDS

SPECIES	NESTING POPULATION 1941	WINTER POPULATION 1940	REMARKS
1. Pheasant, Ring-necked	200	350	
2. Partridge, Hungarian	150	50	
3. Grouse	30	25	

MAMMALS

SPECIES	Summer Population 1940 (not including young) 1941		REMARKS
1. Antelope	25	31 adult & about 12 fawns	
2. Coyote	8	10	
3. Badger	12	18	
4. Muskrat	800	4000	
5. Mink	10	10	
6. Weasels, Common	36	40	
7. Weasels, Least	19	20	
8. Skunks	21	30	

EASEMENT AREA BIRD LIST

1941 BREEDING POPULATION AND COMPARISON WITH PREVIOUS YEAR (Estimate)

SPECIES	HEWITT LAKE		BLACK COULEE		THIBEDEAU AREA		GREEDMANS COULEE	
	1941	1940	1941	1940	1941	1940	1941	1940
Pintail	150	250	400	400	250	250	300	250
Shoveler	150	200	300	350	300	250	400	350
Baldpate	75	100	350	150	200	300	300	200
Teal, blue-wing	50	100	250	200	200	150	400	350
Gadwall	50	50	350	300	100	100	200	150
Mallard	100	150	300	350	200	150	350	250
Scaup	50	80	100	1080	80	220	200	250
Redhead	25	50	200	200	50	30	200	150
Ruddy	25	100	150	175	50	25	50	40
Canvasback	20	50	75	50	25	25	50	25
Teal, greenwing	10	10	50	50	80	25	40	25
Teal, cinnamon	0	0	0	0	10	10	12	12
Bufflehead	20	25	100	100	15	10	30	30
Goldeneye	0	0	50	50	30	20	15	20
Goose, Canada	6	8	0	12	0	0	6	6
Avocet	50	100	150	100	100	100	100	50
Coot	50	200	250	200	150	200	0	0
Curlew	30	50	30	30	50	50	350	300
Godwit, marbled	50	60	60	50	30	50	40	30
Killdeer	75	100	250	200	250	250	250	200
Phalarope, Wilson's	150	200	300	300	250	300	100	50
Willet, Western	25	50	75	75	50	50	100	75
Grebe, eared	150	200	100	100	0	0	250	200
Grebe, western	0	0	0	0	0	0	120	130
Tern, common	100	100	250	200	50	50	400	400
Tern, black	0	0	30	30	0	0	50	30
Pheasant, ringneck	0	0	0	0	30	20	100	75
Partridge, hungarian	20	20	20	20	50	50	100	50
Grouse, sage	15	15	0	0	30	25	50	50



No. 647

Nearly all Botulism losses were in such isolated pot-holes as this one in South Bay where two affected Green-Wing Teal can be seen.

August, 1941



No. 648

Dr. Quortrup coming in with his "Botulism" sample taken on what is locally known as "Poison Point."

August, 1941



No. 649

Dr. Quortrup and Mr. Lakin taking Botulism samples in South Bay area.

August, 1941



No. 650

This young buck ranging on north side of refuge does not mind having his picture taken.



No. 651
Part of the Bowdoin antelope
herd bunching up for the
winter.

October, 1941



No. 652
This small opening is one of
few made in excessive rush
growth on Rush Point. Except
for these **openings**, rushes are
too dense for nesting birds
to penetrate.

August, 1941



No. 653
Low water levels have dropped
shoreline well below established
rat runs.

August, 1941



No. 654
This looks like good fishing
to me, but they are only carp
trying to get up spillway
into Reclamation Canal.

September, 1941



No. 655

This big one didn't get away! These carp now weigh from five to ten pounds and are suitable for shipment to eastern market. Arrangements are being made with local commercial fisherman to seine them from under ice in lake this winter. Possibly some will reach Washington, D.C. in a salmon cannery, who knows?

September, 1941



No. 656

Loading dirt at spoil bank where excavation made 100 foot structure for use in Lake channel fill.

August, 1941



No. 657

Dumping dirt for lake channel fill.

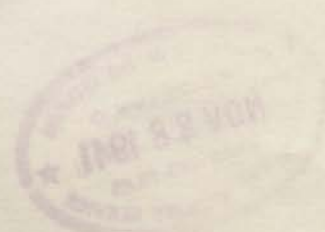
August, 1941



No. 658

Dozing dirt into lake channel for dike fill.

August, 1941





1941
NOV 28 1941
RECEIVED
DEPARTMENT OF THE INTERIOR
WILDLIFE SERVICE

1941
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No. 659
Dike fill of about 3,000 yards sufficiently completed to provide for access and transportation of equipment to west side of lake channel.
August, 1941



No. 660
Dragline equipment has crossed dike fill across lake channel and is getting under way with continuation of dike "C" to the west.
August, 1941



No. 661
Both dragline and Caterpillar, and blade outfit at work west of lake channel on Dike "C".
September, 1941



No. 662
Prepared base for Dike "C" south of main Bowdoin lake. Note that all vegetation has been removed and ground trenched to prevent seepage. Dragline, Caterpillar outfit, and town of Bowdoin can be seen in distance.
September, 1941



No. 663
Removing section of Dike
fill at location of 100
foot structure providing
inlet to main lake in case
of flood from Beaver Creek
next spring.

October, 1941



No. 664
D-7 Caterpillar and Scraper
widening channel cut west
of completed 100 foot water
control structure.

October, 1941



No. 665
West end of Dike "C" which
has been joined to point of
mainland north of Great
Northern tracks in Section 2.

October, 1941



No. 666
Looking southwest toward
Dike "A" which is nearing
completion, so far as the
dragline is concerned.
Grassy upland in foreground
is Big Island to which dike
will be joined.

October, 1941



No. 667

Trampling of stock has started destruction of corner of this wing wall rip-rap on on mud lake - Grassy Lake Spillway. This was repaired and structure fenced at Thibedeau.

September, 1941



No. 668

Lake Thibedeau - Grassy Lake spillway and dam prior to fencing. Stakes to right mark where fence is to go. This is a before and after shot - see picture No. 669.

September, 1941



No. 669

This shows fence completed around dam and lower spillway structure between Lake Thibedeau and Grassy Lake. Also note that weeds have been cleared away from bottom of structure.

September, 1941



No. 670

View of upper end Thibedeau Grassy Lake spillway after fencing completed.

September, 1941



No. 671
Not a "V" for Victory Emblem
but a view looking south at
the main Thibedean Grassy
Lake Dam after fencing
completed.

September, 1941



No. 672
East end Diversion Reservoir
spillway wingwalls fenced
to prevent damage and
erosion by stock trampling.

September, 1941



No. 673
Side inlet-drop on west
end Diversion Reservoir
unit of Thibedean Refuge
in need of repair. See
picture No. 674 where repairs
made.

September, 1941



No. 674
West end Diversion Reservoir
spillway walls after fence
completed, weeds burned out
and repairs made to side
inlet-drop.

September, 1941



No. 675
Three skunks were killed in
this one outlet culvert below
main Thibedean Dam.
September, 1941



No. 676
Spreading squirrel poison
near Mud Lake - Grassy
Lake spillway.
September, 1941



No. 677
This squirrel (Lower Right)
will do no further damage
to Thibedean Refuge structures.
September, 1941



No. 678
Squirrels were poisoned on
all earth structures and
damage repaired.
September, 1941



No. 679
One of the large Bull Snakes
that were exterminated at
the Diversion Reservoir unit
of Thibedean Refuge.
September, 1941



No. 878
One of the large Bull Snakes
that were exterminated at
the Division Reservoir north
of Tildenburg, Idaho.
September, 1941



LIFT UP

NOTE - See PICTURE ON BACK SIDE THIS PAGE

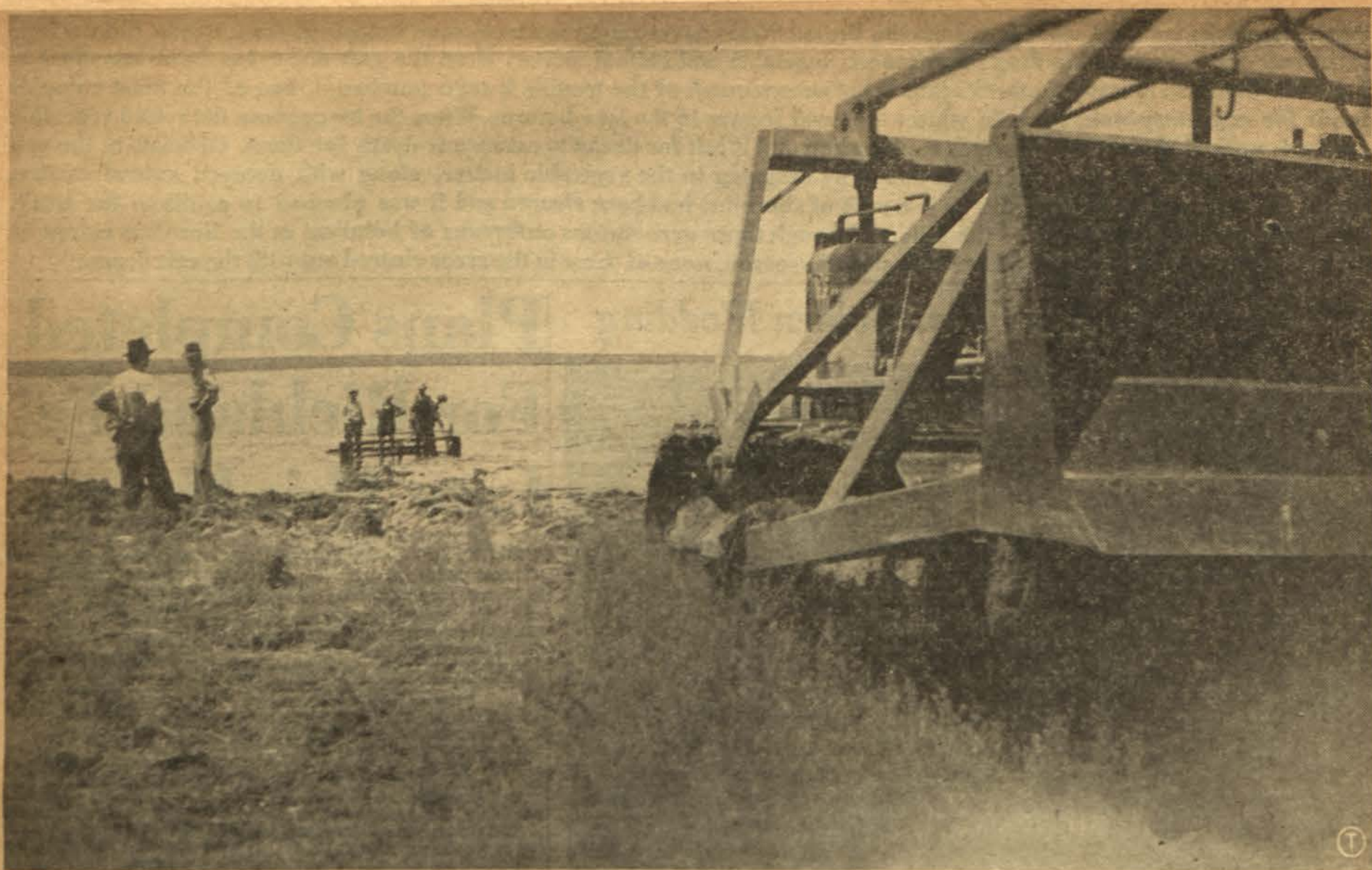
Sunday Morning, August 10, 1941

THE GREAT FALLS TRIBUNE

Montana

Page Five

Raft Dozer Removes Decayed Matter From Lake



The raft dozer designed at Lake Bowdoin and built in the national wildlife refuge shop there means that sportsmen will have more shooting, for waterfowl that would die from infection caused by decayed matter are saved. Above, the raft dozer is loaded on a truck to be transported to the Lake Bowdoin shore. Below, heavy cables are attached to the raft dozer and it is pulled to shore with its deadly load. So far the raft dozer has operated only on an experimental basis, according to B. M. Hazeltine, manager of the Bowdoin national wildlife refuge, but the results appear to be solving a serious problem.

Government Works to Save Birds From Death



At the Bowdoin national wildlife refuge the United States government works to save waterfowl from death. Shown here is the raft dozer, designed to drag in poisonous vegetable and animal matter. Here the raft dozer has been launched in Lake Bowdoin and is ready to start its job. What causes much of the trouble is sago pondweed, one of the most valuable foods for migratory waterfowl. In winter the weed freezes in the lake bottom. When the ice goes out the rotted vegetable matter is washed shoreward. Now it is rank poison and if left for ducks to eat means death for them. Officials at the refuge are successfully coping with this problem by dragging in the vegetable matter, along with decayed animal matter, drying and burning it. By July this year a mile of shoreline had been cleared and it was planned to continue the work. The WPA has supplied much of the labor. Although there were serious outbreaks of botulism at the Bowdoin refuge in 1939 and 1940, few birds have been affected this season, none of them in the areas cleared out with the raft dozer.

Falls Couple Celebrate Their Golden Wedding



Mr. and Mrs. C. C. Johnson (above) of 213 Eighth street south recently celebrated their golden wedding anniversary. A family reunion dinner and a reception marked the occasion. Relatives were here from out of town.

Plans Completed For Richland Fair Late This Month

SIDNEY, Aug. 9.—(Special)—The Richland County fair will be Aug. 23 to 30 and preparations are in full swing for this outstanding eastern Montana event. Secretary-Manager Chet Johnson states.

Many new exhibits are expected. Richland and adjoining counties' dry and irrigated area crops, which are the best in years, will provide a huge reservoir to assure an outstanding agricultural exhibit.

Three bands will furnish music each day.

Six thoroughbred races are scheduled each day in competition for \$1,500 in prize money. They will be run under the pari-mutuel plan.

Noted circus acts will be provided

at the grandstand afternoon and night programs, featured by the revue, "America Swings." The night programs will be highlighted by the fireworks display of the Thearle Duffield Co., Inc., of Chicago.

The Zeiger United shows will fill the midway.

23 Junior Scouts At Girls' Camp

LIBBY, Aug. 9.—(Special)—About 23 junior Girl Scouts spent the week at the Boisvert resort on McGregor lake. Mesdames J. M. Cairns, Clay Parker and Bernhard Schlumm were chaperons. Mrs. R. N. Whitefield was nurse, Miss Anna Louise Olson, life guard, and Mrs. Edwin Holmgren did the cooking. Instruction in bird lore, woodcraft, leather tooling and clay pottery was given.

Girl Scout Camp

LIBBY, Aug. 9.—(Special)—Senior Girl Scouts attended their annual outing on Flathead lake at Kamp Kalitana.

Family Reunion

Forty-one attended a family reunion picnic Aug. 3 at the home of Mr. and Mrs. A. D. Wuerl of Smith river. Honored guests were Mr. and Mrs. Roy Potter and Mrs. Sam Mariani and daughter, Theresa Ann, all of Dayton, Nev. They also attended the fair here.



Through the invention of a "raft dozer" at the Bowdoin national wildlife refuge, danger to waterfowl from botulism has been reduced to a minimum. When the ice goes out in the spring, decayed vegetable and animal matter are washed shoreward and from this matter waterfowl get the fatal disease, formerly known as alkaline poisoning or western duck sickness. Above, the teeth of the dozer, which is on a raft, are raised or lowered to prevent the dozer from sliding over the top. Below, up to 25 tons of drift are pulled to shore at each haul, then dried out and burned. The government is saving the ducks so sportsmen may have better shooting.

So far attempts to burn the dry debris have failed completely.

SEE FOLLOWING PICTURE

mittee consists of many members. Schroeder will have an interesting report to make, especially to the large and small gold and sapphire placer operators in Montana.

Convention Committees

P. R. Gorham, Christ Aassen and Sylvia Vincelle comprise the local committee at Silver Gate. William W. Thayer, president of the Cooke City Commercial club, announced the following Cooke City committees:

Exhibits and registration—William W. Thayer, E. W. Wade, V. O. Jackson, Lorin Bice, W. A. Hooser and W. A. Bross.

Publicity—Ada E. Richardson and William W. Thayer.

Entertainment—William W. Thayer, E. W. Wade, Edwin Flom, Joe DeGrande, George Perkins, Mrs. R. L. Robertine, Alice Britton, Mrs. Lorin Bice, Mrs. G. W. Cole, Mrs. W. A. Hooser, Ada E. Richardson and Lyman H. Brooks Jr.

Reservations for cabin and chalet space should be made with P. R. Gorham, Silver Gate and William W. Thayer, Cooke City. Many reservations have come in.

Only Cash Grain Can Be Shipped in Blaine

CHINOOK, Aug. 9.—(Special)—Chinook elevators are filled to capacity with wheat and are accepting only cash grain that can be unloaded from railroad cars promptly on arrival at market. Farmers are forced to provide storage on the farm and are building new bins or repairing old ones.

Yields of winter wheat have been mostly around 30 bushels an acre, with an occasional field going 35 bushels. Best of the spring wheat fields, in which combining started the last week, are yielding 30 bushels.

Sidewalk Project

FROID, Aug. 9.—(Special)—Work will soon start on sidewalk improvements in Froid and concrete walks south and west around the Mercantile & Farmers' Union Trading Co.

Lake Beach Popular

FROID, Aug. 9.—(Special)—The recreational grounds on the east shore of Medicine lake is a popular place. All bathing accommodations are free.

In Bozeman

BOZEMAN, Aug. 9.—(Special)—Directors and other administrative officers of agricultural extension services in the 11 western states will gather at Montana State college Wednesday for the opening of the annual western states extension conference, it was announced by J. C. Taylor, director of the Montana extension service.

Heading the list of speakers on the four-day conference program will be M. L. Wilson of Washington, D. C., director of extension, United States department of agriculture, former faculty members of Montana State college, and first agricultural extension agent in Montana.

Besides being director of extension, Wilson is chairman of the nutrition advisory committee to the co-ordinator of health, welfare and related defense activities. His address on the opening day of the conference will be on "Nutrition and Defense."

Dr. A. L. Strand, president of Montana State college, will welcome the visiting extension officials to the campus at the opening general session Wednesday morning. He will be followed by A. E. Bowman, director of the Wyoming Extension service, who will explain the conference plan.

The conference program has been built around four major subjects of vital concern to western agriculture and the nation's defense program, Director Taylor said.

Teachers Not Returning

LEWISTOWN, Aug. 9.—(Special)—Teachers who will not return to Lewistown next year are Eveline Eccles, library; Dora Dykins, Altha Stucky and Margaret Roberts, physical education; Miriam Randall, dramatics; Lewis Ugland, debate; Miriam Pardee, music; Dorothy Markus, home economics.

Goes to Browning

FROID, Aug. 9.—(Special)—Alvy Cosper, in OCC work in Poplar the last few years, has been transferred to the same kind of work at Browning.



AHHH! The Ole Home Town Paper Looks Good!

Many of us have a son, a brother, a husband, a sweetheart or a friend at one of the Army camps throughout the country. Chances are he's kind of lonesome for some news about the "goings on" back home and there isn't a better way to let him in on them than by sending him a daily copy of the Great Falls Tribune. It's a swell gift and one that he'll appreciate because he'll want to keep in touch with local affairs.



Waterfowl Disease Peril Relieved at Bowdoin



Montana Mining Men Will Discuss Problems

Convention Slated for Next Month

During the last year three permanent committees have been established within the Mining Association of Montana and the chairmen of these committees will make reports at the Friday afternoon session of the annual convention to be held at Silver Gate-Cooke City on Sept. 5 and 6, according to Fred W. Bleck, vice president, Virginia City.

The workmen's compensation committee is headed by Stanley R. Moore, manager of the Standard Silver-Lead Mining Co., operating at Wilborn, Lewis and Clark county, and near Sheridan, Madison county. Other members of this committee are P. M. Mosier, manager of the M & M Mining Co., Radersburg, and William R. Callaway, manager of the Bartlett mine, Virginia City, and president of the Madison County Mining association.

Betterments Sought

Moore's committee has been carrying on work looking to the betterment of the present workmen's compensation laws, including unemployment compensation. His report is expected to create considerable discussion from the floor of the meeting.

John W. Schroeder of the Perry-Schroeder Mining Co., Helena, heads the placer committee and his com-

They Will Take Part in Association Confab



FRED W. BLACK

This Virginia City man is vice president of the Mining Association of Montana.



JOHN W. SCHROEDER

Operator near Helena, is chairman of the association's placer committee.



STANLEY R. MOORE

Chairman of workmen's compensation committee, operates mines in two counties.

Park Roads Given White Paint Stripe

YELLOWSTONE PARK, Aug. 9.—(Special)—To guide visitors and make the highways more safe for the motorist in Yellowstone national park, the national park service is having 110 miles of highway striped. A stripe four inches wide is being painted on the park's highways with special quick-drying, white lacquer paint.

Eight hundred gallons of paint and 200 gallons of thinner are expected to complete the job, or enough to paint about 120 average size houses with two coats of paint. The Idaho state highway department has co-operated with park officials in sending seven experienced men to the Yellowstone to do the work.

All equipment belongs to the national park service although the striping machine was copied after the one used in Idaho.

Extension Conference

