

p. 1, 4, T1

WATERFOWL HABITAT SURVEY
CANVASBACK GUN CLUB
1962

The rotation schedule recommended dewatering of the total northeast portion of the Club during the growing seasons of 1961 and 1962. Included were Mallard and Sans Lakes together with all the pond and marsh area associated with these lakes to the north and east. This area was to be reflooded in the early fall of 1962 to provide hunting that season. The next area recommended for dewatering in discussions with the Directors was Dutch Bill Lake. This lake would be dewatered during the growing seasons of 1963 and 1964, with reflooding in early fall of 1964. Freeman Lake to be scheduled for similar treatment in 1965 and 1966. At the conclusion of this rotational cycle, future dewatering of segments of the marsh could be regulated as necessary to maintain high potential for waterfowl purposes.

Carp Control. Eradication of carp in Freeman Lake was recommended for 1961, with screening at the outlet to Dutch Bill Lake to prevent reinfestation from that source. This eradication work was performed by Bureau of Sport Fisheries and Wildlife personnel on schedule. Later in 1961 the Nevada Fish and Game Commission eradicated the fish from Dutch Bill Lake also. Screening was recommended as a measure to limit carp reinfestation to units which had been dewatered when these were reflooded. The effects of these expensive eradication programs were largely eliminated by: 1) Opening the east Freeman Lake outlet allowing carp to return to the lake--this area was to be left shut off to dry up; 2) Raising of Dutch Bill Lake in 1962 to a level allowing carp which were maintained in Mallard Lake (by unauthorized water releases) to invade Dutch Bill Lake.

The preceding discussion is presented to establish a basis for comparing the program recommendations with the program which was actually carried out in the first two years of cooperative endeavor.

A complete and accurate record of events of 1961 and 1962 related to this recommended program are recorded here to be used in evaluating the results of this and future management effort.

1. Step 1 of the rotational dewatering program was initiated by the Club as recommended. Supply of water to the Mallard- Sans Lake region was curtailed at the Freeman Lake water control structure. Due to the reticence of the Club Custodian to cooperate in the program proposed, it was late in the spring, (May), 1961 before the water was actually shut off to Mallard, and occasional "charges" of water were released to Mallard after that for reasons unknown. Water was supplied to the marsh region north and east of the building area via the supply canal which exists at the east side of Freeman Lake. The effect of these measures was to maintain substantial pools in both Mallard and Sans Lakes throughout 1961. However, Sans Lake dropped to a very low level by late summer. Enough water was apparently supplied to Mallard Lake in 1961 to

sustain a large number of carp--as these were seen running up the channel to Freeman Lake in vast numbers as more unscheduled water was released to Mallard in the spring of 1962.

Further complicating the effort to dewater the Mallard-Sans region, was the raising of Dutch Bill Lake to an extremely high level in spring and early summer of 1962 by Mr. I. H. Kent. Level of Dutch Bill reached a point where water ran north to Lead Lake knee-deep at a low area east of the section of Dutch Bill dike which is on both Kent and Club lands. At this level it also backed into Mallard Lake raising it to its usual full level and also refilling Sans Lake. This naturally allowed carp to move freely into Dutch Bill Lake from Mallard Lake. To gain some relief from this situation, Club representatives authorized cutting the dike on Club property to maintain the level at Dutch Bill at a level more nearly normal--this was done in late June to stop the rise of water level on Club marshes to the east.

It is clear from the preceding discussion that the scheduled dewatering program for 1961-62 fell far short of the recommended objective. Any real benefits from expensive carp eradication programs conducted were also, in effect, nullified.

These unfortunate circumstances did not result from lack of interest among the conscientious Club membership. However, a critique of the situation would indicate that considerable progress must be made in the Club's ability to establish and administer a program of marsh management before noteworthy results may be expected. Bureau of Sport Fisheries and Wildlife and Nevada Fish and Game personnel who have spent considerable time carrying out the technical aspects of this program, including detailed habitat studies and carp eradication, are naturally disappointed that the program has fallen so far short of the established objective. However, the high level of interest of these people in working with the Club remains unaltered. Obviously, such programs are not evolved overnight nor do they evolve without periods of trial and error which perhaps serve a valuable function.

It is the purpose of this introductory section to summarize events of 1961 and 1962 as a measure to inform and orient the Club membership. After two years of cooperative endeavor, it is evident that individual Club members are not fully informed of details and objectives related to the marsh management program. Marsh management is a complex operation which involves precise manipulation of a number of factors. It will be abundantly clear to each Club member that the type of marsh management program in effect in 1961 and 1962--and prior to that time--cannot maintain each acre of the extensive Club holdings at maximum productivity for waterfowl. A glance at existing conditions substantiates this statement. As sportsmen interested in maintaining waterfowl of the Pacific Flyway, Club members should become actively aware of what it takes to keep a marsh producing for waterfowl and to back a program

designed to achieve that objective. In this way they are assured that waterfowl will continue to come to Lahontan Valley, and that hunting on Club marshes will be the highlight of the year.

PROCEDURES

Samples of aquatic vegetation were taken with the use of a garden rake and an airthrust boat. Each large body of water was sampled by raking the bottom at random stations, to determine species composition and vegetative density. Smaller pools were surveyed by wading the area to identify plants and estimating density of vegetation present. Also observed were water depth, Secchi Disc transparency, and carp activity.

FINDINGS

Mallard-Sans Group. This complex of lakes was surveyed on August 28, at which time all water area was essentially barren of submerged aquatic growth. Small amounts of coontail, (*Ceratophyllum demersum*), and bladderwort, (*Utricularia sp.*), were observed at scattered locations in these lakes and in the connecting channels.

This complex of lakes was scheduled for dewatering during 1961 and 1962. The project was begun during the summer of 1961 and much of the water was drained from the surrounding marsh vegetation, resulting in some drying. However, complete dewatering was never accomplished due to unscheduled water releases to Mallard Lake. At the time of this survey the area was again flooded to capacity. Water depths exceeding three feet in the larger lakes with water being supplied to the lake at a substantial rate.

It appears that some thinning of emergent vegetation will follow the partial dewatering program effected in 1961, but results will be far short of the objective due to the inadequate nature of the dewatering.

Freeman Group. This group, comprising Big Freeman, Little Freeman, and Short Pond, was surveyed on August 29. As in 1960 and 1961, most of the open water area was barren of submergent growth, the only growth found being very small quantities of bladderwort and sago pondweed, (*Potamogeton pectinatus*). The borrow pit connecting with Big Freeman on the northeast was found to contain small quantities of coontail, plus rather substantial growth of both sago and Nevada pondweed, (*Potamogeton latifolius*). This growth produced only very minute quantities of fruit (seeds).

Water in Freeman Lake averaged about 2.5 feet in depth. Small carp appeared to be abundant at the time of the survey.

Dutch Bill Lake. This area was sampled on August 29 at which time no submerged vegetation was found at any of the stations.

The carp eradication program conducted on this lake in 1961 appears to have reduced the carp population substantially. However, there is

evidence of a fairly large population present in the lake. These have apparently come from both Mallard and Freeman Lakes.

Water depths within Dutch Bill Lake averaged about three feet at the time of the study.

Arthur-Johnson Group. These three small ponds (Big Arthur, Little Arthur, and Johnson) were surveyed on August 28. At this time water depths averaged 2.5 feet. A fair growth of sago pondweed was present in all three ponds. This growth was quite immature, but should produce moderate amounts of seed this year.

This survey data shows very little change in the status of this area since the initial survey in 1960. This area was substantially dry through the summer of 1961.

Stewart Pond. This water area, which lies to the east of Sans Lake, was surveyed on August 27. No submergent growth was found at any station.

This pond has in the past been encircled by a dense stand of hardstem bulrush (Scirpus acutus). However, substantial drying took place in this area during 1961 and this heavy emergent growth has been reduced appreciably. The pond is, therefore, quite open and, although little food is present, was being used fairly heavily by waterfowl (mostly pintails and cinnamon teal), as a resting area.

Depth of water within the pond ranges from less than one foot to greater than three feet--the average depth being about two and one-half feet. The water is highly stained by decomposing organic matter and the transparency is rather low.

Heward Pond. Surveyed, August 29. This small pond continues to be among the best food producers on the area. At the time of this survey, water depths were constant at about one and one-half feet, light penetration was near 100 percent, and the entire pond was covered with a dense growth of heavily-fruited sago pondweed. A substantial number of pintails, mallards, and redheads, were using the pond regularly.

Sbragia Pond. Another of the best water areas on the Canvasback Club, this small pond was surveyed on August 29 and was found to have good growth of sago pondweed, muskgrass, (Chara sp.), and horned pondweed, (Zannichellia palustris). Also present in moderate amounts were naiad, (Najas sp.), waterhyssop, (Bacopa Nobsiana), and duck potato, (Alisma Geyeri). Less common were arrowhead (Sagittaria sp.) and pepperwort, (Marsilea sp.).

This pool averages about one foot in depth and has near 100 percent transparency.

At the time of this study, Sbragia Pond was being heavily used by cinnamon teal.

Golick Pond. This very small water area lying just to the northwest of Sbragia Pond was surveyed on August 29 and found to have a growth of aquatics similar to that found in Sbragia. Sago pondweed was fruiting heavily and there was good growth of naiad, a species of fair importance to waterfowl. The pond is one foot deep and has 100 percent light penetration.

Golick, Sbragia, and Heward, are excellent examples of the type of water area most valuable to waterfowl. All three are fairly young ponds of shallow depth with little bottom debris and only small patches of emergent vegetation--cattail and bulrush. The perimeters of all three are ringed with saltgrass, (*Distichlis stricta*), spikerush, (*Eleocharis sp.*), and wiregrass, (*Juncus sp.*). They offer much waterfowl food, have good nesting cover for both dabbling and diving ducks, and offer enough escape cover without having vast impenetrable expanses of emergent vegetation. Besides being excellent for waterfowl, these ponds have enough cover to afford good shooting for the waterfowl hunter. If more of the Canvasback Gun Club marsh was of this type rather than of the mature type found over most of the area, both waterfowl production and waterfowl hunting could be expected to improve substantially.

SUMMARY

During the month of August, 1962, an aquatic habitat investigation was conducted on the Canvasback Gun Club by Bureau of Sport Fisheries and Wildlife personnel. The purpose of this investigation was to determine the quantity and species of submergent vegetation on the area, and to compare these findings with data collected during similar surveys in 1960 and 1961.

Most of the marsh area of the Club remains in a mature stage of marsh evolution which offers little of value to waterfowl. Only a few of the smaller, relatively "young" ponds are producing waterfowl food in appreciable quantities. Most of the marsh remains virtually barren of any submergent plant growth of value to waterfowl.

RECOMMENDATIONS

Looking back upon events of the past two years, 1961 and 1962, and relating them to the recommendations made in the past, it is difficult for the writer to establish a realistic course for recommended action. It is hoped that our experiences have been enlightening to the extent that we shall mutually benefit from them, allowing us to operate at a more elevated level.

Results of Step 1 of the dewatering schedule have been much less than those which would have followed a properly conducted program. Nevertheless, some improvement in the character of the shallow water zone in

the northeast portion of the marsh will be realized from the partial dewatering. This will be in the form of reduced quantities and/or density of cattails and tules, with establishment of more desirable aquatic plants in the openings created.

A logical "next step" is continuance of the initial schedule of dewatering recommended in 1960. Step 2 provides for dewatering of Dutch Bill Lake during 1963 and 1964--with reflooding in the fall of 1964. It is apparent that Dutch Bill Lake will continue as a "waterfowl desert" until such a measure is effected. Complete dewatering may not be achieved until late in 1963, or possibly early in 1964, due to limited irrigation water which will reach lands adjacent to Club holdings on the west side of Dutch Bill Lake. However, aeration and oxidation of the bottom of this large lake can be effected in the prescribed period if a religious program of water regulation is established and carried out. To accomplish dewatering, a dike must be built to completely isolate Dutch Bill Lake from Mallard Lake.

A companion feature of Dutch Bill dewatering should be carp eradication program in Freeman Lake in the spring of 1964. This could be accomplished most readily and economically by drawdown of Freeman Lake immediately after the 1963-64 hunting season, with application of toxicant to the water before irrigation drain flows start in the spring.

In order to provide for efficient screening of water used to reflood Dutch Bill Lake in 1964, a new outlet structure from Freeman Lake should be installed. The present pipe structure probably has a very short life expectancy, anyway. It has two decided shortcomings: 1) It must be closely watched and regulated, and even then surges of water received can cause trouble due to limitations of the screw gate type of outlet; 2) It is impossible to screen it to prevent carp from moving in either direction. It is recommended that a metal pipe structure be installed which is equipped with a Type II flashboard equipped riser. Such a structure may be screened for carp and also provides for automatic regulation of pool level by allowing surges of water to pass on.

Fisheries management problems are posed by introduction of game fish to Dutch Bill Lake. Many game fish can be expected to escape to Lead Lake. However, fish rescue work will no doubt be essential to salvage game fish which may become stranded in the isolated pool remaining after Dutch Bill water supply is shut off and maximum drawdown level is reached.

In spite of the fisheries problem, the only logical course to pursue is that established in the original program outlined. Postponing the date of Dutch Bill Lake dewatering results in continuing waste of potential waterfowl habitat with resultant low waterfowl use and lack of hunting opportunity; further, postponement will only result in a compounded fisheries problem at a future date, and will also delay the time when the lake can really produce fish. In its present state Dutch Bill Lake is certainly far below its potential to serve either ducks or fish.

SWAN SONG

With these parting remarks, your writer wishes you Godspeed and success in your future program of marsh management. Certainly you have many members whose ideals are high and abilities correspondingly great. It has been a privilege and a pleasure to have known and worked with those of you with whom I have come in contact. You are assured that the Bureau of Sport Fisheries and Wildlife continues to have high interest in fulfillment of the waterfowl management potential of the Canvasback Club marshes. I am sure my successor as manager of the Stillwater Wildlife Management Area will assist you in every way possible with the technical aspects of your program as a measure to achieve this goal.

CREDITS

Field work was conducted by Mr. Sanford R. Wilbur who was detailed from the Sacramento Refuge in California to perform this study. Mr. Wilbur also worked up the tables and "Findings" section related to the individual marsh units. The balance of the report was prepared by George Wiseman, Manager of the Stillwater Wildlife Management Area.

Submitted by,

George L. Wiseman
George L. Wiseman
Refuge Manager

January 2, 1963.

Table 1

OCCURRENCE AND DENSITY OF SUBMERGENTS IN THE MALLARD-SANS LAKES

<u>Station</u>	<u>Depth</u>	<u>Coontail</u>	<u>Bladderwort</u>
1	2.5'		
2	2.5	100-1*	
3	2.8		
4	2.4		
5	3.0		
6	3.0	100-1	
7	2.8	100-1	
8	3.2		
9	2.8		100-1*
10	2.8	50-1	50-1
11	3.2		
12	3.2		
13	2.8		
14	3.0		
15	2.5		
16	2.8		
17	3.0		
18	3.2	100-1	
19	2.2		
20	2.5		
21	2.2		
22	2.8		
23	3.2		
24	2.6		

* The first figure indicates the percent of total vegetation at each station; the second figure is the Jessen-Lound density rating (from Jessen, R. and R. Lound. 1962. An evaluation of a survey technique for submerged aquatic plants. Minnesota Dept. of Conservation Game Investigational Report No. 6. January 1962:

Density rating - 1 - very sparse growth
 2 - scattered growth
 3 - moderate growth
 4 - heavy growth
 5 - dense growth

Table 2

OCCURRENCE AND DENSITY OF SUBMERGENT PLANTS IN DUTCH BILL LAKE

<u>Station</u>	<u>Depth</u>	
1	2.5	
2	2.5	
3	3.2	
4	2.8	
5	3.0	
6	3.0	
7	2.5	No plant life in this unit
8	3.3	
9	3.0	
10	2.8	
11	2.5	
12	3.0	
13	3.2	
14	3.5	
15	3.0	

Table 3

OCCURRENCE AND DENSITY OF SUBMERGENTS IN THE FREEMAN LAKES

<u>Station</u>	<u>Depth</u>	<u>Bladderwort</u>	<u>Sago pondweed</u>
1	3.0'	100-1	
2	2.5		
3	2.2		
4	2.8		
5	2.5	100-1	
6	3.0		
7	2.8		
8	2.5		100-1
9	3.2		
10	2.3		100-1
11	2.8		
12	2.6	50-1	50-1
13	2.5		
14	2.6		
15	2.2		

Table 4

OCCURRENCE AND DENSITY OF SUBMERGENTS IN ARTHUR AND JOHNSON PONDS

<u>Station</u>	<u>Depth</u>	<u>Sago pondweed</u>	<u>Unit</u>
1	2.2'	100-4	Little Arthur
2	2.5	100-4	Little Arthur
3	2.4	100-3	Big Arthur
4	2.6	100-4	Big Arthur
5	2.4	100-4	Big Arthur
6	2.4	100-3	Johnson
7	2.2		
8	2.5		
9	2.5	100-4	Johnson
10	2.5	100-4	Johnson

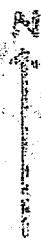
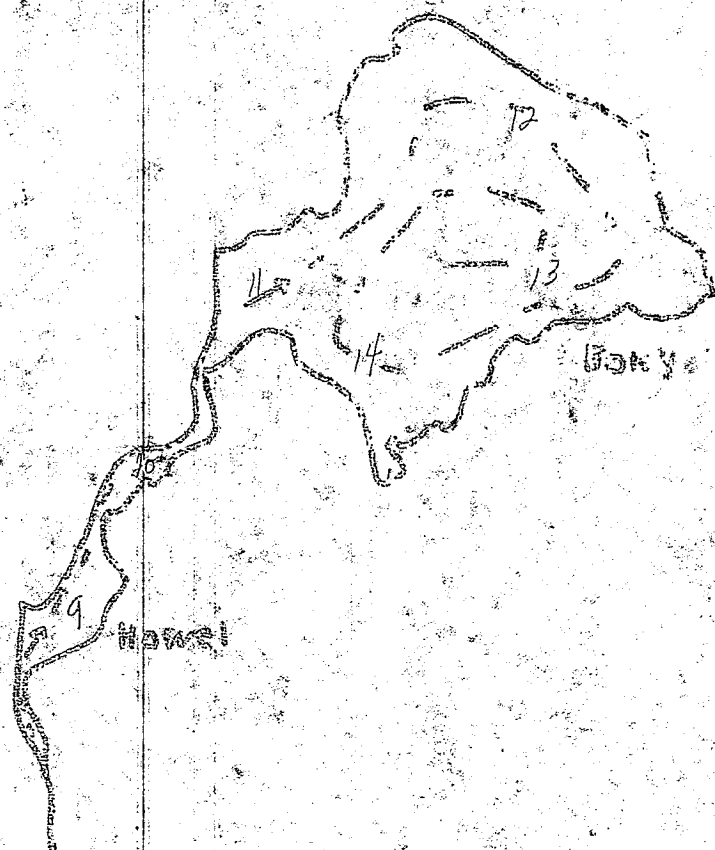


Little Meadow

Approximate Water Area - 16 Acre

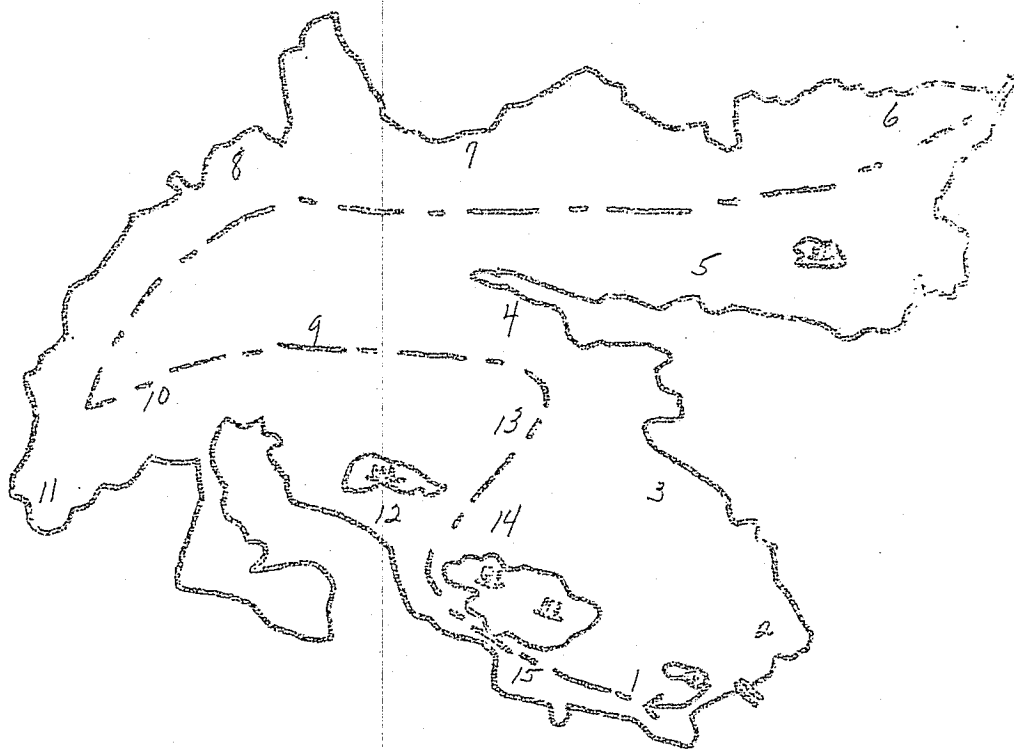
Sampling route ————

SAMPLING STATIONS (NUMBERED)

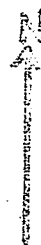


Approximate Water Area - 40 Acres
Sampling route
SAMPLING STATIONS (NUMBERED)





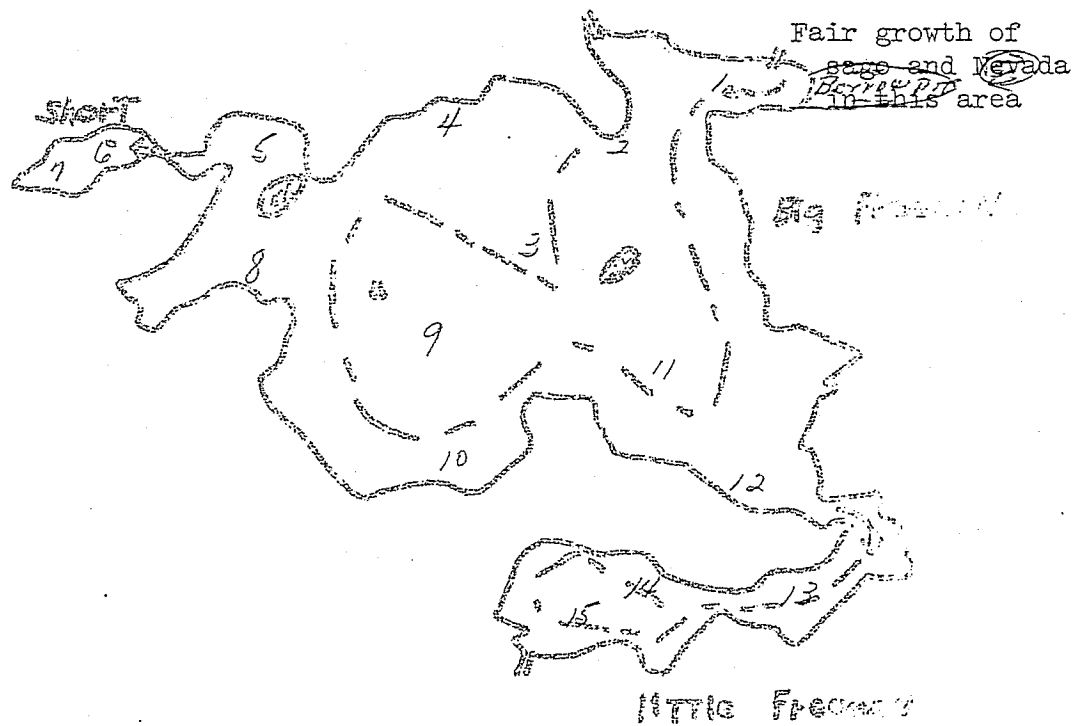
Dutch Bill



Approximate Water Area - 400 acres

Sampling route - - - -

SAMPLING STATIONS (NUMBERED)



Approximate Water Area - 125 acres

Sampling route - - - - -

SAMPLING STATIONS (NUMBERED)

Stillwater Wildlife Management Area
Box 592
Fallon, Nevada

January 3, 1963

Mr. Ainsley Mabson, Secretary
Stillwater Farms, Inc.
3650 Fairview Road
Reno, Nevada

Dear Ainsley:

Attached is a report resulting from 1962 studies and the aquatic habitat survey carried out by Bureau of Sport Fisheries and Wildlife personnel. This is the third report of an annual series resulting from cooperative effort to improve the character of the Canvasback Gun Club marshes. The contents of the report are somewhat detailed and explanatory and, I feel, require no further elaboration.

It appears that we continue to make progress toward arriving at a unified goal. This goal, in brief, is improvement of conditions for waterfowl in Lahontan Valley, and ultimately in the Pacific Flyway generally. That we continue to experience temporary setbacks and brief periods of misunderstanding in our cooperative endeavors to achieve this goal is considered a matter of little import.

Certainly it is a privilege to work with people whose goals and ideals are at the level of those of your members with whom I have worked. That we have been able to initiate a program which will lead to fulfillment of the high potential of your Club marshes for waterfowl is, I know, a personally rewarding experience for many of us.

I especially wish to extend my personal gratitude for the degree of cooperation the Stillwater Wildlife Management Area has received in cooperative water management programs during the past season. Correlating marsh restoration work at the Nutgrass Unit with the dewatering in the northeast portion of the Club, resulted in creation of several hundred acres of excellent waterfowl habitat at the Nutgrass. Timeliness of water release from Club marshes, as dikes were completed to restrict water in the Nutgrass to practical-sized units, made possible the optimum use of the limited supply of water which was available this year.

Ainsley Mabson
January 3, 1963
Page 2

With the near-completion of the season, your members are now in a position to evaluate the results of a correlated water management program as it effects the total waterfowl picture in Lahontan Valley. Certainly this correlated program can only be considered to be in the "embryo stage". Nevertheless, the mutual benefits to the Stillwater Wildlife Management Area, the Canvasback Club, and to the waterfowl resource, may be expected to increase as the nature of this relationship is improved.

With considerable regret I announce that this will be the last annual report I shall be submitting. Effective very soon, I shall be stationed in our Portland Office. I am sure my successor will be interested in continuing with the type of program we have initiated. Certainly it has been a pleasure and a privilege to work with you good people. Please feel free to contact me at any time--either to cuss or discuss. You can obtain my address at the Stillwater Office.

Yours very truly,

George L. Wiseman
George L. Wiseman
Refuge Manager

c.c. Ralph Cardinal
399 Urban Road,
Reno, Nevada

Joe Sbragia
444 Pyramid Way
Sparks, Nevada

Ed B. Wallis
151 Hazel Lane
Piedmont 11, Calif.

Regional Director
Bureau of Sport Fisheries & Wildlife
Portland, Oregon

Sanford R. Wilbur
564 5th Street
Arcata, California