Summary.

Investigation made in Arkansas from November 24 to 30, 1919, revealed that, owing to unfavorable weather about two-thirds of the rice crop in that state was still unharvested. The total acreage for this year was about 175,000 acres. The flight of wild ducks from the north came in about November, and these birds, practically all Mallards, began at once to work in the rice fields where the grain was still in the shock.

Much additional damage was done by Blackbirds of four species.

The grain was being harvested as rapidly as weather conditions permitted but serious damage from wild ducks was imminent as the birds were feeding at night in the fields. It was recommended therefore that permission be granted to kill ducks at night in fields where rice was still standing or in the shock, under Regulation 10 of the Federal Migratory Bird Treaty Act. In accordance with this such permission was granted, extending to and including December 31, 1918.

A. W...
August 27, 1919.

Mr. W. H. Ransom,
U. S. Game Warden,
708 W. 20th Ave.
Spokane, Wash.

Dear Mr. Ransom:

For your information we inclose copy of an order of the Secretary dated July 30, 1919, authorizing rice growers, members of their immediate families and bona fide employees to kill ducks when necessary to protect the rice crops from damage and also form of the permit valid only when countersigned and issued by one of the officials designated in the order to countersign and issue the permits. Messrs. J. H. Stephens and Chas. H. Merry, President and Secretary, respectively, of the Pacific Rice Growers' Association, Sacramento, and Mr. George Neale, U. S. Deputy Game Warden, 2100 L St. Sacramento, and Mr. Stonewall J. Carpenter, U. S. Deputy Game Warden, Maxwell, Calif., have all been authorized to countersign and issue these permits.

For your further information we inclose copy of reports made by Mr. Alexander Wetmore of this Bureau, who investigated conditions in the rice belt of California last fall. We also inclose copy of the Bureau's letter dated August 7 to Mr. J. H. Stephens, concerning the issuance of the permits this year, and copies of letters just received from Mr. Neale and Mr. Newbert of the California Fish and Game Commission. All of these inclosures are self-explanatory and should give you a fairly good idea of the situation as it has existed and now exists in the rice belt with respect to the alleged depredations of wild ducks and the necessity of issuing permits allowing them to be killed. In this connection, we may say, however, confidentially, that the members of the state game commission have always been opposed to the issuance of these permits, but somewhat reluctantly gave their consent to the issuance of the Federal permits, operations under which are being carried on, notwithstanding the state law grants no such privileges, it being understood that the operations be carried on under the Federal permits with the sanction of the state game department which will not interfere.

There seems to be considerable uncertainty and misunderstanding concerning the authority conferred by the order of the Secretary and the permits. You will have in mind that under Section 2 of the Treaty Act, no person can kill, possess, etc., any migratory birds except as specifically permitted by the Secretary of Agriculture, and that the only authority to kill, possess, transport, or in fact do anything else with any migratory birds under this permit is contained in the permit itself, and that unless...
a specific permission can be found in the permit to do a particular thing or by natural inference without straining the terms of the permit, it can be assumed that a certain thing is authorized then the doing of that thing is unlawful.

Mr. Neale informs the Bureau that persons with ducks may be seen on the streets of Sacramento at all times and that we have no way of interfering. He also contends that they have no discretion to refuse a permit to a person who has applied for one and that there is no provision made for making an investigation to determine the necessity for issuing permits. As a matter of fact, Mr. Neale and Mr. Carpenter have been employed on a per diem basis by the Bureau for the very purpose of making investigations and determining the necessity for issuing permits, and we have advised Mr. Neale that no permits should be issued unless absolutely necessary to protect the rice crops from the depredations of ducks. Furthermore, that no ducks should be killed under permits unless absolutely necessary to protect the crops, and that if any permittee abuses the privileges granted by his permit it should be revoked immediately.

No person whether he be a rice grower, member of a rice grower's family or a bona fide employee of the rice grower can kill or possess ducks under the authority conferred by these permits unless the person the person killing and possessing the ducks has had issued to him and holds an individual permit properly countersigned by a duly authorized agent of the Bureau.

It is further contended that the issuance of these permits opens the way to the shipment of ducks by permittees to their friends and for commercial purposes. You will observe that the permit specifically states that the ducks killed shall not be sold, offered for sale, or shipped for purposes of sale, and that no permission is granted to transport the birds except to hospitals or charitable institutions in California for use as food. It follows that no birds can be shipped or transported except to charitable institutions or hospitals in California for use as food except that by natural inference a permittee has the right to carry or transport to his home for his own use ducks that have been lawfully killed by him. He may not even lawfully carry or transport birds that have been killed by some other permittee. You will also bear in mind that if any birds are transported, carried or shipped in packages that the packages must be plainly marked, etc., as provided by Regulation 6 of the Treaty Act Regulations, and that no shipments can be made except to hospitals and charitable institutions.

You should carefully study the provisions of the permit with respect to the manner in which ducks may be killed, with particular reference to the prohibition against killing them from natural or artificial blinds while on the water, in any field after the rice has been thrashed or from which it has been removed.
The Bureau is of the opinion that no great amount of difficulty will be encountered in seeing that the authority conferred by these permits is properly observed, provided, due care is exercised in issuing permits in the first instance, and making it fully known what can and what cannot be done under the permits.

You have been sent to California for the purpose of thoroughly investigating conditions in the rice belt, supervising the issuance of these permits and seeing that the law is properly observed. You should exercise extra caution not to antagonize the rice growers with whom the Bureau is now maintaining friendly relations but it must be distinctly understood that these permits are to be issued only when absolutely necessary to kill the ducks to prevent injury to the rice crop and that no ducks can be killed unless absolutely necessary to carry out the purpose and intent of the permits, and in any event, permits can be issued only to rice growers, members of their immediate families or bona fide employees. By bona fide employees, we mean persons that are employed under good intentions to actually work for the rice growers in the cultivation and harvesting of the rice crop at the prevailing rate of wages. Prompt and vigorous action should be taken against any and all persons found violating the law or abusing the privileges conferred by the permits. You should keep the Bureau fully advised, by telegraph, if necessary, in regard to conditions. If additional help is needed to properly patrol the rice belt, we shall be glad to consider the appointment of an additional number of state game wardens as U. S. Deputy Game Wardens and be paid a per diem of $3.50 and traveling expenses.

We may add in confidence, that politics is considerably mixed in affairs in California and you will have to keep your eyes and ears open to avoid falling into any pitfalls. Be extremely careful of what you say and do in order to avoid stirring up any unnecessary strife. Whenever in doubt, wire the Bureau fully in regard to the facts and await instructions.

Very truly yours,

Chief U. S. Game Warden.

Inclosure - 13077.

GAL;ECH

It is claimed that the ducks cannot do any damage to the rice at this time of year because it has not sufficiently ripened. You should take particular pains to observe the condition of the rice crop and learn with some degree of definiteness as to just what time of year the rice is susceptible of being damaged by the depredations of the ducks.
for April, 1919

**DUCKS AND RICE**

*By Dr. H. C. Bryant*

Game Expert of the California Fish and Game Commission

Museum of Vertebrate Zoology

University of California

**Editor's Note:** We are pleased to acknowledge receipt of the following treatise from the offices of the California Fish and Game Commission. It has been submitted for exclusive use in the COURIER.

This report comprises material gathered from various sources with the addition of facts gained first hand while investigating conditions during September and October, 1918. Nearly three weeks were spent near Willows and Maxwell on the west side in Glenn and Colusa Counties and four days on the east side in Sutter and Butte Counties.

**HISTORY**

The problem presented by the damage to rice caused by ducks is a relatively new one. Although rice has been grown in the Sacramento Valley for some ten years yet complaint of damage by ducks has not come into prominence until the last two years. During the 1917 session of the legislature no mention of damage by ducks was made by rice growers when they attempted to remove protection from blackbirds because of their depredations in the rice fields. Had severe damage been caused by ducks up to this time some complaint would certainly have been made.

In the fall of 1917 many newspaper accounts of damage caused to growing rice and rice in the shocks appeared. Numerous complaints made to the Fish and Game Commission finally resulted in detailing Mr. George Neale to investigate conditions and discover some means of protecting rice from the depredations of ducks. Mr. Neale hit upon the idea of using fire-works as a means to frighten the birds, and demonstrated that this method was practicable. The use of bombs thrown into the air from a mortar proved most effective. Mr. Cooper of Live Oak, Sutter County, reported that bombs furnished by the Raycliff Sales Company of San Francisco were very effective and that the explosion of these bombs drove the birds from the fields in such confusion that they did not return.

Early in the fall of 1918 numerous newspaper articles again appeared exaggerating damage done and attacking the Fish and Game Commission. The main point made in these articles was to the effect that rice growers should be allowed to slaughter ducks before the season opened to market them as a conservation of food measure. No mention was made of means of protecting crops. Prominent among the rice growers mentioned as accusing the ducks of great damage was Mr. W. D'Egilbert of the Western Rice Growers, Incorporated, a corporation, not an association, of rice growers, as the name would indicate.

The attitude of Mr. D'Egilbert may be judged from the following quotations from letters. He was doubtless misquoted in the newspapers.

"The reports of the damage by ducks to matured rice crops so far as my interests are concerned are not exaggerated unless you would say twenty-five acres off one tract of 100 acres destroyed in less than a week is exaggeration. The crop immediately contiguous to the destroyed crop will average from 38 to 40 sacks to the acre. You must bear in mind that this was only one specific instance of a hundred rice plants, and there were several more small patches eaten off."

**Fig. 1. This rice injured by ducks. Fallamas Ranch, near Gridley, Cal.**

"For two weeks before the opening of the duck season I found it necessary to keep three men constantly employed with guns to kill or scare the pests, and used besides bird shot, rifle balls and sky rockets. Our ammunition bill would average, I should judge, about $3.00 per day and the men's wages were $1.50 each per day. (Letter dated October 30, 1917.)"

"In view of the fact that I and my associate have lost by as close an approximate as possible four thousand sacks of rice from duck depredations, I am inviting prominent citizens of this section to visit our plantation for the purpose of assisting me in preparing the data necessary to convince your Commission that the State of California is losing a heavy food supply to say nothing of financial loss to the farmers." (Letter of W. D'Egilbert, November 5, 1917.)

"It is my desire to be helpful to your commission in remedying what amounts to an evil, for if the same damage has been done in other plantations as I have proved has been done in ours and other adjoining plantations, California has lost over 300,000 sacks of rice valued at over $1,000,000, in the past eight weeks. (Letter November 16, 1917.)"

As possible solutions of the problem Mr. D'Egilbert offered the following:

1. A district to embrace the Counties of Glenn, Butte, Sutter, Colusa and Yolo to be known as the "duck district" in which shooting of ducks could lawfully begin on September 15th of each year.
2. The right for hunters to kill ducks without limit from September 15th to October 31st in each year in said district.
3. Ducks killed in said season may be disposed of as the hunter desires, but not by selling in public markets. (Letter dated November 16, 1917.)

In an interview on September 17, 1918, Mr. D'Egilbert stated that he did not wish to exterminate the ducks, but simply wished to protect his crops. He even suggested that bombs might prove to be the best means. He stated that his appearance so often in the newspapers was due to the oft-repeated expression by the Fish and Game Commission "alleged damage to rice." He was anxious that every one understand that the damage was real.

Several rice growers finally appealed to the Food Administration with the result that the United States Biological Survey sent Mr. Alexander Wetmore to make a thorough investigation. Mr. Wetmore spent over two months investigating conditions, and his report brought about the solution of the problem, as indicated further on in this report. During September and the first part of October, 1918, we worked with Mr. Wetmore.

**METHODS USED IN INVESTIGATION**

As it was important that the real facts regarding the controversy as to the damage caused by ducks be obtained, the problem was approached from several different angles. In the first place a large number of growers were interviewed and their point of view accurately recorded. The methods of rice culture were investigated, numerous rice fields surveyed, and
careful investigation of actual damage in different localities was undertaken and the actual damage estimated. Furthermore, the habits of ducks and other birds in their relation to rice were studied. A large amount of territory both on the west side and the east side of the Sacramento River in Colusa, Glenn, Sutter and Butte Counties was investigated.

Figure 2. Open patch of water and damaged rice. Fallman Ranch, near Gridley, Cal.

RESULTS OF INVESTIGATION

Interviews: In order that the point of view of the rice grower himself might be well understood, a large number of growers (about fifty) were interviewed. Furthermore, townpeople merely interested in this problem were also interviewed. The farm adviser of Glenn County did not appear to be greatly disturbed over the agitation. He simply suggested that some means of attacking the problem should be worked out. The agricultural commissioner appeared to be more interested in being able to shoot ducks than in the damage to crops. Mr. Ernest Behr, Secretary of the Pacific Rice Growers Association, minimized the damage done and pointed out that the dead duck does not protect any better than the scared duck.

In a letter to H. Frank Newbert, President of the Fish and Game Commission, dated August 8, 1919, Mr. Behr said:

"It has come to my attention that various persons, some of whom in the past have been peculiarly interested in the killing and marketing of wildfowl, are now seeking to have the open season for taking such wildfowl extended by earlier opening, under the plea of saving the rice fields from destruction. Such a plea is wholly specious, having neither merit nor foundation in fact. I speak from the standpoint of a rice-grower. I do not desire to be understood as saying the wild ducks do not damage the rice in some instances, both in the stock and in the shock. I do say, however, that the extension of the open season is not the proper solution of the problem.

Once the restrictions under the protective season are removed, the rice grower will face a far graver menace—a more serious loss—than that caused by the presence of wildfowl in their fields. Trespassing hunters will do more damage in trampling and shelling out the ripened and ripening rice than the ducks will do. Likewise, it will cost more money to patrol the rice fields against the invasions of trespassing hunters than is represented by the amount of damage the ducks will do.

The proponents of an earlier beginning of the open season assert that as the law of trespass obtains at all times, all a grower has to do is to post notices warning hunters away and they will not enter his field. This is not true, as many growers can testify. But even granting that the law of trespass is observed and respected, the evil is not cured. There is nothing to prevent hunters shooting from the highways and sending their dogs into the fields to retrieve the fallen game. A dog scurrying through a field of ripened rice will trample and shred as much rice as will a man similarly engaged.

In this connection it is my opinion and belief that those who shoot ducks and permit them to lie where they fall, without making use of them as food, are in these days when conservation of all resources means success or failure in the prosecution of the war, not good citizens.

In fine, there is really nothing to be said in advocacy of extending the open season on wild fowl as a means of ridding the rice fields of the ducks. In fact, employment of the shotgun as a means to this end is a failure. It is a very costly practice and fails utterly to keep the birds away.

In this I speak from experience. On our holdings we have employed men, furnishing shotguns and ammunition, to scare the ducks away. It cost lots of money and gave no appreciable results. Last year we tried bombs, with pronounced success, and this year will use them entirely. It cost far less money and gave most excellent results. Out of this experience and that of other growers who have used bombs, I am prepared to say that with their adoption, the problem of keeping wildfowl out of the rice fields is solved.

I believe it would be most unwise to make a change in the game laws looking to an earlier open season. I recall that last year when it was reported very generally over the coast that the California game laws would be abrogated in the mistaken belief that the rice growers would be benefited thereby, hundreds of hunters rushed to the rice belt of the Sacramento Valley. They came from Vancouver on the north and from San Diego on the south. They came by train and by automobile, and automobile parties camped at the roadside awaiting word of the hoped-for remission of the game laws, were a common sight.

Fortunately, no change was made and the hunters returned to their respective localities—a most fortunate circumstance for the growers of rice."

The consensus of opinion of the growers interviewed was that the grower should lawfully be allowed to protect his crops. Practically all were opposed to allowing indiscriminate hunting as the hunters and dogs would cause much more damage than the ducks. It was noticeable that exaggerated statements as to damage done invariably came from townpeople who were interested in obtaining ducks to eat before the season opened.

Figure 3. Rice damaged by ducks. Note heads stripped of kernels. Ranch of Bismarck-Harden, near Maxwell, Colusa County, Cal.

DAMAGE NOT WIDESPREAD

As evidence that damage is not widespread, but limited to certain areas, we offer the following quotations from letters:

"Wild ducks do absolutely no harm at any time, but blackbirds are very destructive and a menace to the growing rice. (B. F. English, Gridley, Cal.)"

"So far as I have observed they have never done any particular damage—in fact I know of none. (J. F. Garrette, President Biggs, Rice and Land Company, Biggs, Cal.)"
"While this year's harvest is our fifth crop of rice I have never been able to discover any material damage that ducks have done. In my opinion the rice which the ducks eat is that which has already been knocked out of the head by the blackbirds." (T. W. Keenow, Mgr. Moulton Irrigated Lands Co.)

Apparently, blackbirds are more of a menace on the east side near Gridley and Biggs than are the ducks. Certainly it is, that hundreds of rice growers have never had rice injured by ducks.

Growers in the vicinity of Willows and Maxwell and W. H. Mortimer with holdings at Dos Palos, Merced County, have sustained real loss as a result of the depredations of ducks.

DUCKS EAT RICE

Plenty of evidence was obtainable that ducks eat both the ripe growing rice and the harvested rice when it is in the shock. Green rice is not damaged. Certain conditions usually exist when the growing rice is attacked. A patch of thick or thin rice in the rice fields and a moonlight night is the usual combination. Damage is most apparent also beneath a regular fly-line followed by ducks leaving the loafing grounds for feeding grounds. A few birds drop into open water in a rice field or into thin rice and start feeding. They are soon joined by many others until thousands of birds are often congregated together in an area of two or three acres. Wherever the water is deep enough, the birds pull down the stalks and strip the ripened kernels from the head. When thus working, the splashing and gabbling of the birds makes a sound very much like running water. Afterwards the field has a whitened appearance easily recognized. Quantities of thick standing rice is often crushed down by the hungry birds enroaching from the thinner stand.

An investigation of the place of Mr. Bismarck Harden near Maxwell, showed the following damage:

- 20 acres at 10 sacks
- 3 acres at 20 sacks
- 15 acres at 12 sacks
- 2 acres at 12 sacks
- 40 acres at 10 sacks
- 10 acres at 10 sacks
- 4 acres at 25 sacks

94 acres averaging 14 sacks per acre.

Inspection of Hankim Kahn's place just west showed:

- 3 acres at 20 sacks
- 60 acres at 12 sacks

On the Fallamon ranch near Gridley about thirty acres of thin rice along the sloughs had been destroyed by ducks up to the end of September in 1918.

It is doubtful if any other rice growers suffered greater damage than these men in 1918. What the real damage was in 1917 is hard to determine because of exaggerated statements. Much rice reported as damaged by ducks would not have been harvested had the ducks not injured it owing to high water or other difficulties in harvesting.

Damage to rice in the shock is sometimes severe, the birds dropping into a field knocking down the shocks and stripping off the kernels. On moonlight nights damage is greatest. Gleaning in the fields cannot be considered as an injury to the rice grower. The total damage by ducks to growing rice in 1918 in the Sacramento Valley could not have exceeded 30 acres. A large part of this was thin rice hardly worth harvesting. One hundred and forty-five thousand acres were planted to rice in this section in 1918.

KINDS OF DUCKS

The pintail is the duck causing most damage. Very few other species of ducks are to be seen in the rice fields and damage by such ducks as the mallard and green-winged teal is negligible. The mudhen, however, is to be found in considerable numbers and owing to its habits may prove to be a worse menace to rice crops than the pintail. The mudhen cannot be herded from the fields like a duck. Instead of flying it hides in the growing rice.

Red-winged blackbirds are fond of rice in the milk and destroy large quantities on the east side where a growth of tules furnish suitable resting sites and cover. In the newer rice fields of the west side blackbirds are not numerous.

FACTS BEARING ON THE PROBLEM

The presence of ideal loafing grounds in the vicinity of the Marysville Buttes causes a concentration of a very large number of ducks in the rice-growing district. On the west side thousands of ducks leaf on what is locally termed "the trough" just east of Colusa. These birds usually fly to the westward to feed at night. Thus, rice fields lying beneath the fly-line naturally form an attraction for these birds.

Rice farming is carried on in an extensive scale and one man often plants several hundred acres. Under these circumstances either the damage done is largely overlooked, or the owner has to suffer considerable damage because unable to protect so large an area.

IMPRactical METHODS OF CONTROL

Among the suggested means of controlling the situation have been an earlier open season, market hunting and sale of birds, and indiscriminate hunting by outsiders.

Fairness to others outside of the rice growing district as well as the need of conforming to the Federal migratory bird law brands an earlier opening of the season as an impractical method of solving the problem.

The throwing open of hunting to market men would not only be opposed by most of the growers, but would be adverse to the general principle that the sale of game leads quickly to extermination. Furthermore, the enforcement of the game laws in this district would become difficult because the market hunter is known as the worst of the game law violators.

Fig. 4. A splendid stand of rice injured by trampling. The ducks began working in this rice and then enroached on a thick stand causing considerable damage. Ranch of Bismarck Harden, near Maxwell, Colusa County, Cal.

Fig. 5. Night bombing in the rice fields. The photograph shows the explosion of a bomb in mid-air. Ranch of Bismarck Harden, near Maxwell, Colusa County, Cal.
The rice growers are unanimously opposed to the suggestion that the city sportmen help in protecting the rice by shooting in the rice fields. In practically every instance where the hunter has been allowed in the rice fields he has chosen a bit of open water and constructed a blind often at some distance from the growing rice. In shooting over such open water, the ducks are driven from the loafing places to the rice fields.

W. J. Mortimer of Dos Palos reports having experienced severe loss because of increased shooting on open water due to newspaper publicity.

METHODS OF CONTROL

Herding: Many rice growers have successfully prevented damage to their fields by herding the ducks. Men walk the levies with shotguns, and simply frighten the birds from the fields. Few or no birds are killed, as the gun is fired from the hip. The California Rice Company of Maxwell employed 12 herders during the fall of 1918. Seven were kept busy at night and five in the day time. About one case of black powder was used per day during the part of the month when the moon shone. The success of this method often depends upon a knowledge of the habits of ducks. A lack of success, therefore, is often due to the lack of knowledge of the habits of the birds. Although shotgun shells when used in quantity are expensive, yet the cost of this method is usually less than the loss occasioned by the depredations of the birds where the field is situated beneath a fly-line.

Bombing: Bombs fired from a mortar, such as are used at 4th of July celebrations, have proved an effective means of driving birds from rice fields. The feeding birds are first located and bombs fired toward them. Other bombs from other parts of the field are then fired in the midst of the flying birds with the result that they are too frightened to soon return. The cost of this method of protection is probably less than that of herding for good bombs can be obtained for $5.00 a dozen, and smaller ones for even less.

Elimination of open water: The intelligent grower can often prevent damage by eliminating open patches of water in the fields. If these areas cannot readily be drained, they can oftentimes be frozen after the first planting has been drawn out.

Note the following statement by W. O. Jacobsen of the Dodge Land Company, Chico:

"Generally speaking where the stand of rice is thick as it should normally be to produce an optimum crop it is virtually impossible for a duck to penetrate any distance into the paddy, but when the stand is scarce conditions are provided for enabling the birds to gather the grain, particularly when the water is of more than normal depth. When such conditions are found, it is probable that ducks will do considerable damage. Also when rice is planted in lands which have previously been well known feeding grounds for ducks it is likely that they would readily take to rice as feed."

Harvesting: The grower may prevent damage to rice in the shock by planting his harvest during the dark of the moon and by making his shocks stable enough so that the ducks cannot readily reach the heads.

GOVERNMENT SOLUTION OF PROBLEM

After a thorough investigation by Mr. Alexander Welmore of the United States Biological Survey, the United States Department of Agriculture solved the problem as follows:

1. A federal game warden was stationed in the rice growing districts with orders to prosecute violators of the Federal Game Law.

2. A blanket permit was issued to all rice growers, their immediate families and bona fide employees to herd and kill such ducks as might be necessary in protecting the fields from damage previous to the opening of the hunting season on October 15th. At the end of each period the rice grower was required to make a full report as to the number of birds so killed.

3. After the opening of the season special permits were issued growers to herd ducks from the rice fields during the night. This was made necessary because of the federal law prohibiting night shooting. The rice growers seem satisfied with the means taken by the government to obviate the damage. Conditions existing during the month of October, also favored the stopping of agitation.

SUMMARY

1. The consensus of opinion of rice growers obtained through interviews was that owners should legally be allowed to protect crops but the unrestricted hunting would cause more damage to the rice than the ducks. Much of the agitation was started by townspeople who wanted a chance to hunt before the season opened.

2. Damage to rice caused by ducks is limited in extent, hundreds of growers never having sustained loss. The greatest damage in 1918 was found between Maxwell and Colusa, in Colusa County.

3. Thin rice or rice with open water is most often attacked by ducks.

4. The total acreage of growing rice destroyed in 1918 amounted to not more than 300 acres out of 145,000 planted in the Sacramento Valley.

5. The pintail duck is the only duck causing appreciable damage.

6. Such suggested methods as an earlier open season, market hunting must be branded as impractical methods of solving the problem.

7. Such control measures as herding and bombing have been proved feasible and should be depended upon. Intelligent growers can outwit the ducks if they make the attempt.

8. The government solution of the problem has been successful and growers appear satisfied.
Dr. Wetmore.

January 30, 1919.

American Railway Express Co.,
65 Broadway,
New York, N. Y.

Gentlemen:

Referring to your bill No. A/10/109, submitted in the amount of $99.77, I would call attention to charges thereon on which payments have already been made, as called to the attention of your company in our letters of August 28, 1918, and January 13, 1919, the latter quoting the former in full, no reply thereto having been received. Copy of the letter of January 13 is inclosed. The items in question are as follows:

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<th>To</th>
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<td>Hayward, Cal.</td>
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These charges were paid upon demand by Alexander Wetmore, Assistant Biologist of this Bureau, then stationed at Hayward, California. In order to prevent duplicate payment it is requested that refund of $1.99, asked for in our two letters, be made by check payable to Mr. Wetmore, mailed in care of this Bureau. Upon receipt of the amount, your bill will be put in process of settlement.

Very truly yours,

[Signature]

Acting Chief Clerk and
Executive Assistant.
Mr. Alexander Wetmore,
Bureau of Biological Survey,
Washington, D.C.

My dear Wetmore,

I have just received a most interesting letter from a Japanese, K. Sunada, of Colusa, California, who offers a solution to the "Ducks vs. Rice" problem. His statement seems plausible enough to warrant investigation. If you do not have an opportunity to try it out, I think we will next fall.

Very truly yours,

[Signature]

Encl.

Will send you some alcoholic rice.

[Date]
Sir:

I have a very good idea about protecting the rice from being ruined by ducks, so I would like you to look over my letter, and if you think it will help the rice men I want you to let them know about it. I had this experience in Japan and it proved very successful. I will describe about it now. I heard from rice men about the ducks, and they claim their loss from this pests are enormous. In order to get rid of the ducks from coming down upon the fields take about 5 gallons of coal oil and two gallons of tar and mix very well. When the ducks start to destroy the rice, why, take this mixture and empty it in the field with the rice and water. The minute the ducks land in this water, they will arise immediately because they hate this stuff more than anything else. It is wise to let the water stand still instead of having it running. The about proportion (five gallons coal oil to two gallons tar) will be sufficient for about one acre of rice. So please experiment it and if it does prove successful, I wish if you will let me know about it. In these hard times we want to save every grain of rice which I think all the rice men will agree with me.

Yours truly,

Signed: K. Sunada,
P.O. Box 16,
Colusa, Cal.
January 13, 1919.

American Railway Express Co.,
1328 F Street, N. W.
Washington, D. C.

Gentlemen:

Attention is invited to the following copy of a letter addressed to you August 28, 1918, to which no reply has been received. In view of the time that has elapsed, we trust that you can give the matter prompt attention in order that Mr. Alexander Wetmore may be reimbursed in the amount due him.

"There was shipped from the Bureau of Biological Survey on August 5, 1918, two packages addressed to Alex. Wetmore, Hayward, Calif., one covered by charge slip No. 1695-B1, the other by charge slip No. 1697-B1.

As these contained Government property they should have been forwarded prepaid, and charges on same included in your monthly vouchers. However, the packages were sent "Collect" and Mr. Wetmore was obliged to pay charges at his end before the packages were delivered to him.

In order that the matter may be handled in the usual way, I would request that Mr. Wetmore be reimbursed for the amount paid by him, and that you include these items in your monthly bill. As Mr. Wetmore has left Hayward, refund should be sent him in care of this office.

Very truly yours,

Chief Clerk and
Executive Assistant.
Correspondence with Express Co. regarding the attached
These two express packages came through from Washington to Hayward, Calif., by the express company. The agent at Hayward refused to deliver them without payment of charges. As the articles contained were needed for immediate use, it was necessary to pay this and to take receipts for the amounts as indicated.

A.W.
CONSIGNEE'S RECEIPT

To Wells Fargo Co Express Dr.

Account Shipment of {auxiliary shells}  

From Wash State of D.C.  

W/B No. Date 1/26 Weight 1/120  

Shipper Bureau Biological Survey  

Received Payment, A. E. Fischer  

Advanced Charges  

This Co's Charges 1.50  

War Tax  

Amount of C. O. D.  

Total, $150  

Office, State of AUG 19 1928
Wells Fargo
Money Orders

Are a convenience to both sender and receiver.

You only have to put up the money and ask the clerk to make out the order—to any person in any town in the United States, Canada, Alaska Central or South America, Cuba, Hawaii, Panama or the West Indies.

The receiver may cash it, endorse it to any firm or individual, or deposit it in the bank.

In case of loss or theft you hold a receipt which guarantees the prompt refunding of your money.

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Over $100 at above rates
To Wells Fargo Co Express Dr.

Account Shipment of

From

W/B No.

Shipper

Advanced Charges

This Co's Charges

War Tax

Amount of C. O. D.

Total, $3.50

Received Payment,
Wells Fargo Money Orders

Are a convenience to both sender and receiver.

You only have to put up the money and ask the clerk to make out the order—to any person in any town in the United States, Canada, Alaska, Central or South America, Cuba, Hawaii, Panama or the West Indies.

The receiver may cash it, endorse it to any firm or individual, or deposit it in the bank.

In case of loss or theft you hold a receipt which guarantees the prompt refunding of your money.

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Over $100 at above rates
Note A.

For experimental work (official) it was necessary to arrange for the making and purchase of explosive bombs known as duck bombs. Before this could be done it was necessary to secure a license under regulations as existing at present. Charge for the bombs purchased under this license will appear in my September account as the bombs have not yet been delivered.

A.W.
September 13, 1918.

Dr. Alex Wetmore,
1011 Forum Building,
Sacramento, Calif.

Dear Sir:

In your reimbursement account for the period August 1 to 31, 1918, payable from authorization No.70-Bi, (Food Habits of Birds and Mammals), it has been necessary to suspend the following items:

August 12. Express shipment, Washington, D.C., to Hayward, Cal., subvoucher No.7, $ .58
August 12. Express shipment, Washington, D.C., to Hayward, Cal., subvoucher No.8, 1.50
August 28. Fee for license permitting purchase of explosive duck bomb, .25

The last item is suspended for the reason that there is no authority of law for the payment of license fees by the Government.

The express shipments should have been forwarded prepaid and charges included in the monthly vouchers of the American Railway Express Company. As they were sent collect and you were obliged to pay the charges, the express company has been requested to reimburse you for the amount of the two vouchers and include these items in their monthly bill.
Amount claimed, $98.16
Amount suspended, 2.13
Approved for, $96.05

Very truly yours,

[Signature]
Chief Clerk and
Executive Assistant.

Inclosure 7961.
Mr. Alexander Wetmore,
Biological Survey,
Washington, D.C.

Dear Mr. Wetmore:-

I am just in receipt of your letter of December 16th with which you enclose list of specimens taken under authority of Scientific Permit #131.

You must have been exceedingly busy when in this State to have taken the number of specimens that you did. Ordinarily collectors that are in the State for only the length of time that you were, get very few specimens.

With best seasonal wishes, I beg to remain

Yours very truly,

[Signature]

ASS'T. EXECUTIVE OFFICER
Mr. Alexander Wetmore,

Bureau of Biological Survey,
Washington, D. C.

Dear Mr. Wetmore:

I received your letter of the 12th inst. and am pleased to know that you appreciated the work of Mr. Carpenter and Mr. Ricketts.

The rice growers in Northern California have abused their privilege by extending invitations to their friends, etc., but we expected this and I believe that next year the situation will be handled much better. One thing has been proven and that is that their reports have been greatly exaggerated. The market hunters are operating in and about Butte Creek. They have an organized delivery at this time. Mr. O'Hair and Mr. Ellis are still using the ten shot automatics. I had the Governor of the State of California out shooting with me yesterday on our Club and he heard the shots of these market hunters. They sneak upon a great body of ducks and geese and discharge twenty shots in rapid succession. You can hear them shoot at least twenty-five shots to kill the cripples that are left on the water. There is no doubt in my mind but that they kill at least one hundred birds every time they pull this kind of a shot. We now have a number of wardens in that vicinity and hope that we will be able to catch these gentlemen at their work.

There is one thing that I believe should be called to your attention and that is the pest known at the blackbird and mudhen. The mudhen is surely the coming pest to the rice grower. The duck can be easily scared away but the more you shoot at the mudhen he dodges into the rice and it is impossible to scare him out. They are increasing in great numbers in the rice district and unless something is done to relieve the situation the rice grower is going to have considerable trouble next year. If we could start some sort of propaganda in California calling the attention of the public to the value of the mudhen as
food I believe it would relieve the situation. If you have any ideas as to how to control the mudhen and blackbird I will be glad to hear from you.

Any time you are in California during the winter months I will be pleased to take you up to the Club for a day's outing.

Give my kindest regards to Mr. Nelson and wishing you a merry Christmas and a happy New Year,
I am -

Very truly yours,

[Signature]

[FMN*EJS]
December 5, 1918.

MEMORANDUM FOR THE CHIEF.

Dear Mr. Nelson:

Investigations just completed in Arkansas show that owing to unfavorable weather about two thirds of the rice crop in that state is still unharvested. The flight of wild ducks from the north came in about November 20 and these birds (practically all mallards) have begun to work to some extent in rice fields where the grain is still in the shock. The rice is being harvested as rapidly as weather will permit, but unless steps are taken to prevent, serious damage from wild ducks may result at any time. Fields were examined in which ducks had been working at night about the shocks of rice.

To meet this situation, it is recommended that blanket permission be granted under the Federal Migratory Bird Treaty Act to rice growers in Arkansas County, Arkansas, to kill wild ducks at night in fields containing standing or shocked rice until and including December 31, 1918.

Very truly yours,

Alex. Wetmore.

AR/1182
Wild Ducks and other Birds in Relation to the Rice Crop in Arkansas in 1918.

Introduction.

For the purpose of securing further information in regard to the status of wild ducks in relation to the rice crop in Arkansas I arrived in Little Rock, Arkansas on November 24, 1918. From there I continued to DeWitt, Arkansas on the same day and using that town as a base worked through the surrounding rice district until Nov. 29. E. V. Visart of our warden force worked with me from Nov. 26 to 28 inclusive. On November 30 I returned to Stuttgart where the work was finished.

Travel in the country in southeastern Arkansas was difficult because of heavy continued rains that had put the roads in bad condition. Thus on one occasion the Ford car that I used was stuck in mud holes five times in a distance of eleven miles; trouble of this sort was of daily occurrence.

Condition of Rice Crop.

In 1918, about 173,000 acres was devoted to the culture of rice in Arkansas, Lonoke, St. Francis, Pulaski and Prairie Counties Arkansas. Complaint of damage by ducks has come mainly from Arkansas County. The dry summer here (of 1918) had caused a shortage of water for irrigation which had retarded the growth of the rice. The heavy fall rains that had followed had hindered the harvest so that on November 26 it was estimated by Mr. Kennedy in charge of the Southern
Rice Growers office in DeWitt that two-thirds of the crop was still in the field, a part of it in the shock and a part still uncut. (For general conditions regarding the growing of rice in Arkansas see report by Wetmore on damage to Rice in Arkansas in 1917). Although much of this grain was lost still there was hope of saving part of it with a change to more favorable weather.

Threshing was going on but bad roads made moving the threshing outfits a work of great difficulty.

Work of Wild Ducks.

At the time of this investigation the northern flight of ducks was arriving and, as in 1917, the bulk of the birds were Mallards. In travelling through the country I saw occasional pintails and green-winged Teal but these were few in number. The ducks began to work in the rice about November 22.

A. D. Murrell, 5 miles southeast of DeWitt had 315 acres in rice most of which was still in the field. Ducks began to work here about November 23. On examining this tract I found that the birds had been feeding over about twenty acres but as yet had done no serious damage as they had confined themselves to the bases of the shocks, taking fallen grain and stripping heads that hung down from the sheaves. I estimated the damage on 20 acres at about $5 per acre. Ducks were still present here and between 2500 and 5000 were feeding in these fields at dusk.

Ducks were working fields belonging to B. O. Chaney and H. E. Salters also. The Mallards were using the Bayous and swamps near the
Mississippi as roosting places in large numbers, and were reported as feeding in fields in various places that I was unable to reach because of the condition of the roads.

In the bayous Mallards stood about in lines on logs floating in the water sleeping and preening. I examined numbers of these logs and found that though part of the excrement on them was composed of acorns the bulk consisted of rice hulls. In addition ducks that were shot here had in many cases been eating rice. The crop of acorns on which ducks depend for part of their fall and winter food was scanty in the wooded areas that I visited.

On November 28 I watched the evening flight of Mallards in the swamps near Jacobs' Lake. The flight began an hour before dusk and the birds were still flying over when it became too dark to see distinctly. In this time I estimated that about 10,000 Mallards had passed. All were driving toward the rice fields lying to the north.

**Damage by Blackbirds.**

As in 1917, blackbirds were very numerous over the rice fields and if anything were present now in greater numbers than on the previous year. Among them I identified the Bronzed Grackle, Cowbird, Rusty Blackbird and Redwing listed in order of their abundance. The Bronzed Grackle probably equalled in number all of the other species combined. Many very large flocks of them were observed and on November 27 I estimated the total individuals of this species seen at 20,000.

In the rice fields the birds alighted in little groups of 6 or 8 on the shocks and began at once to hull out the rice. At other times flocks spread out along the ground to pick up scattered grain. Each
evening the birds passed over in a long line toward the east to some roost in the swamps. This flight continued for nearly two hours and many times their line stretched without a perceptible break as far as I could see in either direction.

The bulk of these birds had been driven in here within the past week by storms in the north. The damage accomplished will be distributed more than last year because of the large acreage of rice still out but will be evident never the less. These hordes of Blackbirds when everything is considered, are the most serious avian pest with which the rice grower has to deal.

Recommendations.

The investigation in hand revealed that although no heavy damage had resulted as yet, still the condition was serious as the northern flight of ducks had arrived and the birds were working in the rice fields. As it was the hunting season the bulk of the birds remained in the swamps during the day and came into the fields to feed during the night. After due consideration of the matter and discussion with rice men it was recommended therefore that rice growers and their agents be permitted to shoot wild ducks at night until and including December 31, 1918. It was considered that there was little hope of saving rice remaining in the field after that date but that with more favorable weather the crop could be harvested during December.

In accordance with this recommendation the following blanket permission was issued:
ORDER

PERMITTING THE KILLING OF MIGRATORY DUCKS WHICH HAVE BECOME
SERIOUSLY INJURIOUS TO RICE CROPS IN ARKANSAS.

Information having been furnished the Secretary of Agriculture that migratory ducks have become, under extraordinary conditions, seriously injurious to the rice crops in Arkansas and an investigation having been made to determine the nature and extent of the injury complained of and whether the birds alleged to be doing the damage should be killed, and if so, during what times and by what means; and it having been determined by the Secretary of Agriculture that migratory ducks have become, under extraordinary conditions, seriously injurious to the rice crops in Arkansas County, Arkansas, and that the migratory ducks doing the damage should be killed by shooting from sunset to half an hour before sunrise from December 5 to December 31, inclusive, 1918:

Now, therefore, I, D. F. Houston, Secretary of Agriculture, pursuant to authority in me vested by the Migratory Bird Treaty Act of July 3, 1918, and agreeably to regulation 10 of the Migratory Bird Treaty Act Regulations approved and proclaimed July 31, 1918, do hereby order that persons owning or leasing land in said Arkansas County, State of Arkansas, on which rice is being grown or being harvested, or has been shocked, or their agents, may kill by shooting
migratory ducks from sunset to half an hour before sunrise from December 5 to December 31, inclusive, 1918, on said land when such migratory ducks are committing or are about to commit serious injury to the rice and it is necessary to kill such migratory ducks in order to protect the rice from damage; but no such person or persons shall shoot at any such migratory ducks from any artificial or natural blinds; nor shall migratory ducks be killed or shot at from or in any field after the rice grown therein has been threshed or removed; nor shall migratory ducks so killed be sold, offered for sale or shipped for purposes of sale, or be wantonly wasted or destroyed, but they may be used for food purposes by the persons hereby permitted to kill them, and they may be transported to hospitals and charitable institutions in Arkansas for use as food.

Each owner of lessee of land on which migratory ducks are so killed shall, on or before the 15th day of January, 1919, submit to the Secretary of Agriculture, Washington, D. C., a sworn statement of the number and kinds of migratory ducks killed each night pursuant to this permit on such land so owned or leased by him, the disposition of the ducks so killed, and the cost of the ammunition used in killing or attempting to kill them.

Secretary of Agriculture.
RECEIVED AT

Alexander Witmore

Return Washington when situation permits 1st telegram November 28th 1918

Nelson
E. Snodgrass

J. H. Hannans

Ray O. Burkes.

J. T. Whaley.

H. B. Allen Dickel

Rien men Stuttgart, Ark
## SOUTHERN RICE GROWERS ASSOCIATION
### OVER AND SHORT REPORT

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Agent.
SPARKS HOTEL
MRS. J. M. SPARKS, Prop.
HOME FOR TRAVELING MEN
DeWitt, Ark., 191

Because of unsatisfactory weather, two thirds rice this district still unharvested. Damage by ducks beginning some areas. Injury will increase as more ducks arrive. Few growers seem interested in protective measures. Majority are considering night shooting best method but few follow this systematically. Further investigation by

The females at this time. Wish return Washington. Wire reply Friday Stuttgart, Arkansas Care Price Hotel. Visit returns little Rock Friday.
SPARKS HOTEL
MRS. J. M. SPARKS, Prop.
HOME FOR TRAVELING MEN

DeWitt, Ark.,

Because of the unfavorable weather, about two-thirds rice in this district still unharvested. Damage by ducks beginning to appear, and as northern migrants are coming south, recommend issuance of a federal permit to rice growers, members of the family and bona fide employees. Kill ducks in fields containing rice at night until January 1. General terms of permit as regards disposal of birds killed same as used California. Consider this only possible method to meet situation. Individual permit system not practicable here. Vincent suggests he will confer with them at meeting next week. Further investigation by me useless at this time. Wish to return Washington. Wire reply Friday.

Stuttgart, Arkansas Care Price Hotel. Vincent returns Little Rock Friday.
Alex Watamore,

(to arrive soon)

Dewitt, Arkansas.

As soon as practicable wire opinion duck rice situation. Before leaving Arkansas tell responsible rice growers to wire Survey if change in situation makes issuance permits necessary.

Henderson, Acting Chief of Bureau.
Mr. Alex Wetmore,
Assistant Biologist,
Bureau of Biological Survey,
Washington, D.C.

Dear Sir:

In the examination of your reimbursement account for the period October 1 to 31, 1918, payable under authorizations Nos. 70-Bi., 139-Bi., and 239-Bi. (Food Habits of Birds and Mammals), it has been necessary to make the following suspensions:

October 18. Excess subsistence, $ .15

The items are as follows:

- Breakfast, $ .90
- Dinner, 1.00
- Supper, .85
- Waiter fee, .30
- Hotel porter, .10
- Lodging, 2.00

Total: $5.15

October 31. Overcharge on laundry, $ .15

The last preceding charge for laundry was paid on October 23, for which reason the maximum amount that may be allowed is $1.60; your payment was $1.75.

Amount claimed, $152.30
Amount suspended, .30
Approved for, $152.00

Very truly yours,

[Signature]

Executive Assistant
In Charge of Accounts.
Mr. A. Wetmore,
Albuquerque, N.M.

Dear Mr. Wetmore:

I have just received your letter dated November 1st in which you give information regarding the shipment of ducks to #21 Powell Street. I am very glad to have this information and will set the boys working on it immediately.

As yet we have no definite information regarding the sale of ducks although we know that there are some being sold. Mr. Nelson has not been in as yet but we are expecting him some time this week and we will then have an opportunity to discuss the enforcement of the Federal laws.

With kindest regards, I beg to

Yours very truly,

FISH AND GAME COMMISSION

[Signature]

ASS'T.EXECUTIVE OFFICER
Your letter of authorization No.70-Bi., as amended, payable
from the appropriation "General Expenses, Bureau of Biological Survey,
1919" (Food Habits of Birds and Mammals), is hereby further amended
so as to authorize necessary travel in Missouri, Arkansas, and adjacent
States, for the purpose of investigating damage by birds in the
rice-growing sections.

The amount which may be expended under the above named appro-
priation is not hereby increased.

Your permanent headquarters will be

Washington, D.C.

[Signature]

Chief, Biological Survey.
RECEIVED AT  Klamath Falls Ore. 624 Main St.

15SF JS 19 GOVT 5 EXTRA

B Portland Oregon Oct 21 1918 Via Sacramento Cal 10/22

Alex Wetmore

Klamath Falls Oregon

Meet Me Office Commissioners Horticulture with Cattron Wednesday Morning

Nelson

1043AM
Mr. Alex. Wetmore,
320 Forum Building,
Sacramento, California.

Dear Doc;- Yours of the 16th reached me yesterday,—at home nursing a light attack of grippe. I shall be here to meet you Nov. 1 to 5, barring the possibility that Dr. Fisher can be induced to extend his time on a field trip with Ligon and me. He informs us that he must be in D.C. by Nov. 5,—so it is likely that we shall be obliged to return to Albuquerque by Nov. 1.

I shall be much interested in your findings as regards quail. We are making preparation for beginning coyote-poisoning operations. Your visit should be just in time to help us with some good suggestions.

We are just at the end of a very busy season of work,—and entering one that promises to be even more busy! You lucky scientists don't appreciate your enviable positions!

Trusting that you will give us a good, long visit,

Sincerely yours,
RECEIVED AT

KLAMATH FALLS ORE. 624 MAIN ST. TEL. 100

WASHINGTON DC OCT 19 1918

ALEX WETMORE

GARE J. J. FURBER KLAMATH FALLS OREGON

WIRE BUREAU. AMOUNT FOURTH LIBERTY BONDS PURCHASED.

BELL

930A 20
Wild Ducks in Relation to Rice Culture in California.

Introduction.

From August 16 to October 17, 1918, I was engaged in studying the relation of wild ducks to rice culture in the Sacramento Valley in California. The California State Fish and Game Commission were actively interested in the investigation and cooperated with the Department of Agriculture by placing the services of the game wardens in whose districts the rice fields were located at my disposal. These men were equipped with automobiles operated at state expense and through their knowledge of the region rendered invaluable aid. Thanks are due especially to Deputy Wardens S. J. Carpenter of Maxwell and E. D. Ricketts of Live Oak for their hearty cooperation in every possible way.

Following is the itinerary followed during this investigation:

San Francisco, Aug. 16
Sacramento, " 17
Maxwell, " 16-21
Maxwell to Live Oak " 22
Live Oak " 23-26
Sacramento " 27
San Francisco " 28
Sacramento " 29
Willows " 30- Sept. 1
Maxwell Sept. 2-3
Live Oak " 4
Maxwell " 408
Live Oak Sept. 9-13
Gridley 
San Francisco 
Sacramento 
Willows 
Maxwell 
Willows 
Maxwell 
Willows 
Maxwell 
Willows Oct. 2
Maxwell 
Stonyford 
Maxwell 
Sacramento 
San Francisco 
Live Oak 
Willows 

From Willows and Maxwell I worked in the region between woodland, Colusa, Orland and Hamilton City on the west side of the Sacramento River. From Live Oak and Gridley I covered the area on the east side between Nelson, Butte City and Biggs south to Marysville and Arboga.

Observations on Rice Culture.

In the Sacramento Valley, California in 1918, rice was grown in two main areas, extending one on either side of the Sacramento River,
from Sacramento in the south to Hamilton City and Nord on the north. Only a few small areas of minor importance lay outside this region. The rice districts on the west side of the stream were tributary in the main to Maxwell, Colusa and Willows, and on the east side centered in Marysville, Gridley and Biggs. Part of the land utilized was of good quality and was suitable for other crops. The greater part of the acreage however was on low lying tracts known as the "Alkali" lands or "Goose" lands that had been in the main/under cultivation previously. These tracts are not suited for other crops but with abundant water will produce two or three good crops of rice before inroads of weeds, rising alkali or other factors cause them to be abandoned. Because of the large profits made in rice culture due to the high price of rice extensive tracts of these lands had been put under water. Much of this was farmed by companies who controlled large holdings. Thus the Dodge Land Company below Chico had 4000 acres of rice and it was common to encounter tracts of 500 to 1000 acres under one control. The total area in rice in California in 1918 was given by the agents of the Pacific Rice Growers Association in Sacramento as 130,000 acres.

The most popular varieties of rice grown here at this time were a long headed late maturing Japanese rice known as Wataribune, and an early rice called 1600 (a form established here by the U. S. Department of Agriculture). A bearded rice called 1564 with long heavy beards like barley was also common and a thin hulled early Japanese variety known as Sue Hero that had been introduced recently was gaining in popularity.

The heads of the early forms began to fill about September 1. Cutting began in the earliest fields near Maxwell on September 22, but this
work did not begin over extensive areas until October 1. Threshing
commenced at once. Many fields of late rice were slow in maturing owing
to late seeding, scarcity of water or for other reasons. Some of this
would not ripen at all while other fields would come in during November.
The bulk of the harvest came in October and the first part of November.

In rice fields grown on the low lying alkali lands there were
many places that did not drain properly formerly open lakes and ponds in
the rice fields. Around and in these were abundant growths of weeds
known to the rice growers at "Water grass." The most common of these
were the Barnyard grass (Echinochloa crus-galli) and Feather grass
(Leptochloa fascicularis). Joint grass (Paspalum dilatatum) was less
abundant. In land used for rice for the first season these grasses
were not abundant, but unless carefully cut out greatly increased the
following year.

Land used for the third year was often so foul with these weeds
that at times they predominated over the growth of rice. The seeds of
these grasses began to mature by the first of September.

Damage to Rice by Ducks.

Large Tracts of rice planted on the "alkali" or goose lands ad-
joined sloughs and swamps that are more or less permanent and that har-
bor many ducks. Many ducks are reared in extensive marshes bordering
the Sacramento River and during late summer many more come in here after
breeding elsewhere to rest and feed. The bulk of the latter are Pintails.
In September from 15,000 to 20,000 pintails were to be found
on a broad area of water known as the "Thrush" six miles east of Maxwell,
and a similar flock of perhaps 10,000 birds rested on the Butte Creek
marshes west of Live Oak. Smaller flocks were found elsewhere. The majority of them were Pintails. These birds shifted about to some extent with the changing season but as part moved on others came in from elsewhere to take their places. After the middle of September there was marked migration evident and from then until the middle of October large numbers of additional birds came in.

After September 1, the birds rested on these bodies of open water during the day. When the nights were dark they flew out to feed at daybreak and at dusk returning to the water for the night. On moonlit nights they fed at night coming out about an hour after the moon rose.

Many areas that are now in rice were formerly sloughs or swampy places of waste land where wild ducks were accustomed to feed and rest during the late summer and fall. Utilization of these has resulted in a certain crowding of the duck population on remaining areas. The grasses that grow the rice produce abundant seeds that attract the ducks and they often feed in the rice fields in open places long before the rice is mature.

Damage not to the rice itself from the attacks of ducks began about September 1 or as soon as the heads of the early varieties began to fill. Ducks fed first about the open ponds in the rice fields or in areas where the grain had failed to stool properly making a thin open stand. Pintails were the only abundant species though Mallards came in fair numbers. A few green-winged Teal and Cinnamon Teal were seen but they were not common. In thin stands the ducks stripped the heads of the rice from the water below. From these thin areas they continued
to work out into the heavier rice at the sides and here the grain was trampled and bent over by the hordes of birds. The heads of rice in which the ducks had been working dried and turned a light yellow so that with practice they could be distinguished at a distance against the dark green of the surrounding areas. If undisturbed the birds returned each night to continue feeding where they had stopped on the preceding occasion. I watched fields in which the birds cleaned out the rice in an area 200 yards long by ten yards wide each night for several nights in succession. The early stands of thin rice suffered most: the predilection of the ducks for the thin hulled early maturing Sue Hero Variety was especially noticeable. In many cases the ducks were attracted by abundance of grass seeds in foul rice but cleaned out both the grass and rice.

Ducks did not drop into dense full stands of rice but worked in to it from the margins. The first line of birds penetrated the dense growth of grain making scattered narrow lanes while those that followed wallowed down the bulk of the stalks in feeding on the heads. In feeding in the fields the ducks showed a tendency to congregate in large flocks. Bunches came in and circled over the fields until one flock found a suitable place and alighted. The others then decoyed in to them and birds that came later followed so that it was not unusual to find 5000 Pintails feeding in one spot. The destruction wrought by these birds may be imagined. The ordinary low gabbling made by one of these ducks in feeding was magnified in these flockings until it formed a continuous rumbling roaring sound audible distinctly at over half a mile through which came occasional high pitched quacking calls made by ill-
tempered drakes striking at their fellows. During these studies I
was able to locate the flocks at night by following these sounds.

Other damage was claimed when the grain was in the shock, when
it could not be threshed quickly but no instances of this were witnes-
sed this fall. There is no question but that heavy loss may result at
this time without proper protection. (See report by Wetmore on an inves-
tigation of damage to rice by ducks in Arkansas in 1917.)

That the ducks were actually destroying the rice was proved by
observation of the birds feeding and by examination of the fields after
they had been frightened out. On several occasions pintails and mallards
that were shot at daybreak from flocks on their way to their resting
grounds from the rice fields had the throat literally packed with rice
from the stomach forward almost to the opening of the windpipe. Some
of these ducks contained at least a pint of rice, taken from the stalk
as at this time there had been no rice out. Stomachs and gullets intact
taken from these birds were sent in to the Biological Survey as specimens.
Excrement of the birds examined on mud bars on their leafing ground con-
sisted in large part of rice hulls.

In one tract of 6000 acres near Maxwell (under water as one pro-
ject but farmed by several parties) by actual estimate it was found that
125 acres of rice had been eaten by ducks. This grain would have yielded
from 10 to 25 sacks of rice per acre. Most of it would have run from 10
to 12 sacks but occasionally areas of heavy rice that had been attacked
were encountered.

An actual tabulation of the rice destroyed here made Sept. 26 and
27 in company with H. C. Bryant of the State Fish and Game Commission is
as follows:
Table I Rice destroyed by Ducks near Maxwell.

<table>
<thead>
<tr>
<th>Area</th>
<th>Estimated yield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 acres</td>
<td>10 sacks per acre</td>
</tr>
<tr>
<td>3 &quot;</td>
<td>20-25 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>15 &quot;</td>
<td>12 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>2 &quot;</td>
<td>12 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>40 &quot;</td>
<td>10 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>10 &quot;</td>
<td>10 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>4 &quot;</td>
<td>25 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>3 &quot;</td>
<td>20 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>50 &quot;</td>
<td>12 &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td><strong>129</strong></td>
<td></td>
</tr>
</tbody>
</table>

The total loss in this estimate was 1544 sacks of rice which at $4.50 per sack was worth $6946.00. In other areas near Willows and on the east side of the river the loss was fully as great so that at a conservative estimate at least 250 acres of rice were taken by ducks, valued in money at about $13,500.

Protective Measures.

The fact that ducks were doing damage to rice was seized upon by market hunters and others who desired to kill the birds as a pretext for demanding an open season on these waterfowl to begin September 1st and to cover the entire northern half of the state. Certain newspapers took the matter up and made it the basis of a vicious attack upon the State Fish and Game Commission and upon Federal attempts to regulate game matters. Statements that rice growers were slaughtering ducks by the thousands and allowing them to rot in the fields caused demands that the
reduction against their sale as game be removed.

The use of explosive devices known as "duck bombs" to frighten ducks from the rice fields without injuring them was strongly advocated and two firms in San Francisco, the Hacliff Sales Co., 146 Davis St., and the California Fireworks Co., 249 Front St., made a specialty of putting these on the market. On examination I found these "duck bombs" to be what is commonly called a "daylight salute". They are fired from small mortars, tubes made of heavy paper or galvanized iron two inches in diameter and a foot long that are embedded in the earth for half their length, inclined in the direction toward which it was desired to throw the bomb. When in position the bomb was placed in the mortar and a long fuse ignited with a match. This set off a firing charge in the base of the bomb that threw the bomb itself out into the air where it was exploded through a time fuse in the base. I purchased a considerable number of these bombs (about $50.00 worth in all) and gave them a thorough trial. In addition to using the standard bombs I had a number made up specially in order to experiment with them in various ways. These bombs retailed at from $3.60 to $5.00 per dozen.

In using these bombs the operator worked out along the levees as near to the feeding ducks as possible, set the mortar and then threw a bomb out over the birds. It was best to set two or three mortars, explode one bomb to raise the birds, and light one or two others so that they would throw and explode among the flocks as they rose. The bombs contained the powder making the explosion, magnesium producing a flash, and antimony producing smoke. The amounts of all of these could not be increased without making the bombs too expensive for use. By experiment it was found however that the relative quantities of these chemicals could
be varied with good success. Thus for daylight use bombs containing more antimony and less magnesium produced a loud report and a ball of smoke that expanded rapidly, while for night work the antimony was largely eliminated to be replaced by magnesium which produced a bright, startling flash. It was found too that a mortar 16 inches long made of heavy galvanized iron pipe with an opening two inches in diameter gave better results than the smaller lighter tubes, supplied by the bomb manufacturers as it threw the bombs much farther before they exploded. In addition it was considered safer to use as occasionally both the firing charge and the bomb exploded in the mortar usually driving it deep in the mud, with the heavy mortars it was possible also to throw the bombs with much more accuracy.

So long as the ducks were being shot at with shotguns the bombs were a success and were an efficient aid in driving out the birds. With the duck bombs it was possible to raise the ducks from large areas of rice. Often I had flocks leave when bombs were exploded at a distance of an eighth of a mile. I soon found however in areas where there was no shooting that the ducks soon became more or less accustomed to the bombs and would not rise unless the projectiles were exploded very near at hand. One night when lightning flashes came at intervals from storms near the horizon I found that the pintails paid little or no attention to bombs unless they fell almost among them.

In spite of the claims that had been made for them it was proved that they were not successful in keeping ducks out of the rice fields where there was no shooting. As an adjunct to herding with shotguns they were of great aid as when ducks were being shot at they were much frightened
by the explosion of the bombs and should a tendency to avoid those parts of the fields in which they had encountered them.

The use of lamps throwing a ray of light for a considerable distance was advocated also. Auto lights with storage batteries were suggested by some. The Dodge Land Company had an arrangement equipped with a searchlight that threw a ray for half a mile. Current was supplied to this by a generator operated by gasoline engine. Two of these outfits were on hand each costing about three hundred dollars. These had not been tried as yet. Although ducks are afraid of a flashing light the method was one difficult to handle. It was not practicable to move such outfits about readily and it was considered of doubtful value in the long run. It might aid in driving birds out in connection with other methods but when used alone it was believed that the birds would soon be some accustomed to the lights.

The method of driving birds away from the rice fields that was universally successful was that of stationing men on watch to fire at the ducks and so keep them moving. For this purpose shells loaded with black powder were best as they made a louder, heavier report than those filled with smokeless powder and in addition were less expensive. Men were stationed in the fields during the entire twenty-four hours with instructions to prevent the ducks from alighting. The common practice was to fire at the flocks as they passed over. These duck-herders were worked in two twelve hour shifts changing usually at seven in the morning with more men on at night than in the daytime. Thus the California Rice Company (a Japanese firm) near Maxwell employed 12 men, five for day and seven for night work. Between September 1 and 28 these men had fired 30 cases of shells in guarding 1800 acres of rice. On the Smitten-
Fellman Ranch west of Gridley 20 cases of shells had been used in guarding 600 acres. In the latter case half of these had been expended in driving out blackbirds and the rest on ducks.

Many exaggerated statements were made stating that duck herders in the rice fields were destroying ducks by the thousands and allowing them to rot in the rice fields. As a matter of fact these men in guarding the fields walked about on the check or levees where they were in open sight so that pintails in passing were almost invariably out of range. Through careful observation I was certain that very few birds were killed. In fact it was doubtful if an average of twenty-five ducks a day were killed in the entire valley by these herders.

Because of this alleged waste of ducks, hunters wished the season thrown open on the birds under pretense of aiding the rice growers. As a matter of fact the men engaged in rice culture would not permit actual hunting of ducks in their rice fields as hunters in building blinds from which to shoot and in retrieving the birds killed would do many times more damage than the ducks could possibly accomplish. While again if hunting was permitted on areas outside the rice fields the ducks would be driven out from their natural resting grounds and having no secure place might return again to the rice. At the same time it was imperative that an arrangement could be made whereby the growers could guard their fields without infringement of the game laws. Obviously the hunters had no true interest in the matter and their claims were disregarded. After due consideration of the matter a form of permit under Regulation 10 of the Federal Migratory Bird Treaty Act was recommended. With the concurrence of the State Fish and Game Commission this was issued and was found to fulfill all the needs of the situation, while it prevented hunting for sport.
Violation of the requirements of the permit were few in number and save in one case, that of four men shooting near Colusa Oct. 15, amounted to little. In the one major instance the four violators were apprehended and fined.

Very few ducks were killed by the rice growers although the crops were protected effectively.

These measures resulted in a saving of grain that was estimated conservatively as valued at not less than $125,000 while the number of ducks destroyed was only nominal. There was no waste as the few birds that were killed were picked up and utilized as food.

Damage by ducks was always local and there were extensive areas where the birds gave no trouble whatever. Where the ducks were working in rice however there was danger of loss of the entire crop and it was necessary to take steps immediately to drive them out.

Following is a copy of the permit that was issued. (After October 16 this was extended under the same restrictions to cover shooting by night.)
ORDER

PERMITTING THE KILLING OF MIGRATORY DUCKS WHICH HAVE BECOME SERIOUSLY INJURIOUS TO THE RICE CROPS IN CALIFORNIA.

Information having been furnished the Secretary of Agriculture that migratory ducks have become, under extraordinary conditions, seriously injurious to the rice crops in California and an investigation having been made to determine the nature and extent of the injury complained of and whether the birds alleged to be doing the damage should be killed, and, if so, during what times and by what means; and it having been determined by the Secretary of Agriculture that migratory ducks have become, under extraordinary conditions, seriously injurious to the rice crops in the counties of Butte, Colusa, Glenn, Sutter, Yolo, and Yuba in California and that the migratory ducks doing the damage should be killed by shooting:

Now, therefore, I, D. F. Houston, Secretary of Agriculture, pursuant to authority in me vested by the Migratory Bird Treaty Act (Act of July 3, 1918) and agreeably to regulations under said Act promulgated July 31, 1918, do hereby order that persons owning or leasing land in said counties of Butte, Colusa, Glenn, Sutter, Yolo, and Yuba, in the State of California, on which rice is being grown or being harvested, and the members of their immediate families and their employees may kill by shooting migratory ducks from September 30 to October 15, inclusive, 1918, in the open fields of rice on such lands so owned or leased, when such migratory ducks are committing or are about to commit serious injury to the rice and it is necessary to kill
such migratory ducks in order to protect the rice from damage; but no such person shall shoot at any such migratory ducks from any artificial or natural blinds; nor shall migratory ducks be killed or shot at from or in any field from which the rice has been harvested; nor shall migratory ducks so killed be sold, offered for sale or shipped for purposes of sale, or be wantonly wasted or destroyed, but they may be used for food purposes by the persons hereby permitted to kill them and they may be transported to hospitals and charitable institutions in California for use as food.

Each owner or lessee of land on which migratory ducks are so killed shall, on or before the 25th day of October, 1916, submit to the Secretary of Agriculture, Washington, D. C., a sworn statement of the number and kinds of migratory ducks killed each day pursuant to this permit on such land so owned or leased by him, the manner in which the said ducks were disposed of, and the cost of the ammunition used in killing or attempting to kill them.

D. F. Houston.
Secretary of Agriculture.
Summary.

During the period from August 16 to October 17, 1918 a careful study of the relation of wild ducks to rice culture was made in the Sacramento Valley California. About 150,000 acres were devoted to rice that year in the counties of Butte, Colusa, Glenn, Sutter, Yolo and Yuba.

Rice in this region was grown largely upon low lying lands, with alkaline soils, that have been unsuited for other forms of cultivation, and have not heretofore been utilized for agriculture. Considerable numbers of Pintails and Mallards breed here in marshes and sloughs and many more come here in late summer from other regions. These birds were attracted by the water and food found in the rice fields and when the rice filled began to eat the grain. The birds fed on moonlit nights or at dusk and daybreak. The first damage was done in areas where the stand of rice was thin but from these the ducks worked out into the heavier growth.

In experimenting with methods of controlling this damage it was found that while the use of aerial bombs that exploded among the birds without injuring them was a valuable means of driving the ducks out it soon lost its efficacy unless accompanied by actual shooting. As the ducks in question are protected under the Federal Migratory Bird Treaty Act it was necessary to grant permission to rice growers to kill ducks under suitable restriction before the opening of the legal hunting season, and to allow these same men to shoot at night when the season opened.

These measures were entirely successful. The rice destroyed by the birds was estimated to be worth about $13,500 while had these steps
not been taken rice valued conservatively at $125,000 would have been taken. The number of ducks killed by men stationed to protect the grain was merely nominal.
W. J. PEARSON & CO.
INCORPORATED
REAL ESTATE INVESTMENTS & INSURANCE
310 HAAS BUILDING
LOS ANGELES, CAL.

J. V. BIARD
VICE PRESIDENT
Dr. Alexander Wetmore,
Assistant Biologist,
Willows, Cal.

Dear Dr. Wetmore:

I have yours of October 16th and am pleased to receive the information as to your investigation.

I called at the Sacramento Outing Club and learned from Mr. Ralston that he had a very interesting time with you. I am also pleased to know that they took good care of you.

I had a nice little shoot while it lasted on sprig and teal. I did not see but very few dead or sick birds. I easily recognized two or three apparently crippled birds from the description you gave me of the symptoms.

Very truly yours,

GN/ES

SACRAMENTO Oct. 17, 1918.
1915 Forest St.,
Bakersfield, Cal.
Oct 17, 1918.

Mr. Wetmore,
Gwln, Dirks
State Game Farm
Hayward, Cal

Dear Sir & Friend:—In my
rambles about the country I
came across a black
ground squirrel in the Tejon
Pass about forty miles out
of Bakersfield and near the
State Highway.

If you can spare the time
I believe that you can locate
the animal and take it alive.
It had the appearance of being young and vigorous. The longer hair on back and tail was slightly brownish but the under coat was very black and glossy.

I have before seen whitish squirrels but never a black one until this one.

Yours truly,

James W. Stockton
Mr. A. Wetmore,

Klamath Falls, Oregon.

Dear Sir:

Agreeable to your wire, I enclose herewith permit to take all kinds of birds for scientific purposes. I trust that your investigation will be valuable to the Department.

Very sincerely yours,

[Signature]

State Game Warden.

S/W
RICE GROWERS ARE JUSTIFIED IN FIGHTING DUCKS

Federal Investigator Concludes That Farmer Has Right To Use Any Commonsense Means To Protect Crop

After spending several days in the Sacramento Valley rice-growing belt, where he carefully looked into conditions as he found them, Dr. Alexander Wetmore, naturalist of the United States Biological Survey, has about concluded that the rice grower is justified in resorting to any commonsense means in protecting his crop against the depredations of the wild duck.

This much Dr. Wetmore to-day admitted to a Bee reporter while stopping off here for a short while en route to Williams to proceed with his investigations.

"The crop has not advanced to a ripening stage where I have been able to determine where I have been dence just what destruction the ducks do in the rice fields," said the Federal official, "but I am going to stay on the job probably throughout the harvest season and I shall know what is going on."

When asked if the farmers would be justified in shooting the ducks, or resorting to other means necessary to protect their rice crops, he could see no reason why the grower has not got a good case against the invaders.

No Recommendation.

Until he has proceeded further with his investigations, the official would not suggest any recommendations which he may now have in mind. He said there was a division of opinion among some of the growers as to the amount of damage the ducks do in the rice fields.

Dr. Wetmore was sent here from Washington, D. C., to settle the question of whether the State Fish and Game Commission is right in its contentions that the ducks should be protected at all events, notwithstanding the world-wide cry for food and the policy of conservation.
STATE OF KANSAS.

DEPARTMENT OF FISH AND GAME.

PERMIT FOR SCIENTIFIC OR PROPAGATING PURPOSES.

I, the undersigned, Fish and Game Warden of the State of Kansas, do hereby grant a permit to Alexander Wetmore, Assistant Biological Survey, Washington D.C., Kansas for the following purposes and upon the following conditions only, to wit:

The kind and number of specimens to be taken:

To collect birds and mammals for scientific purposes for the Bureau of Biological survey,

The manner of taking said specimens:

By humane methods.

The manner and means of transporting said specimens and the places to and between which said specimens may be transported shall be stated on special shipping cards, and no shipment shall be made unless goods shipped be at all times accompanied by such special shipping card, to be issued by this department over the signature of the State Fish and Game Warden.

It is a condition of this permit, that any or all of the acts hereby allowed must be confined within the borders of the State of Kansas, and must be confined strictly and exclusively to scientific and propagating purposes; and in case of any violation of any of the conditions of this Permit, or of any of the provisions of the laws of the State of Kansas relating to fish and game, then this Permit shall be void and of no effect.

This Permit shall expire, unless forfeited for cause, on January 1, 1919

Witness my hand and seal of office at Pratt, Kansas, this 14th day of October 1918

State Fish and Game Warden
Alex Wetmore,
Willow, California.

Warden Barber, Klamath Falls Oregon reports severe duck mortality. Investigate completion rice work and before resuming quail work. Authority amended. Interview Piper if can be done route home.

Henderson.
Mr. Alexander Wetmore,  
Assistant Biologist,  
1823 Mass. St.,  
Lawrence, Kansas.  

Dear Sir:  

I am enclosing herewith scientific permit  
for collecting birds and mammals in Kansas for the  
use of the Bureau of Biological Survey.  

Very truly yours,  

W. C. Tegmeier  
State Fish and Game Warden.
No sufficient data on shredding and composting. Recommend further investigation to determine what, if any, is required. Feeds in the fall of starting or手艺/heart in the fall of starting. Such permission should extend to November 20th. Such permission should extend to November 20th. Such permission should extend to November 20th.

Consider increase of dual permits carrying eight.
Washington, D. C.,

Oct, 11, 1918

Alexander Fensere,

Live Oak, California.

Can deprecations ducks rise fields at night be controlled without issuance Federal permit authorizing shooting. If not do you recommend issuance blank permit authorizing pressure shoot ducks at night during open season. Wire fully your views on reasons handling situation.

Sincerely,

CONFIRMATION OF TELEGRAM.
WILTSHIRE HOTEL
BERNARD J. McCARRON, Manager
340 STOCKTON STREET

TERMS IN ADVANCE

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance</td>
<td></td>
</tr>
<tr>
<td>To Rent Room No. 93 From 10/8 1918 To 10/11 1918</td>
<td>4.50</td>
</tr>
<tr>
<td>CAFE</td>
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<td>TELEPHONE CALLS</td>
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<td>LAUNDRY</td>
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<td>BAGGAGE</td>
<td></td>
</tr>
<tr>
<td>BUFFET</td>
<td>4.95</td>
</tr>
<tr>
<td>SUNDRIES</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL: 4.95
Rice field damage work about completed.

Investigation rice damage about completed about Oct. Sixteen. Wish return east then. Win temporarily live Oak Calif. By return authorized hold mail.
Wiltshire Hotel

SUPERIOR ACCOMMODATIONS
340-346 STOCKTON STREET
BERNARD J. McCARRON, MANAGER.

San Francisco, Cal.

MARINE VIEW
IN THE HEART OF THE SHOPPING DISTRICT
Doctor Alexander Wetmore,
1011 Forum Building,
Sacramento, California.

My dear Doctor:

I have your favor of October 9th enclosing copy of the blanket regulation and rules relating to the shooting of ducks.

I thank you very much for your courtesy in this matter and you may be assured that this Association will do all in its power to see that the provisions and requirements of this regulation are carried out to the letter.

Very Sincerely,

[Signature]
Mr. Smith,

Wild Goose Club,
Gridley, Cal.

Dear Sir:

This will introduce Dr. Alexander Wetmore of the Department of Agriculture, Washington. Mr. Wetmore is making some important investigations, and will remain at the club house for some days. You will please give him every assistance possible while he remains with you.

Yours very truly,

[Signature]

President.
Berkeley, Cal.
Oct. 7, 1918.

Mr. Alexander Wetmore,
Gridley, Butte Co.
Cal.

My dear Wetmore,

When I reached Live Oak, I found that Ricketts had been detailed elsewhere so that I had to send for Birmingham. We visited the Fallaman Ranch, and I took several photographs. The damage is quite extensive, and is similar to that on the West side. We talked to a number of ranchers near Biggs, but invariably they reported no damage.

However, it was stated that ducks had given trouble on the Browning ranch. On talking to the herder for a "Mr. Mawhinney", we decided that he had exaggerated the damage. The man in charge at the Rice Experiment Station had heard complaints from Mr. Mawhinney and from someone on the Browning ranch.

Although we attempted to visit the Dodge holdings, we were prevented by the roads which were impassable.

Was very sorry not to have seen you again. Be sure to look me up the moment you reach Berkeley. Taylor has been in town for two or three days, but leaves Thursday.

The Audubon Association of the Pacific still wants you to talk on Thursday evening, Oct. 10th. They meet in the "Development Board Room" of the Ferry Building.

Sincerely yours,

[Signature]

R/1
October 6, 1918.

Dr. Alexander Wetmore,
Care State Horticultural Commission,
Forum Building,
Sacramento, Cal.

Dear Wetmore,

As you will note, I have been delayed in getting to the Coast and it will probably be two weeks yet before I reach Sacramento.

I trust that you and Catron will be ready to meet me when I get there. I desire to have a conference with both of you concerning the duck situation before seeing the Game Commission.

I go from here to Malheur Lake and other points in Oregon and Washington and will let you know later more definitely concerning the time of my arrival in Sacramento.

Sincerely yours,

E. W. Nelson
Chief Biological Survey
Alexander Metcalf
Maxwell Cal

Impracticable to stop reach Colonials
Annex eight leave Utah twelfth

Portland 10/6/18

fisher
Mr. Alexander Wetmore,
Maxwell, Calif.

Dear Mr. Wetmore:

I have just received your letter addressed to Mr. Westerfeld. We had already received Mr. Henderson's telegram that you quoted and have given the information to all of the San Francisco newspapers. The telegram has not really aroused the necessity that I thought it would.

George Neale, however, advises me that there are a number of "wild duck rice protective clubs" being organized. I hope the situation is very much relieved by the telegram, although I do not entirely approve of the wording.

Mr. Westerfeld wrote a long letter to the Biological Survey in which he pointed out some of the difficulties that will arise from the fact that they gave a blanket permit to rice growers, their immediate families and employees. In all probability there will be a great many dollar a year men employed on some of the ranches.

Yours very truly,

[Signature]

Assistant Executive Officer
MAY SHOOT DUCKS TO PROTECT RICE

Neale Says Ruling Against the Recommendation of Many Growers.

SAN FRANCISCO, Oct. 2.—Wild ducks in the rice fields of Butte, Colusa, Glenn, Sutter, Yolo and Yuba counties may be shot when necessary to protect crops, according to an official telegram received from Washington by Carl Westerfeld, executive officer of the fish and game commission of California. The ruling holds good until the 15th of this month. Only rice farmers, members of their immediate families and employees, however, may shoot the ducks and they must shoot in open field.

Another restriction in the ruling keeps farmers from selling these ducks, and provokes that they must neither eat them or send them to charitable institutions or hospitals.

The communication was addressed to Carl Westerfeld, executive officer of the fish and game commission at San Francisco, and comes from Henderson, assistant director of the biological survey, department of agriculture, at Washington. A copy of the permit reached the Sacramento office of the commission yesterday.

"MISTAKE," SAYS NEALE.

The order was not received with enthusiasm at the offices of the fish and game commission. "The ruling is against the recommendation of many reputable rice growers," said Theodore R. Neal, deputy. "Ernest E. Behr, secretary of the Rice Growers' association, representing 75 per cent of the acreage, has an article in the Willows Journal, saying the reports of large damage from ducks are exaggerations; that no damage was reported from Yolo county last year, with 30,000 acres planted, and that on the Spalding ranch, with 2,500 acres in rice, the total loss was not more than five acres. Blackbirds, he declares, do much more damage, but there is no demand for the privilege of shooting blackbirds for the reason that they are not good eating."

Behr also said in his communication that on personal investigation he found that several rice growers whose names appeared as signatures to the protest lodged with Merritt against ducks denied having signed the dispatch or having authorized the use of their names in that connection.

"However," adds Neal, "I am glad the order has been issued, for it will bring the matter to a focus, and will prove whether honest desire for conservation or a selfish motive for the killing of ducks is back of the movement. It is my opinion that no damage will be done to both rice and ducks by this permission to hunt the birds, even though the permission is limited. It will be almost impossible to control the market hunters and to protect the rice fields from trespassers. This will be the duty of the federal migratory bird wardens, soon to be appointed. The state deputies will be able to assist by enforcing the regulations governing shipments."
October 2, 1918.

SPECIAL MEMORANDUM FOR FIELD EMPLOYEES.

This is to advise you that the regular appropriation bill for the Department of Agriculture, for the fiscal year 1919, has now passed both Houses of Congress and been signed by the President, and became a law on October 1, 1918. From October 1, you will therefore be limited in making expenditures only by the amounts covered by your letters of authority and such instructions as have been or may be given you.

Very truly yours,

Chief Clerk and Executive Assistant.
RICE GROWERS WIN FIGHT TO SHOOT DUCKS

Defeat State Fish and Game Commissioner in Long Controversy

BIOLOGICAL SURVEY ISSUES PERMIT AND RESTRICTIONS

Growers’ Employees Given Right to Shoot; Consumption To Be Permitted

SAN FRANCISCO (Cal.), October 2.—The rice growers of the Sacramento Valley, who have waged a long fight for the right to protect their rice crops from the depredations of ducks by the use of guns, if necessary, have won a decisive victory over the State Fish and Game Commission.

The news of the victory comes in an order issued by the Biological Survey at Washington, D. C., permitting the rice growers to shoot and kill ducks invading their rice fields. This was granted over the opposition of the State Fish and Game Commission, which fought the request for permission to shoot ducks, holding the birds could be kept off the fields by the use of rockets, bombs, etc.

Growers and Merritt Win.

The authorization from the Biological Survey is a direct result of the appeal made by the rice growers to California Food Administrator Ralph Merritt. Growers of the Willows district appealed to him to aid them in saving the crop from destruction after the State Fish and Game Commission had announced the Biological Survey was sending a Federal Game Warden into the district to arrest and prosecute any grower killing ducks before the season opened.

Merritt took up the matter with Herbert Hoover, National Food Administrator, recommending that the growers be given permission to shoot the ducks and that the slain ducks be made use of as food by the families of the growers and in charitable institutions. The order permitting shooting, just announced by the State Fish and Game Commission, as received from the Biological Survey, is believed the result of the steps taken by the Glenn growers and Merritt.

Growers Only to Shoot.

The telegram announcing the permit is given out by Carl Westerfeld, executive officer of the State Fish and Game Commission, and is as follows:

Washington, October 2.

Carl Westerfeld, Fish and Game Commissioner, San Francisco.

Blanket Federal permission granted rice growers teachers and immediate families and employees in Butte, Colusa, Sutter, Yolo and Yuba Counties, California, to kill ducks from October 1st inclusive, 1929, in open fields of rice grown necessary to protect rice from destruction by ducks. No ducks killed are to be sold or used except in artificial or natural blinds while in fields from which rice has been harvested.

Ducks killed not to be sold for food or for purposes of sale or be wanted or wasted or destroyed, but be used for food purposes by persons killing them, and may be transplanted to hospitals and charitable institutions in California for use as food.

Must Mark Packages.

Any package in which ducks are transposed must show name and address of owner, and an accurate statement of number and kinds of ducks involved therein clearly and conspicuously marked on outside thereof.

Each owner or lessee of land on which ducks are killed must on or before October 15th submit sworn statement of number and kinds of ducks killed each day on such land, manner of disposition of ducks and cost of ammunition used.

Volunteers to Kill Ducks.

MARYSVILLE (Yuba Co.), October 2.—Mayor Mat Arnouty has received from E. Winters of the Motor Transportation Corp., at the Fretzio, San Francisco, a letter volunteering to kill ducks for the rice men, in order to conserve food for the soldiers.
Wild Ducks to Be Shot by Growers
To Protect Crops
Official Permission Given
Rice Men, According to Official

Wild ducks in the rice fields of Butte, Colusa, Glenn, Sutter, Yolo and Yuba counties may be shot whenever necessary to protect the crops, according to an official telegram received yesterday from Washington by Carl Westerfeld, executive officer of the Fish and Game Commission of California. This ruling holds good until the 15th of this month. Only rice farmers, members of their immediate families and employees, however, may shoot the ducks, and they must shoot in open field.

Another restriction in the ruling keeps farmers from selling these ducks, and provides that they must either eat them or send them to hospitals or charitable institutions.

This ruling is the result of six weeks investigation by Dr. H. C. Bryant of the University of California, who went up to the rice fields as economic ornithologist for the Fish and Game Commission, and Alexander Wetmore, of the Biological Survey. Carl Westerfeld also investigated the situation for several days and found that of the 144,000 acres planted in rice not more than seventy-five to 100 acres have been molested by ducks.

Westerfeld said yesterday:

"This ruling applies only to the counties named, and only to the people directly concerned. Hunters may not shoot ducks anywhere until the season opens about October 16."
INVESTIGATION HELD.

The Fish and Game Commission recently conducted an investigation to find just how badly the ducks have destroyed the rice fields and out of the 146,000 acres planted to rice only 100 acres have been molested. This is attributed to the fact that the ducks are unable to get into hundreds of the fields on account of the height of the rice stalks.

This investigation was made by H. C. Bryant, economical ornithologist, Carl Westerfeld and a representative of the Rice Growers' Association. All agreed that the fields had been destroyed in some places, but the majority were left untouched. However, after a thorough discussion of the problem, it was deemed absolutely necessary to make the ruling and a suggestion to that effect was forwarded to Washington.

ORDER FROM WASHINGTON.

Washington, October 1.

Carl Westerfeld, Fish and Game Commissioner, San Francisco:

Blanket federal permission granted rice growers members and immediate families and employees in Butte, Colusa, Glenn, Sutter, Yolo and Yuba counties, California, to kill ducks from September 30 to October 15 inclusive, 191, in open fields of rice when necessary to protect rice crops from damage by ducks. No ducks to be shot at from artificial or natural blinds or from fields from which rice has been harvested.

Ducks killed not to be sold, offered for sale, shipped for purposes of sale or be wantonly wasted or destroyed, but may be used for food purposes by persons killing them and may be transported to hospitals and charitable institutions in California for use as food.

Any package in which ducks are transported must have name and address of shipper and of consignee and accurate statement of number and kinds of ducks contained therein clearly and conspicuously marked on outside thereof.

Each owner or lessee of land on which ducks are killed must on or before October 25 submit sworn statement of number and kinds of ducks killed each day on such land. Manner of disposition of ducks and cost of ammunition used.

Make public foregoing. Full text perm it by mail.

HENDERSON.
UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF BIOLOGICAL SURVEY  

EXPENDITURE AUTHORIZATION  

Washington, D. C., October 1, 1918.  

Alex. Washburn,  
Assistant Biologist.  

Your letter of authorization No. 70-31., as amended, payable from the appropriation "General Expenses, Bureau of Biological Survey, 1919" (Food Habits of Birds and Mammals), is hereby further amended so as to authorize you to investigate the mortality among waterfowl about Klamath Lake, Oregon. The amount which may be expended under the above named appropriation is not hereby increased.

Your permanent headquarters will be Washington, D.C.

[Signature]

W.C. Merendinov  
Chief, Biological Survey.
Mr. Carl Westfield

Willows Oct 1

Following our conversation of Saturday and Sunday last regarding the question of wild ducks in the ricefields I wired the office regarding the agreement reached. The following telegram from the Washington office was received today:

In accordance with your request this is transmitted to you that you may issue a statement to the press. The intention of the Bureau is to afford necessary protection to the growers whose crop is endangered. Hunting wild ducks by others before the regular date of the open season (Oct 16) will not be countenanced.

Mr. Callan requests that this matter be given as early publicity as possible that by May 1st. 1947, discussion of the question will be referred to a representative committee of rice growers. Should any questions arise you may reach Mr. Callan at Willows or on the Maxwell.
PHONE SUTTER 5307
RACLIFF SALES COMPANY, Sales Agents for
WILLSON'S FIREWORKS CO.

146-148 DAVIS STREET
SAN FRANCISCO. Oct. 1, 1918

M. A. Wetmore
Live Oak, Cal.

TO BALANCE
TO MDSE. 12.50
10.00
12.50 $35.00

MAKE ALL CHECKS PAYABLE TO RACLIFF SALES COMPANY
To Manager Telegraph Company:
This message should be sent "Paid Gov't" Rate, and forwarded with your monthly report as voucher for your credit.

Charge Bureau of Biological Survey, U. S. Department of Agriculture.
(Always insert name of Bureau chargeable with this expense.)

Appropriation: Food Habits

Send the following official message subject to the instructions on back hereof and the agreement with the Postmaster General.

Place: Maxwell, Calif
Date: Sept. Oct. 1, 1918

A. K. Fisher
Care Hotel Oregon,
Portland, Oregon.

arrange Maxwell, California

Can you stop for day on journey south to observe duck in rice. Shall be there October 4th and 5th. Wire immediate answer and date.
INSTRUCTIONS.

The telegraph must be used sparingly. In a message from one official or employee to another official or employee titles should not be used, and in a great many cases the names of the parties in both address and signature may be limited to single words. Messages sent from or to the Department at Washington should not be paid for by the persons sending or receiving the same, except in cases where payment is demanded as a condition to the transmission or delivery of the messages, and the agent, operator, or messenger should be directed to have the same charged in the company’s monthly bill at Washington.

The rates for the transmission of official messages (except those for the Weather Bureau) over the principal telegraph lines in the United States, including those of the Western Union Telegraph Company, are fixed annually by the Postmaster General, and all payments in excess of those rates will be at the expense of the persons making the payments.

Payment for Government messages sent over telegraph lines owned or operated by bond-aided railroad companies is forbidden by law.

Write numbers out when fewer words result than there are figures in the number, except in cablegrams, when figures should be used instead of the corresponding words.

Do not abbreviate ordinal numbers, such as 16th (three words), 3rd (two words), 22nd (three words); but write them sixteenth, third, and twenty-second.

Telegrams, or any part thereof, relating to leave of absence are not official. Telegrams relating to salary or expense checks are only official when the funds are actually necessary to carry out official instructions; and such messages must be clearly explained.

Telegrams between the several Departments of the Government and their officers and agents, in their transmission over the lines of any telegraph company to which has been given the right of way, timber, or station lands from the public domain shall have priority over all other business, at such rates as the Postmaster General shall annually fix. And no part of any appropriation for the several Departments of the Government shall be paid to any company which neglects or refuses to transmit such telegrams in accordance with the provisions of this section.—Rev. Stat., sec. 5266.
WASHINGTON, DC, 327 PM OCT 1ST 1918

BLANKET FEDERAL PERMISSION GRANTED TO RICE GROWERS, MEMBERS, IMMEDIATE FAMILIES AND EMPLOYEES IN BUTTE, COLUSA, GLENN, SUTTER, YOLO AND YUBA COUNTIES, CALIFORNIA, TO KILL WILD DUCKS FROM SEPTEMBER THIRTIETH TO OCTOBER FIFTEENTH INCLUSIVE, NINETEEN EIGHTEEN, IN OPEN BUCKS FIELDS OF RICE WHEN NECESSARY TO PROTECT RICE CROPS FROM DAMAGE BY DUCKS STOP. NO DUCKS TO BE SHOT AT OR FROM ARTIFICIAL NATURE BLINDS OR FROM OR IN FIELDS FROM WHICH RICE HAS BEEN HARVESTED STOP DUCKS KILLED NOT TO BE SOLD OFFERED FOR SALE SHIPPED FOR PURPOSE OF SALE OR SWEAT-ONLY WASTED OR DESTROYED BUT MAY BE USED FOR FOOD PURPOSES BY PERSONS KILLING THEM, AND MAY BE TRANSPORTED TO HOSPITALS AND CHARITABLE INSTITUTIONS IN CALIFORNIA FOR USE AS FOOD STOP ANY PACKAGE IN WHICH DUCKS ARE TRANSPORTED MUST HAVE NAME AND ADDRESS OF SHIPPER AND CONSIGNEE AN ACCURATE STATEMENT OF NUMBER AND KIND OF DUCKS CONTAINED THEREIN CLEARLY AND CONSPICUOUSLY MARKED ON OUTSIDE THEREOF STOP EACH OWNER OR LESSEE OF LAND ON WHICH DUCKS ARE KILLED MUST ON OR BEFORE OCTOBER TWENTY FIFTH SUBMIT SWORN STATEMENT OF NUMBER AND KINDS OF DUCKS KILLED EACH DAY ON SUCH LAND MANNER AS OF DISPOSITION OF DUCKS AND COST OF AMMUNITION USED STOP MAKE PUBLIC FOREGOING FULL TEXT PERMIT BY MAIL

HENDERSON

Original copied by Smithsonian Archives
TELEGRAM.

September 30, 1918.

TELEGRAPH OFFICE: Kindly send telegram given below to the following persons.

DAY HIGH.

APPROPRIATION:

Carl Westerfeld,
Fish and Game Commission,
New Call Building,
San Francisco, California.

Alexander Wetmore,
Maxwell, California.

E. S. Cattrom,
Willows, California.

Blanket Federal permission granted rice growers, members immediate families and employees in Sutte, Coloma, Glenn, Sutter, Yolo, and Yuba counties California to kill wild ducks from September thirtieth to October fifteenth inclusive nineteen eighteen in open fields of rice when necessary to protect rice crops from damage by ducks stop. No ducks to be shot at from artificial or natural blinds or from or in fields from which rice has been harvested stop. Ducks killed not to be sold, offered for sale, shipped for purposes of sale or be wantonly wasted or destroyed but may be used for food purposes by persons killing them and may be transported to hospitals and charitable institutions in California for use as food stop. Any package in which ducks are transported must have name and address of shipper and of consignee on accurate statement of number and kinds of ducks contained therein clearly and conspicuously marked on outside thereof stop. Each owner or lessee of land on which ducks are killed must on or before October twenty-fifth submit sworn statement of number and kinds of ducks killed each day on such land, manner of disposition of ducks, and cost of ammunition used stop. Make public foregoing stop. Full text permit by mail.

HEFDERSON.

CONFIRMATION OF TELEGRAM.
September 30, 1918.

ORDER

PERMITTING THE KILLING OF MIGRATORY DUCKS WHICH HAVE BECOME SERIOUSLY INJURIOUS TO THE RICE CROPS IN CALIFORNIA.

Information having been furnished the Secretary of Agriculture that migratory ducks have become, under extraordinary conditions, seriously injurious to the rice crops in California and an investigation having been made to determine the nature and extent of the injury complained of and whether the birds alleged to be doing the damage should be killed, and, if so, during what times and by what means; and it having been determined by the Secretary of Agriculture that migratory ducks have become, under extraordinary conditions, seriously injurious to the rice crops in the counties of Butte, Colusa, Glenn, Sutter, Yolo, and Yuba in California and that the migratory ducks doing the damage should be killed by shooting:

Now, therefore, I, L. P. Houston, Secretary of Agriculture, pursuant to authority in me vested by the Migratory Bird Treaty Act (Act of July 3, 1918) and agreeably to regulations under said Act promulgated July 31, 1918, do hereby order that persons owning or leasing land in said counties of Butte, Colusa, Glenn, Sutter, Yolo, and Yuba, in the State of California, on which rice is being grown or being harvested, and the members of their immediate families and their employees may kill by shooting migratory ducks from September 30 to October 15, inclusive, 1918, in the open fields of rice on such lands so owned or leased, when such migratory ducks are committing or are about to commit serious injury to the rice and it is necessary to kill
such migratory ducks in order to protect the rice from damage; but no such person shall shoot at any such migratory ducks from any artificial or natural blinds; nor shall migratory ducks be killed or shot at from or in any field from which the rice has been harvested; nor shall migratory ducks so killed be sold, offered for sale or shipped for purposes of sale, or be wantonly wasted or destroyed, but they may be used for food purposes by the persons hereby permitted to kill them and they may be transported to hospitals and charitable institutions in California for use as food.

Each owner or lessee of land on which migratory ducks are so killed shall, on or before the 25th day of October, 1918, submit to the Secretary of Agriculture, Washington, D.C., a sworn statement of the number and kinds of migratory ducks killed each day pursuant to this permit on such land so owned or leased by him, the manner in which the said ducks were disposed of, and the cost of the ammunition used in killing or attempting to kill them.

D. F. HOUSTON

Secretary of Agriculture.
To Manager Telegraph Company:
This message should be sent "Paid Gov't" rate, and forwarded with your monthly report as voucher for your credit.

Charge Bureau of Biological Survey, U. S. Department of Agriculture.
(Always insert name of Bureau chargeable with this expense.)

Appropriation:


Place:  Maxwell, Calif.  Date:  Sept. 29, 1918

INSTRUCTIONS.

The telegraph must be used sparingly. In a message from one official or employee to another official or employee titles should not be used, and in a great many cases the names of the parties in both address and signature may be limited to single words. Messages sent from or to the Department at Washington should not be paid for by the persons sending or receiving the same, except in cases where payment is demanded as a condition to the transmission or delivery of the messages, and the agent, operator, or messenger should be directed to have the same charged in the company’s monthly bill at Washington.

The rates for the transmission of official messages (except those for the Weather Bureau) over the principal telegraph lines in the United States, including those of the Western Union Telegraph Company, are fixed annually by the Postmaster General, and all payments in excess of those rates will be at the expense of the persons making them.

Payment for Government messages sent over telegraph lines owned or operated by bond-aided railroad companies is forbidden by law.

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Telegrams between the several Departments of the Government and their officers and agents, in their transmission over the lines of any telegraph company to which has been given the right of way, timber, or station lands from the public domain shall have priority over all other business, at such rates as the Postmaster General shall annually fix. And no part of any appropriation for the several Departments of the Government shall be paid to any company which neglects or refuses to transmit such telegrams in accordance with the provisions of this section.—Rev. Stat., sec. 5286.
Day rush

Washington, D.C.

Sept. 28, 1918.

Alexander Wetmore,
Maxwell,
California.

Westerfeld advises he will confer with you at Maxwell. Rush conference and wire result. Will state object issuance federal permit which will not interfere enforcement state laws.

HEIDBRON.

[Signature]

CONFIRMATION OF TELEGRAM
STATE FOOD CHIEF APPEALS
TO HOOVER TO AID GROWERS

Rice Duck Situation Threatening Destruction to Thousand
s of Acres of Product

WASHINGTON, September 18—Pro-

State and Federal

laws from killing the

ducks, which are threatening to de-
nich hundreds of acres of rice, the

growers have petitioned State Food

Administrator Ralph P. Merrell, for

help. He in turn has telegraphed

Federal Food Administrator Harford

Hoover recommending that the grow-
ers as a food conservation measure

be permitted to shoot ducks if neces-
sary to protect the crops and use them

for food. To do either before the

opening of the season, October 16, is

a violation of the Federal game agree-

ment with Canada.

The State Fish and Game Commis-

sion has a game expert here study-
ging the situation, while the Federal

Government has sent W. Welmark, a

biologist and a deputy game warden,

T. R. Cottrell, into the fields to ob-

serve the damage done by the birds

during the harvest. The growers are

threatening to protect the ducks in order

to protect their crops even at the risk

of arrest by Federal authorities.

Although no statement has yet been

made by Warfle London, Jr. to the In-

struction, it is generally understood

that the growers will not be inter-

fered with so long as they shoot the

ducks only when necessary to protect

the rice. The recommendation has been

made that the hunters and those ex-

posed to game laws are taking advan-
tage of the rice situation to their dis-

favors the season opens, and it is with

any such that the Government is ex-
pected to deal sumably
To Manager Telegraph Company:

This message should be sent "Paid Gov't" Rate, and forwarded with your monthly report as voucher for your credit.

Charge Bureau of Biological Survey, U.S. Department of Agriculture.

(Always insert name of Bureau chargeable with this expense.)

Appropriation: Food Habits

Send the following official message subject to the instructions on back hereof and the agreement with the Postmaster General.

Place: Maxwell, Calif.
Date: Sept. 27, 1918

Biological Survey, Agriculture, Washington, D.C.

No interference from State authorities yet. Commission apparently awaiting federal action.
INSTRUCTIONS.

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Day rush

Washington, D.C. Sept. 27, 1918

Alexander Setmore,
Maxwell, California.

Your recommendation received. Doubtful whether Federal permit will be effective if State laws do not cover the emergency. Have state authorities interfered with rice growers killing ducks for committing depredations.

Wire reply. Bureau communicating with state authorities.

Henderson

CONFIRMATION OF TELEGRAM
After thorough investigation we are convinced rice growers justified in herding ducks from fields. Situation controlled through regulation and authority critical. Situation demands authority to delegate to Federal Warden to issue such permits as occasion requires.

Operations under permits confined to members of family and bona fide regular employees. Shooting confined to ricefields from open. Carried on at night when necessary. Birds retrieved and slaughter of birds not countenanced. Operations confined to rice-protectors. All attempts hunting for sport eliminated.
Willows, Cal., ___________________________ 191
Charitable institutions when practicable.

Fright shooting not permitted on stubble
after crop has been harvested.

Permittee must furnish affidavit
covering number birds killed.

State amount ammunition used.

Though situation a present not alarming
necessity for permits is as likely to
arise at any time. Rice growers appeal
their plan cooperation of rice
growers to be secured. In handling
permits obtained in preventing
violation of regulations.

To avoid possible complications
permits should be wired for and
rice

multigraphed here. Areas affected
at present be in Yolo, Glenn, Colusa,
Yuba, Butte, Sutter Counties and
scattered certain points in San Joaquin.
Vally. Desir answey of Friday.

Part hite Than Saturday.

will spend caused by

May locally, possibly in November.

I know, probably of me.

Funk, I know of probably of present.

After Violation kind of present.

Significant.
Willows, Cal.,
That the rice growers shall be permitted to protect his crop against damage by wild duck. Not in doing so, the following means may be utilized:

1. Shooting by owners of fields, members of their families, or others employed for such service.
2. Erecting a line of stakes in rice fields from the grower. No wire, artificial or natural fence may be utilized.
3. Shooting may take place on or at night when necessity arises.
4. Birds killed in washing ducks from the rice fields may be utilized as food by the men killing them. It may be given to charitable institutions; only may not be

5. Night shooting may not be permitted in rice stubble fields after the rice crop has been harvested.
6. Rice growers must furnish affidavit as to the number of birds killed, their disposal and the unit of ammunition used.

Violators shall be punishable by a fine of
not less than $2.00 for each offense.
Under Regulation 10 there is issued under The Federal Migratory Bird Treaty Act.
The migratory Bird Treaty acts provides a fine of $500 or an imprisonment for 6 months as the maximum penalty.

Further regulations may from time to time be imposed.

Every opportunity will be taken to prevent the right-minded being grown to protect his crops. Any attempt to

presume upon this privilege by those

depraved merely for killing ducks will be punished to the full extent of the law.
INSTRUCTIONS.—Requisitions for supplies should be made quarterly so far as possible forwarding Forms Bi-200 a and Bi-200 b to the Bureau and retaining this form (Bi-200 c) entries in columns 3 or 4 or in the space provided for number. Form Bi-200 b (invoice) will show any changes in request on his retained copy. Articles of nonexpendable property should also be entered (see paragraph 46, Property Regulations).
Day rush

Washington, D.C. Sept. 25, 1918

Alexander Wetmore,
Horticultural Commission,
Forum Building,
Sacramento, California.

Wire telegraphic address next five days yourself and Cattron.

Henderson.

[Signature]
MERRITT BACKS DUCK KILLING BY RICE GROWERS

Asks Hoover to Give Farmers Special Permits to Slay Birds to Save Crops

575 California 9-12-29

Special Dispatch to The Capital.

SACRAMENTO, September 12.—Responding to the appeal from rice growers for protection against the ducks, State Food Administrator Ralph P. Merritt has wired to United States Food Administrator Herbert Hoover a recommendation that no immediate drastic action be taken by the Federal authorities in enforcing the game laws, and suggesting that special permits be granted rice men to kill ducks and use them for food wherever necessary in protecting their crops.

William Durrow, County Food Administrator, has received the following telegram from Merritt:

"William Durrow, County Food Administrator, Willows, Cal.—Have sent following telegram to Hoover:

'Regardihg killing of ducks by owners of rice fields who have been using any method for protection of their own property which owner deemed desirable and have been notified by State authorities. Rice growers are now wiring stating Federal game wardens have been sent to rice fields for purpose of prosecuting owners or employees who may kill ducks in protection of owners rice fields.

'Rice growers regard the action as antagonistic to food production and ask that Federal interference be withdrawn. Do not believe conditions warrant drastic action by Federal Government and that conditions should be allowed to continue.'

Will advise as soon as reply received. Yours truly, R. P. Merritt."

Original copied by Smithsonian Archives
Mr. Aleck Wetmore,  
Willows, Cal.  

Dear Mr. Wetmore:

I regret that it has been impossible to keep my promise to be in Willows on Tuesday, September 24, but since it is necessary to have Mrs. Bryant sign my draft questionnaire with me, this must be seen to before I leave Berkeley. Will be on the ground at my earliest opportunity.

A telegram from Nelson has furnished the good news that a United States game warden will be on the ground soon. In my estimation no better move could be made. Here's hoping it happens to be Willett.

Very truly yours,

[Signature]

In Charge Education, Publicity and Research.
Lay

Washington, D. C. September 21, 8.

Alexander Wetmore,
Crawford Hotel,
Willows, California.


NELSON.
FIGHTING DUCKS

Sutter Rice Growers Find Bombing Campaign Expensive

Dodge Company Spends $4,000 for Supplies; "Game or Food—Which?" Asks Official

LIVE OAK (Sutter Co.), September 23.—Rice growers in this section are making a strenuous fight against ducks that infest their fields in great flocks.

Bombs are being freely used night and day. These bombs cost $5 per dozen, and rice men declare their ammunition bills will make as sad havoc with their finances as do the ducks and geese with the rice.

Farmers in the vicinity of the rice fields are kept awake nights by the heavy cannonading.

COSTS LAND COMPANY $4,000 TO FIGHT DUCKS

CHICO (Butte Co.), September 23.—The Dodge Land Company is paying approximately $1 per acre to keep ducks out of its rice fields. "We have invested $4,000 in paraphernalia."

This is the statement made here by H. O. Jacobsen of the company in discussing the situation arising from the announcement by the State Fish and Game Commission that the Biological Survey is sending a Federal Game Warden to Willows to arrest and prosecute any rice grower who shoots and kills ducks out of season.

Fears They Have Dyspepsia.

"If the Federal Game Warden comes onto our property, we will expect him to do his sworn duty and preserve the life of the ducks by keeping them out of the rice fields. They may get dyspepsia from overeating of rice," says Jacobsen as a pleasantry.

"Our company is using bombs and searchlights. So far this season we have had no difficulty, but last year we had a terrible time."

"Our men have been given no orders to shoot ducks. They have guns and shells, but have been instructed not to shoot ducks or game wardens. If a duck dies of fright, they are not supposed to pick it up. I have not seen a dead duck this season.

"Game or Food—Which?"

"We ask legal means to protect our property and be enabled at the same time to follow the requests of the Food Administration to the best of our ability. Whether or not the protection of game is more vital than the protection of food is the question that must be determined."
Rice Growers Protest Against Coming of Game Warden
Tell Food Administrator More Than $500,000 Worth of Damage Will Be Done
(The Bee's Special Service.)
WILLOWS (Glenn Co.), September 20.—Aroused by the announcement by the State Fish and Game Commission that the Biological Survey of the Department of Agriculture, Washington, D. C., is sending a Federal Game Warden to Willows to arrest and prosecute any person who violates the Federal game law by killing ducks before the season opens, rice growers of the Willows section to-day drafted a telegram to be rushed to California Food Administrator Ralph Merritt asking his intercession to save rice from damage by ducks.
C. L. Donohoe, attorney and rice grower, announces the following is the telegram drafted for wiring to Merritt:

"The Government is urging farmers to produce foodstuff. The rice growers of Glenn and Colusa Counties have produced about 50,000 acres of rice this season. The crop is about ready to harvest.
Last season the ducks destroyed, conservatively, $500,000 worth of rice crops. They are just coming to attack the crops now. We expect the same trouble as last year, possibly worse. It is still the closed season for ducks.
We are informed that the Federal Department of Biology has sent a United States' Deputy Game Warden to Willows, authorized to arrest any person shooting ducks in their rice fields.
"Are we to allow these ducks to destroy the crop, or will you take some action in the matter? The situation is very critical!"
To Have Twenty-Five Signers.
Donohoe announces the following already have signed the telegram and that a total of twenty-five signers will be obtained this afternoon:
Wes Wilson immediately. When Cotton
expected Sacramento. Game Commission gave
announcement this coming to pass. Growers
announced, details address to permit forwarded
by mail from Quality. Further information follows.
Need for transportation requested.
GAVE WARDEN CATTRON PROCEEDING SACRAMENTO FOR CONFERENCE CAUTION HIM USE UTMOST CARE HANDLING SITUATION ARRESTS INEXPEDIENT WHEN DUCKS DESTROYING RICE OCCASIONALLY KILLED FOREGOING CONFIDENTIAL YOURSELF CATTRON NOTIFY GROWERS KILLING DUCKS LARGE NUMBERS MUST BE STOPPED PENDING GOVERNMENT ACTION DO CONDITIONS JUSTIFY ISSUAL FEDERAL PERMITS KILL WILD FOWL IF SO WHAT COUNTIES AND PERIOD SHOULD BE COVERED

NELSON

227P
Send the following official message subject to the instructions on back hereof and the agreement with the Postmaster General.

Place: Gridley, Calif.

Date: Sept. 18, 1918

Rice growers shooting to drive ducks from rice fields where ever damage threatens. More J. this near Biggs Gridley than Willows. Ducks beginning damage early rice where not herded. Some hunters taking advantage to shoot elsewhere. Consider herding necessary to avoid loss. Newspaper reports many birds killed greatly exaggerated. Report will be forwarded mail tonight.
INSTRUCTIONS.

The telegraph must be used sparingly. In a message from one official or employee to another official or employee titles should not be used, and in a great many cases the names of the parties in both address and signature may be limited to single words. Messages sent from or to the Department at Washington should not be paid for by the persons sending or receiving the same, except in cases where payment is demanded as a condition to the transmission or delivery of the messages, and the agent, operator, or messenger should be directed to have the same charged in the company's monthly bill at Washington.

The rates for the transmission of official messages (except those for the Weather Bureau) over the principal telegraph lines in the United States, including those of the Western Union Telegraph Company, are fixed annually by the Postmaster General, and all payments in excess of those rates will be at the expense of the persons making the payments.

Payment for Government messages sent over telegraph lines owned or operated by bond-aided railroad companies is forbidden by law.

Write numbers out when fewer words result than there are figures in the number, except in cablegrams, when figures should be used instead of the corresponding words.

Do not abbreviate ordinal numbers, such as 16th (three words), 3rd (two words), 22nd (three words); but write them sixteenth, third, and twenty-second.

Telegrams, or any part thereof, relating to leave of absence are not official. Telegrams relating to salary or expense checks are only official when the funds are actually necessary to carry out official instructions; and such messages must be clearly explained.

Telegrams between the several Departments of the Government and their officers and agents, in their transmission over the lines of any telegraph company to which has been given the right of way, timber, or station lands from the public domain shall have priority over all other business, at such rates as the Postmaster General shall annually fix. And no part of any appropriation for the several Departments of the Government shall be paid to any company which neglects or refuses to transmit such telegrams in accordance with the provisions of this section.—Rev. Stat., sec. 5260.
Alex Setmore,
Core Commission, Horticulture,
Farm Building, Sacramento, California.

There is information hunters violating federal law, shooting ducks about ricefields, Silcosa. Is this true? Are ducks doing serious damage Rice now? Learn facts, wire reply.

Nelson.

CONFIRMATION OF TELEGRAM.
RICE MEN ANGRY

Sending of Federal Game Warden to Willows Condemned

"It's An Outrage," Says C. L. Donohoe, Who Predicts Heavy Loss to Growers

"This is an outrage. Some of the rice growers can figure on losing one-half of their crop."

This is the way C. L. Donohoe, attorney and rice grower of Willows, describes the announcement of the State Fish and Game Commission that the Biological Survey of the Department of Agriculture, Washington, D. C., is sending out a Federal Game Warden to Willows to arrest and prosecute any person who shoots and kills ducks before the opening of the season, October 16th.

Inspector Was Shown.

"I don't understand this," says Donohoe. "A Federal Inspector, A. Wetmore, has been in this district studying the situation. This man was in attendance at a recent meeting of rice growers here, at which time the growers explained the damage done by ducks.

"A lot of the rice damaged by ducks will not be worth harvesting. Any man can come and in five minutes see the damage done by ducks."

Notification Sent.

The State Fish and Game Commission announces that it has received a letter from the San Francisco office of the Commission, stating, in effect:

"We have to-day received a telegram from E. W. Nelson, chief of the biological survey, United States Department of Agriculture, Washington, D. C., that a United States Game Warden is being sent to Willows to arrest and prosecute all violators of the Federal laws for the protection of ducks."

Deny Asked Warden.

At the local office of the Fish and Game Commission denial was made that the commission had asked the Government to send the warden to Willows.

May Be Test Case.

State Senator Claude F. Purkitt of Willows to-day expressed the belief that a test case would develop if arrests were made by the Federal Warden.

The growers will lose their crops if they don't keep the ducks out of their fields.
G. W. PEACOCK,
EXPERT TAXIDERMIST,
BIRDS AND GAME HEADS MOUNTED
TRUE TO NATURE,
ORNAMENTAL TAXIDERMY A SPECIALTY.
622 H STREET,
MARYSVILLE. CAL.
Mr. Aleck Wetmore, 
Gridley, Cal.

My dear Wetmore:

I informed Mr. Lastrato as you requested. I am off to the rice fields tonight, so I had to send a substitute for the Audubon Society’s meeting Monday night. Hope to see you the first of next week. I will have to return to Berkeley for a lecture on Thursday September 19th.

Very truly yours,

[Signature]

In Charge Education, Publicity and Research

Museum of Vertebrate Zoology, 
Berkeley, Cal. 
September 14th, 1914.
THE determination of the State and Federal authorities to prevent rice growers from defending themselves against the devastations of worthless ducks and geese is not only causing growing indignation in respect to the senseless destruction of property but is drawing more public attention than has hitherto been given to the legal foundations for the claim for the exercise of such tyranny.

Considering, for convenience, only one phase of the matter, by Federal law the sale of wild ducks and geese is prohibited within a state. Obviously, that is a local police regulation for which, under the Constitution, as written, there is no shadow of Federal claim. We do not know that there is even under the Constitution as "interpreted."

At any rate, Congress could find no such power, and, therefore, resorted to the "treaty power," treaties being declared to be "the supreme law of the land."

If that be literally true, then the President, Senate and Mexico, Canada or China can enact domestic law which the President, Senate and House of Representatives could not enact, and have done so.

The Constitution says: "This Constitution, and the laws of the United States which shall be made in pursuance thereof, and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land."

The question is whether the treaties which are to be the supreme law of the land are treaties enacted, like laws, "in pursuance of the Constitution," or treaties which may happen to be made in defiance of the Constitution.

The legal argument for the former construction is familiar to all students and need not be stated here. If the duck question results in a thorough discussion of this fundamental question patriotic citizens can well afford to raise by subscription money to compensate the victims of Federal usurpation.

But it has been called to our attention that penal laws are to be construed strictly, the burden of proof being absolutely and completely upon the Government.

Therefore, if one is accused, under the Federal law of unlawfully selling wild ducks and geese, the Government must prove that the particular birds sold were hatched outside the State of California before conviction can be had under the treaty power or any other power. And that cannot be done. There is no presumption against the accused in a criminal case.
Dr. Alexander Wetmore,  
Gridley, California.  

Dear Dr. Wetmore:—

We have received yours of September 12th. For a long time I have advocated investigation by someone who was not known or identified with gun clubs or any one really interested in duck shooting. I have induced the Commission to have Dr. Bryant of the University of California, make the investigation and file a report of his observation. I really think that a report from him will be of more value and will be looked upon with more consideration than it would coming from any deputy of the Fish and Game Commission, more especially so if it is possible to have your cooperation in compiling such a report. Dr. Bryant expected to leave for Willows on Friday or Saturday.

Mr. Newbert expects to leave Saturday morning, in company with Deputy Ricketts, for a trip extending into a week and I have placed at yours and Dr. Bryant's disposal our Deputy T.W. Birmingham of Red Bluff who will arrive in Willows Saturday night or Sunday morning. He has a five passenger Ford and this, with the assistance of Deputy Carpenter, will enable you and Dr. Bryant to change off and get over the ground wherever it may be necessary. I know you will give Dr. Bryant every assistance possible in making his investigation a success. Please advise me by 'phone or letter in the next week as to your movements.

Very truly yours,

[Signature]

Address all communications "Fish and Game Commission"
Stars and stripes.
On Salt River, thanks to the courtesy of the board of trade, Mr Elliot, project manager and the Egyptian Cotton Growers' Association, we secured 7,000 feet of negative illustrating the development of the long-fiber cotton industry in this valley. This film is particularly valuable to the Department of Agriculture. After a short visit to Yuma to study the Mesa situation we went to Brawley Cal., the great cantaloupe producing center and filmed this industry while the thermometer ranged about 116° daily. This film is for the Bureau of Markets, and will be used to illustrate the best methods of picking, packing, loading, and shipping.

On the Truckee-Carson we secured some excellent and much needed still and moving pictures of crops and a lot of good film showing the big caterpillar tractors levelling the rough lands. A close up shot at the cement gun placing cement in Lahontan dam was taken.

On the Strawberry Valley project we secured a number of excellent local views, but the principal photographic work was done on the eastern side of the Wasatch Mountains during a visit to the Castle Peak project in Duchesne Valley.

By reason of the generous support of the business men of Burley, Rupert, and Paul, we were able to secure a complete scenario of the Minidoka project. This big reel will show the huge storage reservoir
RECEIVED AT 9:42 A.M.

DATE: February 15, 1910

TO: A. W. Newcomb

DO NOT FAIL TO VISIT AS SOON AS POSSIBLE AT MILLENIUM, WILLOWS, CALIFORNIA.

Nelson
United States Department of Agriculture
Bureau of Biological Survey
Washington, D.C.

Food Habits


Alex Vetmire.

Live Oak, California.

Do not fail to visit as soon as possible W. Degilbert, Willows, California.

Nelson.

Same wire sent to 1011 Forum Building, Sacramento, California.

Confirmation of Telegram.
The Newton Fireworks Display Company
CONTRACTORS FOR
FIREWORKS DISPLAYS
249 FRONT STREET
SAN FRANCISCO, CAL., Sept. 10th, 1918.

SOLD TO Mr. Alexander Wetmore,
Live Oak, Calif.

<table>
<thead>
<tr>
<th>Terms</th>
<th>Net</th>
<th>Cash</th>
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<td>1 Doz. Ex. #2 Duck Bombs</td>
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<td>1/2 &quot; #3 &quot; &quot;</td>
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Mr. Alex Wetmore,
U.S. Biological Survey,
Live Oak, Sutter Co., Copy to Willows, Butte Co., Calif.

Dear Sir:

At the next meeting of the Audubon Association of the Pacific to be held on Monday the 16th inst., Dr. Bryant and others will address us on the subject of ducks and the alleged damages, etc. that they are accused of doing in the California Rice fields.

We understand that it would be improper for us to ask you to give any information or make any comment on the subject while you are conducting an impartial and official investigation, but it was thought that it might be appropriate that on the occasion you might give us some idea of the general workings of the United States Biological Survey and a general idea of the workings of the Migratory Bird Treaty and the corresponding Enabling Act. The audience could be left to understand how the government and its legislations are mutually affected by the subject. The effect on the audience, in addition to being instructive, might tend to inspire greater confidence in the decision, policies and acts of the government through the Biological Survey, and place our members in a better position to defend them when in casual conversation the subject is brought up by such as are opposed to any government interference or protective legislation.

Will you be good enough to accept our invitation to address us on that evening? I understand from Dr. Bryant that you will see each other in the meantime and he has full authority to arrange with you and with anybody for the lecture and entertainment of the evening, and you may make all arrangements with him.

Trusting that you will be able to honor us with your presence and address, I am

Yours very truly,

AUDUBON ASSOCIATION OF THE PACIFIC

[Signature]

President
Mr. Alex Wetmore,
1011 Forum Building,
Sacramento, California.

My dear Wetmore:

I notice in your official report and also in a personal letter to me that in one respect your investigation of the damage to rice by ducks is in the nature of a wild goose chase. It is natural that you should feel that your time is being wasted, but I believe that upon second thought you will admit this is not the case. I think it desirable that you should make a complete report for the official files which will carry all details as to false reports of damage you have been called upon to investigate. This will provide the office with a means of answering renewed criticisms inspired by the same sources.

The field trip that I have just completed, at least, has turned out this way, the claims of damage proving to be absolutely unfounded and I am sure that having a full report on the matter here in the office will make it impossible for similar claims to be made in the future.

The movement to do away with the sale of game has been steadily growing for many years and now that such sale is entirely prohibited by the regulations of the Migratory Treaty Act, the agitation on the part of the California market hunters and their friends will be without result. You are safe in assuring any one who inquires that the
Federal regulations will now be enforced to the best of our ability within the limitations of the funds appropriated for the purpose.

I regret very much that you will be unable to make the trip to Washington and hope that we can redeem ourselves another year.

I made inquiries as to whether your letter of authorization will cover the purchase of bombs and have been told that there is no doubt that it will. I will put in a request for an increase in your letter at once.

I will try to find out the probable fate of your rooms and let you know the result in a personal letter. The plants you mentioned have been received and I will send you the identifications you desire as soon as they can be obtained. Many thanks for your notes on the bird bones I sent you. As little as I know about bird bones, I felt sure they belonged to a duck, but I will keep them until they may be definitely named by comparison when you return to Washington. Blank itinerary reports and memorandum books for traveling expenses have been sent to you. I am inclosing a copy of the Migratory Bird Treaty Act and Regulations. There are plenty of these on hand now and any one desiring a copy may obtain it by application.

Best regards,

Sincerely yours,

W. R. McAtee

Assistant Biologist.

Inclosure 6409
Mr. Alex Wetmore,
U.S. Biological Survey,
Live Oak, Sutter Co., Copy to Willows, Butte Co., Calif.

Dear Sir:

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We understand that it would be improper for us to ask you to give any information or make any comment on the subject while you are conducting an impartial and official investigation, but it was thought that it might be appropriate that on the occasion you might give us some idea of the general workings of the United States Biological Survey and a general idea of the workings of the Migratory Bird Treaty and the corresponding Enabling Act. The audience could be left to understand how the government and its legislations are mutually affected by the subject. The effect on the audience, in addition to being instructive, might tend to inspire greater confidence in the decision, policies and acts of the government through the Biological Survey, and place our members in a better position to defend them when in casual conversation the subject is brought up by such as are opposed to any government interference or protective legislation.

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Trusting that you will be able to honor us with your presence and address, I am

Yours very truly,

AUDUBON ASSOCIATION OF THE PACIFIC

[Signature]

President.
Mr. A. Wetmore,
Live Oak, Cal

Dear Sir:-

Replying to your favor of the 9th, we carefully note your disposition of the bombs sent you and have made notation accordingly.

We are enclosing you invoice to cover the bombs for use by yourself, and are sending a bill to Mr. Bismark Harden for the ones he bought thru you.

Relative to the voucher for bombs it is perfectly satisfactory to us to wait until the end of the month, as that would undoubtedly be the most satisfactory way to take care of these invoices.

Our Mr. Ralph E Flack reports the visit he had with you, and advises us that you wish 1 dozen with the heavy firing charge, also 1 dozen with a heavier detonation. We will have these sent to you at once.

The writer wishes to personally thank you for your many courtesies, also for your interest in advising us the results you have obtained with our bombs.

Do not hesitate at any time to call upon us if we can be of any assistance to you in making any special explosive or pyrotechnic product for your experiments, as we wish to co-operate with you whenever we can be of any assistance.

Very truly yours

RACLIFF SALES CO.
UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY

EXPENDITURE AUTHORIZATION


Alex Setmore,
Assistant Biologist.

Your letter of authority No. 78-Hi, payable from the appropriation "General Expenses, Bureau of Biological Survey, 1919" (Food Habits of Birds and Mammals), is hereby amended so as to increase the amount which may be expended thereunder from $600 to $1000, the additional sum of $400 to be paid from the appropriation named above.

Your permanent headquarters will be Washington, D.C.

W. C. Henderson
Acting Chief, Biological Survey.
Dr. Alex Wetmore,
1011 Forum Building,
Sacramento, California.

Dear Dr. Wetmore:

I am inclosing your permit for collection of birds under

Very truly yours,

Edward A. Chapin

Assistant Biologist.
RICE GROWERS TO OPEN DRIVE TO RID VALLEY OF DUCK PESTS

Farmhouses Will Serve as Arsenals; Sharpshooters to Be Hired to Do Wholesale Killing

CHICO, September 7.—Working through the food administration and Secretary Franklin K. Lane, for the right to protect their crops from the inroads of game, rice growers of the Sacramento valley are not stinting themselves to bring the wild duck issue before the Federal authorities.

Following a meeting of 100 prominent rice growers of Yolo, Colusa, Glenn and Butte counties, a plan of campaign was outlined whereby every farmhouse in the rice fields will serve as an arsenal during the next three months and duck shooters will be hired at $4 per day to protect the rice crops by killing wild ducks by the thousands.

That the rice growers are relying on the Federal Government for support in their new programme was evident from a series of questions asked by W. D'Egilbert, representing the food administration. D'Egilbert asked Dr. A. J. Wetmore of the biological survey if the Federal Government could be depended upon for immediate support and relief if the findings of the Government were that the duck was doing extensive damage to the crops. Wetmore answered by saying that he could not promise no relief, that he would report to his superior officer on September 10 in Sacramento, and the question would then be put out of his hands.

Wetmore expressed the belief that the rice men were entitled to protect their crops from the inroads of wild ducks and upon this assertion the growers are now using rockets, bombs and shotguns to drive off the invaders.

The rice growers have appointed a committee to reach the food administration and Secretary Lane, and to place before them the facts concerning duck depredations. The committee follows: Joseph L. Stevens of Sacramento, H. O. Jacobson of Chico, C. L. Donohue of Willows, W. Drubrew, Glenn county food administrator, and W. D'Egilbert of San Francisco.

The committee plans to request the Federal Government to alter the game laws to permit rice growers to shoot and dispose of ducks on their own land before the State duck season opens.

Original copied by Smithsonian Archives
AIRPLANE TO SCARE DUCKS.

Reader Says One Could Be Flown Over Yolo Rice Fields Each Night.

To the Editor of The Bee—Sir:

Considerable discussion has been going on lately regarding the vast damage done by ducks to the rice fields.

Over in Western Yolo County, and possibly twenty miles air line from Mather Field are about 4,000 acres of growing rice that could easily be protected by government assistance.

One airplane sent over nightly to circle over the rice fields 'would scare the feeding ducks away and save several thousands of dollars in foodstuffs.

Very truly,

A. A. POIRIER.

Sacramento, September 3, 1918.
Willows, Cal., Sept 5th 1918

Mr. A. Watson

on my arrival at Willows I found all mail undelivered. Consequently some of the People interested knew of the death of our People. Mr. Eggbert on the city Mr. Behn in San Suisa. Mr. Selvon of the Journal was in San Fran. As one stream of our Purpose.

I arrived San Fran and Sacramento. Responding demonstration to some time in the near future.

I find our Notice removed from the Journal.
Hotel Crawford  
B.C. WRIGHT, Prop.

Willows, Cal., 191

Just in time. So there will be no confusion.

I planned to see at Amwell, but I saw Paul and went left with Carpenter.

I shall return to Uncle this P.M. Please phone me at my office Saturday, A.M.

Meanwhile dispose of Fig. 36. Carp and Reckets as San. See get to the best advantage.

I trust you will know I have acted for the best in the present...

Sincerely yours,

[Signature]
San Francisco Sept. 4 18

Dr. A. Wetmore
Genl. Delv.
Live Oak Cal

Dear Sir:-

Thru an error in our shipping department at factory an extra dozen of the Duck Bombs were sent you. You will find the ones with the heavier firing charges marked with a tag, so if you cannot use the extra dozen of the regular bombs, please return same to us.

Hoping that your tests will prove very successful, we are

Very truly yours,

CJF. RACLIFF SALES CO.
Mr. Alexander Wetmore,
Assistant Biologist,
Hotel Crawford,
Willows, California.

Dear Sir:

I have your note of August 30th in which you say: "The rather malicious manner in which your reporter misquoted a simple statement made to him yesterday makes me a trifle doubtful of such assistance".

Your note was in response to one of mine of date of August 15th offering you the assistance of The Bee in making your investigation of the rice-duck situation in this valley.

I wish you would be specific in your statement.
I enclose herewith clipping of the story published by The Bee.
Will you be kind enough to mark the part of the story wherein you were misquoted?

Sincerely yours,

[Signature]
Managing Editor.