

Stillwater Wildlife Management Area
Box 592
Fallon, Nevada 89406

April 1, 1971

Mr. W. Verne Woodbury
2150 Ives Avenue
Reno, Nevada 89503

Dear Mr. Woodbury:

In answer to your request, I am attaching copies of the Anaho Island portion of our Narrative Reports for 1969 and 1970.

As additional background for your benefit, I will bring you up to date on research being conducted on Anaho Island. Jim Keith, BSWF Research Biologist, has coordinated pelican research there. We have assisted him in banding flightless young from 1962 through 1970. Green patagial wing tags were also placed on pelicans from 1967-1970. We were told the banding program has now been concluded.

Since Mr. Keith moved back to Denver last year, Donald Knapp, another biologist from the Davis, California, office, has been conducting the research. He is attempting to record breeding activity of the known age tagged pelicans. To accomplish this he spent a great deal of time on Anaho Island last year, and also anticipates doing the same this year.

Concerning trips you would like to make to Anaho Island, I suggest that you contact Don Knapp and perhaps plan some visits to the island together. If there are additional trips you would like to make, you and I could arrange to go there.

Please feel free to contact me if this does not fit in with your plans. Our telephone number is 423-5128.

Donald Knapp's address is: Post Office Box C, Davis, California, 95616. Telephone - (916) 756-1946

Sincerely,

Larry D. Napier
Wildlife Biologist

MANAGER
ASSISTANT
JS CLERK
BIOLOGIST

FILE DESTROY

Reno, Nevada
March 28, 1971

Mr. Clair Aldus, Refuge Manager
Stillwater Wildlife Management Area
Box 592
Fallon, Nevada 89406

Dear Mr. Aldus:

In June 1966, I completed a study of the biota of Anaho Island, Pyramid Lake. This study was done as a master's thesis, and your office has a copy of this work.

In order to keep abreast of recent developments on the island, I would like to request that you send copies of the 1969 and 1970 Anaho Narratives. In addition I would like permission to make a couple of trips to Anaho Island during the current breeding season to make some follow-up studies and observations. No one is more aware of the problems involved with human encroachment on the island, and I would take all necessary precautions to avoid any interference or damage to the breeding colonies.

Thank you for your help and consideration in this matter.

Sincerely,

W. Verne Woodbury

W. Verne Woodbury
2150 Ives Ave.
Reno, Nevada 89503

Don Knapp

MAR 30 1971

Anaho Island Breeding Populations
1971

White Pelicans - ~~Breeding Population - 2975 \div 2 = 1,488 Nests~~
2975 Nests

Gull Nests - 1931

Cormorants - 496

UNITED STATES GOVERNMENT

Memorandum

W. L. W.
ASSISTANT
J. C.
CLERK
BIOLOGIST

WRes
EP 1-14

TO : M. Clair Aldous, Refuge Manager, Stillwater
Refuge, Fallon, Nevada

DESTROY DATE: October 27, 1971

FROM : Acting Chief, Section of Pesticide-Wildlife Ecology,
Wildlife Research Center, Denver, Colorado

SUBJECT: White pelican counts at Anaho Island

*Represents
No. of Nests
JW.*

The breeding season count of white pelicans from 1971 aerial photos of Anaho Island was 2,975. Jim Keith has commented that in some cases pairs may be represented and non-breeders loafing outside nesting colonies may be included; so, this figure may not be comparable to earlier counts where birds actually on nest were counted and multiplied by two to get breeding population. I hope this provides the information needed for your records. This count is the only data Bob Finley has for this area.

Dick

Richard E. Pillmore

*Clair, It's good to hear from you!
With Ron Knapp being transferred to Wassco, Calif,
I don't know where we stand regarding
any work at Anaho Is next year. After
I have had a chance to discuss ~~any~~ plans
I will get in touch with you.*



OCT 29 1971

4/26/72



Populations on Anaho Island.

Pelicans - 2,800 - some appeared to be sitting on nests.

Cormorants - 400

Gulls - 1,500

Heron - 30.

Stillwater

NO

INVENTORY FORM OF HISTORIC AND ARCHEOLOGIC PLACES

Agency: Bureau of Sport Fisheries and Wildlife

Date: 01-10-72

1. Name of Property: Anaho Island National Wildlife Refuge

2. Location of Property: Nevada, Washoe County

A. State and County:

B. Latitude and Longitude: 119°31' - 39°57'

C. Township, Range & Section: T. 24 N., R. 22 E., Sec. 16, MDBM

D. Other legal description:

E. Map Reference: 61ANA2

3. Nature of Property:

A. District () Site (☒) Building () Object ()

B. Description, present condition and use:

The only island in Pyramid Lake. In its natural state. Presently a national wildlife refuge for colonial nesting birds. Approximately 750 acres.

4. Importance of Property: Scientific Site - Archeologic

Studies by personnel from the Nevada State Museum indicate that breakwaters were built so that Indians could launch their rafts for trips to Anaho Island where birds and their eggs were gathered which seasonally was an important part of their diet.

5. Names and addresses of persons preparing this inventory:

M. Clair Aldous, Refuge Manager
Stillwater Wildlife Management Area
Post Office Box 592
Fallon, NV 89406
(702) 423-5128

200

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A. District () Site (x) Building () Object ()

B. Description, present condition and use:

The only island in Pyramid Lake. In its natural state. Presently a national wildlife refuge for colonial nesting birds. Approximately 750 acres.

4. Importance of Property: Scientific Site - Geologic

There are unique tufa formations around Pyramid Lake. Pieces are carried away, pieces are chipped off and the formations gradually defiled. Anaho Island offers tufa formations that are undisturbed. As such, Anaho Island provides an undisturbed site for geological study.

5. Names and addresses of persons preparing this inventory:

M. Clair Aldous, Refuge Manager
Stillwater Wildlife Management Area
Post Office Box 592
Fallon, NV 89406
(702) 423-5128



October 13, 1972

Mr. Larry D. Napier
Wildlife Biologist
Stillwater National Wildlife Refuge
Box 592
Fallon, Nevada 89406

Bill MANAGER
____ ASSISTANT
____ CLERK
Ja BIOLOGIST

il _____
/ FILE _____ DESTROY

Dear Mr. Napier:

OCT 19 1972

I wish to thank you for your time in answering my request for information on white pelicans.

In order to compare the population figures with those published in 1963-64, I would need to have the data for Anaho Island, Pyramid Lake also. I have been informed by the Regional Office in Minneapolis, Minnesota that this refuge is under the control of Stillwater. Would you please fill out an additional questionnaire for the Anaho Island colony. If you have included this data in the Stillwater figures, I would appreciate it if they could be separated for comparison purposes.

I wish to thank you for your time in answering this second request for assistance.

Sincerely,

Norm F. Sloan

Norman F. Sloan
Associate Professor

NFS:lk

Enc.

*Letter answered 10/19/72 -
stating that nesting occurs
only on Anaho Island and none at
Stillwater - but that Anaho Island
birds use Stillwater for feeding*

LF

500 young produced on the refuge (Gammell, Aud. Field Notes, 3:243, 1949). For 1963 there were 3500 adults at the peak during July, and 1140 nests contained 2300 eggs. From these about 1000 young were raised to flight stage. For 1964 there were estimated to be 3500 adults, 1300 nests, and 1000 young.

Red Rock Lakes National Wildlife Refuge. In 1963 there were 550 adults present during June and July but no nesting. For 1964 there were 210 adults but again no nesting.

NEVADA

The Anaho Island colony at Pyramid Lake has long been one of the largest colonies, but Thompson (1933:28-31) showed that the numbers had decreased. Colonies at Walker and Washoe lakes disappeared long ago. Numbers apparently increased at Pyramid Lake for a few years after 1932 but lately have been falling again. From Bond (1940) and Marshall and Giles (1953) we have the following data: 9 June 1932, 2994 nests and 300 young; 21 June 1940, 100 nests and 3000 young; June, 1942, 1761 nests and 1553 young; 26 May 1944, 4238 nests and 5417 young; 3 July 1950, 4160 young; 15 May 1951, 5650 nests and on 6 July the same year 3742 young. The adult population during 1951 was estimated at 11,300 on the basis of two birds per nest. According to Scott (Aud. Field Notes, 15:484, 1961) the population had been declining over the past 10 years. In 1961 there were 3000 young produced. In 1963 the refuge manager reported that in May there were approximately 6000 adults, 1000 nests, and 2500 young produced. The comment was made that in 1963 the population was reduced considerably from previous years perhaps because of low water and low fish populations in the Carson and Truckee river drainages. For 1964 there were 7000 adults, 1608 nests, 1514 young, and still 945 eggs when the census was taken, but the date was not specified.

Stillwater National Wildlife Refuge. The refuge manager reported 1900 nonbreeding pelicans there during 1963 and 600 during 1964.

NORTH DAKOTA

Thompson (1933:32-35) summed up the situation for this state with the statement: "In North Dakota, then, as in the western states, there has been the destruction of scattered pelican breeding colonies and a concentration at one protected site, with some indication of increase since 1905." The site referred to is Chase Lake, Kidder County.

Arrowwood and Chase Lake National Wildlife Refuges. The Arrowwood National Wildlife Refuge is not a nesting area but is one of the feeding areas for the White Pelican population that nests at the nearby Chase Lake National Wildlife Refuge. The history of pelicans at Chase Lake is detailed by Thompson (1933). It had a population of 500 in 1903, had not increased much by 1916 but numbered from 2500 to 3000 by 1924 and so continued until 1932. The situation since then is as follows, the data being furnished by the refuge manager except as otherwise noted: 1937, 65 young (Gammell, Aud. Field Notes, 1:183, 1947); 1941, 300 adults; 1942, 45 adults and 25 young; 1943, 275 adults and 25 young; 1944, 1100 adults, 750 nests, and 1000 young; 1945, 1200 adults and 900 young; 1946, 1250 adults, 500 nests, and 950 young; 1947, 1075 adults, 400 nests, and 925 young; 1948, 1100 adults, 1100 young; 1949, 3000 adults, 1100 young; 1950, 1300 young; 1951, 1400 young; 1952, 1400 young (Gammell, Aud. Field Notes, 7:314, 1953); 1953, 1200 young (Gammell, *loc. cit.*); 1954, 6000 adults; 1955, no figures available but still nesting since 100 young banded; 1956, 1200-1500 young (Nero, Aud. Field Notes, 10:391, 1956); 1957, 1500 young (Nero, Aud. Field Notes, 11:413, 1957); 1958, no figures submitted except 100 young banded; 1959, 3500 nests; 1960, 500 nests; 1961, 4000 nests; 1962, no data except 664 young banded. For the year of our survey in 1963 there were an estimated 8000

Dr. Milt Friend, Denver Research Laboratory,
Bldg. 16, Federal Center, Denver, CO 80225

July 2, 1974

Refuge Manager, Stillwater Refuge, Box 592,
Fallon, NV 89406

White Pelican Specimen

The white pelican shipped to you on this date was brought to this office by Mr. Earl Dudley of Nevada Department of Fish and Game.

Mr. Dudley was notified of a live pelican's presence in the Fallon Cemetery on June 17, 1974. Upon his arrival, the bird was dead and brought to us on June 18.

Cause of death is not known, but the pelican was reportedly walking in the cemetery in a weakened, dazed condition prior to dying.

Lynn C. Howard

UNITED STATES GOVERNMENT

Memorandum

TO : Lynn C. Howard, Refuge Manager, Stillwater
National Wildlife Refuge, Fallon, Nevada

FROM : Chief, Section of Pesticide-Wildlife Ecology,
DWRC, Denver, Colorado

SUBJECT: White pelican specimen

WRes

EP

sf MANAGER

DATE: August 13, 1974
ASSISTANT
CLERK

m BIOLOGIST

cc FILE DESTROY

Gross necropsy of the white pelican you submitted disclosed a ruptured liver. This undoubtedly contributed to the death of this bird. The cause of this condition could not be determined. No other significant gross lesions were found. Residue analyses have not been completed. Results of these determinations will be forwarded when available.

Thank you for your interest and cooperation. Please feel free to call upon me if I can be of any assistance in the future.

Milton Friend

Milton Friend



5010-108

AUG 19 1974

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

UNITED STATES GOVERNMENT

Memorandum

H MANAGER
Lee ASSISTANT
CLERK
BIOLOGIST
W

WRes
EP

TO : Refuge Manager, Stillwater National Wildlife ^{FILE} ~~DESTROY~~ DATE: September 3, 1974
Refuge, Fallon, Nevada

FROM : Chief, Section of Pesticide-Wildlife Ecology,
DWRC, Denver, Colorado

SUBJECT: Final report--white pelican specimen

The following chemical residues were found in the tissues of the white pelican you submitted to our laboratory. None of these residues are considered to be of sufficient magnitude to have caused the death of this bird.

	<u>Dieldrin</u>	<u>Endrin</u>	(ppm) <u>DDE</u>	<u>DDD</u>	<u>Hg</u>
Kidney	4.1	1.7	7.1	2.0	2.00
Muscle	2.9	1.1	7.2	.84	1.50

This completes our investigations of this case, unfortunately without determining a cause-and-effect relationship. Your interest and cooperation in this matter have been greatly appreciated.

Milton Friend

Milton Friend

SEP 5 1974



5010-108

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

Regional Director, Portland, OR (RF)

November 20, 1974

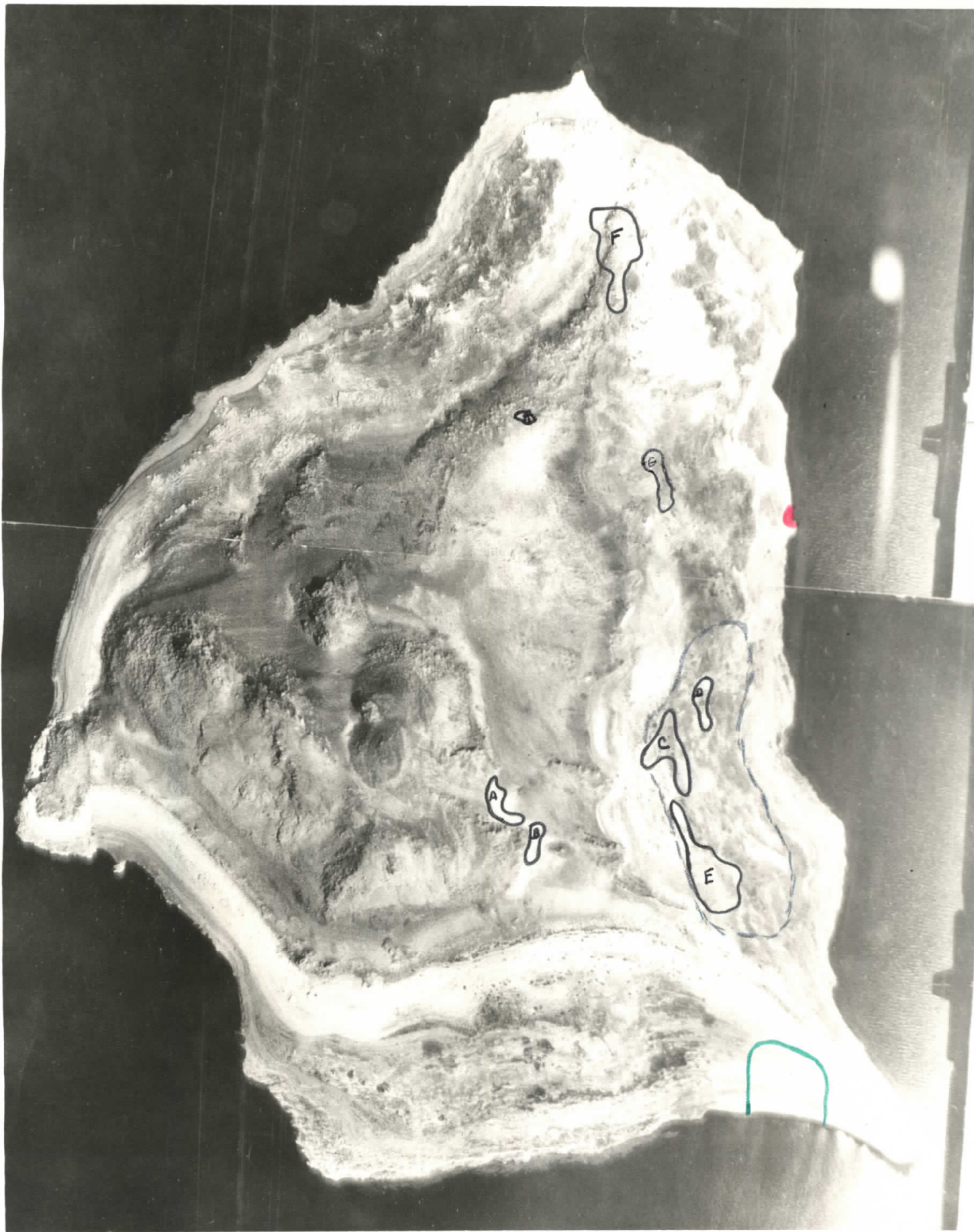
Refuge Manager, Stillwater Refuge,
Fallon, NV

Bird, Mammal and Reptile List - Anaho Island NWR

In reply to Mr. Hayes' call of November 20, it is agreed that all above three groups of wildlife should be included in one leaflet.

The only known mammal occurring on Anaho Island is the deer mouse, Peromyscus maniculatus, and is quite common. This species is probably the primary food source for the Island's rattlesnake population. There may be bats present on the Island, but species and occurrence rate is not known.

Lynn C. Howard



Check of Pelican Colonies - shown in Black

Colony A - 600 nests, Little Activity - Incubation in Progress,
very few broken Eggs - able to get within 50 yds.

Colony B - 200 Nests - same as "A" - able to get within 100 yds.

Colony C - 275 Nests - little Activity apparently incubating.

Due to terrain, couldn't get close to colony.

Colony D - 75 Nests - same as "C".

Colony E - Counted 500 pelicans, very skittish and wary - colony unstable.
Apparently both members of pair are present - Groups of Birds
get up and fly and return. Many flew when I was
300+ yds. away. Estimate perhaps $300 \pm$ nests.

Colony F. 275 nests - colony fairly jumpy - looks like some are
beginning to incubate.

Colony G+H. - seen on May 22 - newly established 3,000 Adults.

California Gull Colony - shown in Green

About 3,000 gulls around Colony - some sitting on nests -
Extensive copulation occurring. Most nests are empty, a few have
one egg and one just had two eggs.

Great Blue Heron Colony - Shown in Blue

About 50 nests - apparently some have hatched, couldn't see any but
heard some. None are nesting on side of island with gulls.

Double-crested Cormorant Colony - Shown in Red

No count was made

UNIT

Ahaho Island

YEAR

1974

SPECIES	PAIRS	REPROD. SUCCESS	NO. BROODS	AVERAGE BROOD SIZE	ESTIMATED PRODUCTION	% CHANGE FROM
Eared Grebe						
Western Grebe						
Pied-bill Grebe						
Great Blue Heron	150	90%	45	3.5	155	165 -6%
Black-crowned NH						
Common Egret						
Snowy Egret						
Virginia Rail						
Sora						
Common Gallinule						
White Pelican	1725	80%	1380	1.25	1725	3200 -46%
Double-crested Cormorant	350	50%	175	2.0	350	640 -45%
Snowy Plover						
Killdeer						
Common Snipe						
Long-billed Curlew						
American Avocet						
Black-necked Stilt						
Wilson's Phalarope						
Forster's Tern						
Black Tern						
Franklin's Gull						

UNIT

Anaho Island

YEAR

1974

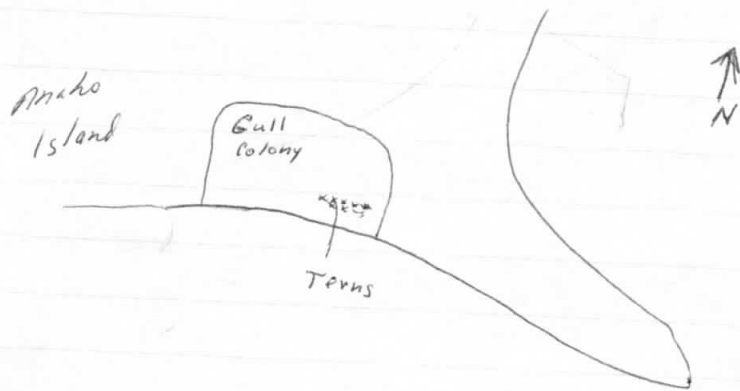
SPECIES	PAIRS	REPROD. SUCCESS	NO. BROODS	AVERAGE BROOD SIZE	ESTIMATED PRODUCTION	% CHANGE FROM
Eared Grebe						
Western Grebe						
Pied-bill Grebe						
Great Blue Heron						
Black-crowned NH						
Common Egret						
Snowy Egret						
Virginia Rail						
Sora						
Common Gallinule						
Snowy Plover						
Killdeer	5	90%	4	3	12	
Common Snipe						
Long-billed Curlew						
American Avocet						
Black-necked Stilt						
Wilson's Phalarope						
Forster's Tern						
Black Tern						
Franklin's Gull						
California Gull	1,800	80%	1,440	2.5	3,600	3050 +189%
Caspian Tern	35?	70	25	2.25	55	

Notes On Colonial Nesting Birds
on Anaho Island

May 21, 1974.

California Gull Colony - eggs are beginning to hatch. Most ~~egg~~ nests contain 2-3 eggs, some have 4 eggs. A few nests have one or two chicks with one or two eggs also in the nest.

Caspian Terns. No terns were seen on the April 27 visit to the island. Today about 70 terns were present in the gull colony. They were near the southeast edge of the colony near the water. Some were sitting on the ground and appeared to be nesting. Occasionally one brought a fish to its mate. Upon investigation no nests were found yet.



White Pelicans.

Colony A, being photographed, was thought to be the earliest. Chicks are just beginning to hatch there. A few nests have one chick and one or two eggs, but most have not hatched. Many adults have lost the knobs from their bills.

The colonies below in the greasewood (C, D, E) were thought to be later than A + B, But they have young chicks quite large in size now.

Colony E has young about 12" tall. They are downy, Adults still stand over them, giving them shade.

Colony C has young about ~~12~~ a third grown already. They are beginning to join into pods. They can cool themselves by "vibrating or panting with their pouch". I don't believe they have any feathers yet.

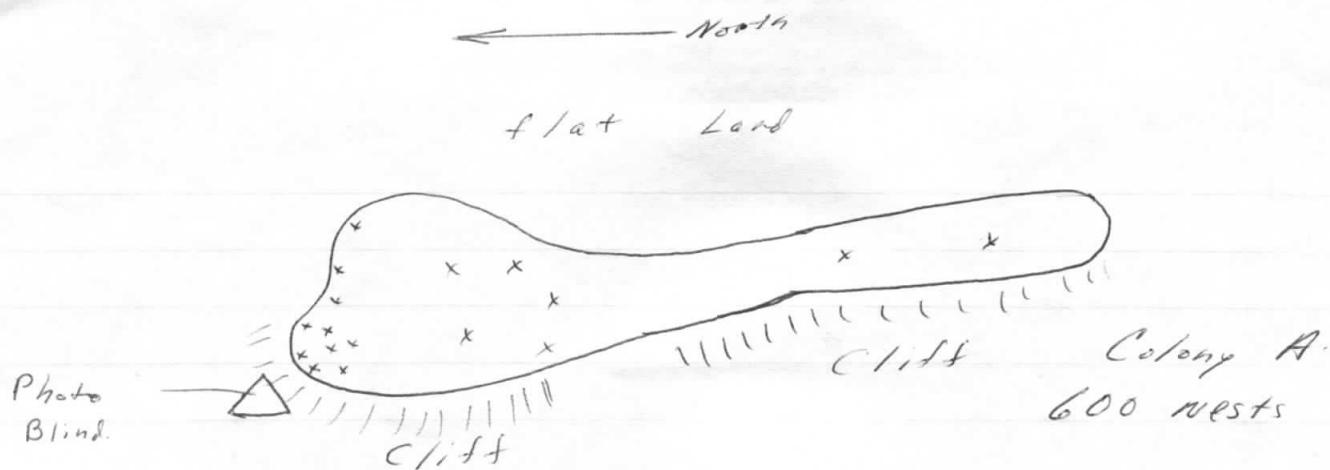
Great Blue herons - young are feathered, about half grown. Can ^{walk} ~~stand~~ around on the nest.

D. C. Cormorant - still no reliable count on colony. A boat came close & frightened most of the birds off the nests. Gulls seem to be concentrated and working around the cormorant colony.

L. V. Napier

Effect of Photographer On
Anaho's Wildlife. 1974

- April 23 - Lynn took photographer Wolfgang Bayer to Anaho Island. They decided to photograph the pelican colony far upland, at the base of the mountain (Colony A). The colony could be approached unseen behind rocks along the base of the mountain. Using natural rock formations as a blind, the pelicans could be photographed from 50 yds without an artificial blind.
- April 24 - Windy - no attempt to Anaho Island
- April 25 - Napier accompanied Bayer and assistant to Anaho Island. They stayed around the colony from 9:00 AM to 2:00 PM. Pelicans did not seem to be disturbed by our presence. ^{no known egg losses occurred.}
- April 26. Napier again accompanied Bayer and assistant to same colony. Even as we arrived, birds seemed very nervous. Napier was the first to observe the pelicans. About 6 eggs (3 nests) were destroyed along edge of colony closest to photo blind. As we watched, two pelicans ^{left} ~~deserted~~ their nests. Gulls came in and destroyed the eggs within minutes. About noon, I observed the colony from the cliff above.



The nests at the south end of the colony were mostly intact. Two nests were left unattended, but were not destroyed. Toward the middle of the colony, about 5 scattered eggs were unattended, but not ~~destroyed~~ broken. Nearest the photo blind at the edge of the colony about 10 nests were deserted and eggs broken.

April 27 Lynn accompanied photographer and assistant to blind. Apparently no more mortality to nests occurred. Several pelicans stayed on nests closer to photo blind than the destroyed nests were. ~~Some~~ a few nests are naturally unattended some part of the day, ~~it is~~ perhaps due to the loss of one member of the pair. It is doubtful that the ~~nest~~ eggs could hatch, being incubated only half the time. When these nests are unprotected, natural predation by gulls occurs to some extent.

L. Napier

Those Anaho Island Snakes

(EDITOR'S NOTE: This is another in a series, "This Was Nevada," furnished by the Nevada Historical Society.)

Just south of the large pyramid from which Pyramid Lake takes its name lies Anaho Island. Just over a mile in width and a mile and a half in length, it grows in size as the lake which surrounds it slowly recedes.

Named for an Indian maiden banished there by her people many centuries ago, the island is not a part of the Pyramid Lake Indian Reservation, but is rather a National Wildlife Refuge set aside by the U.S. Government in 1913 as a breeding place for migratory waterfowl, principally the White Pelican.

It is estimated this predator-free breeding ground harbors as many as 10,000 pelicans during the nesting season, but this may end within a decade as Pyramid Lake recedes to the point that a land bridge to the mainland on the south tip will emerge. Such predators as the coyote will then have access to the island and the pelican population will be destroyed.

Other bird species found on the island include the Double Crested Comorant and the California Gull. The island has also been known locally as Goat Island because of the wild goats which once inhabited its rocky elevations, but they have been gone for many years. Local Indians claim that domestic sheep were once raised on Anaho, as were domestic pigs, but the history of the island, thus far compiled, reveals no information on such enterprises.

Federal law prohibits trespass on Anaho, although University scientists are able to get special permission to visit the refuge to study its biotic communities. Occasionally a stranded fishing party will spend an uneasy night upon its shores, but otherwise the island remains undisturbed.

From the earliest records of those who visited Anaho down to our own times, mention has been made of the great number of snakes on the island. A visitor in the 1930s, for example, recorded in his

diary that the island harbored "... more rattlesnakes to the square yard than any other place on earth."

The snake referred to is the Great Basin Rattlesnake, a common reptile in Northern Nevada. Its presence on the island is something of a mystery and even the local Indians have no explanation for it. Presumably the reptiles remain from an earlier time when a land bridge existed to the mainland, but whites familiar with the Pyramid Lake area have their own version of how it happened that Anaho has such a large rattlesnake population.

In the spring of 1872, so the story goes, three white men, Leonard Savage, the discoverer of the Savage Mine on the Comstock Lode, James Holbrook and Alexander Case, decided to take a trip to Pyramid Lake to do some fishing. Contemplating the overland journey with some trepidation, they decided to construct a large raft to make the trip via the Truckee River, which was at its high stage due to the spring run off. Like most good fishermen, their gear consisted solely of fishing tackle and jugs of whiskey.

Departing from the Glendale Bridge east of Reno, they experienced little difficulty in maneuvering their craft down the river and they thus had time to indulge themselves liberally. As the jugs grew emptier, their eyelids became heavier and soon the cook, the crew and the bosun were all sound asleep. The next morning they found that they had drifted out on the placid lake and had beached on Anaho. Another jug or two was subsequently emptied before the fishermen began to see things. Pulling off their boots, they emptied the reptiles of their visions upon the St. Patrickless shores of the inoffensive island and made for home.

Those who do not believe this story need only to venture near the island on a late afternoon and note the numberless progeny of the original serpents marooned there by the festive fishermen on that long-ago morning.

12/21/75

ANAHO ISLAND NATIONAL WILDLIFE REFUGE

Anaho Island is located on Pyramid Lake which is within the Pyramid Lake Indian Reservation. Due to Truckee River water diversions for irrigation purposes, the lake level began dropping in the early 1900's, but has been rising for the last few years. During the lowest level period, the lake was still 300 feet deep, but a submerged shelf extends from Anaho Island to the eastern lake shore and was about 35 feet below the lake surface. It was felt that if the lake continued to drop, the Island would eventually be connected to the mainland. The colonial nesting birds would then be subjected to mammalian predator invasion and human disturbance. The continued rise of the lake level results from court action by the Pyramid Lake Indians which established their claim to the Truckee River flows. Through their efforts, Anaho Island is in no immediate danger.

A few Canada geese, ducks, and coots use the Island at various times of the year. Production for ducks and geese is probably no more than 10 each.

Production for other nesting species is as follows:

White Pelican	1,700
Double-crested Cormorant	300
Great Blue Heron	150
Killdeer	10
California Gull	3,500
Caspian Tern	50

Many mammals common to the mainland, such as coyotes, bobcats, ground squirrels, and kangaroo rats are not present on Anaho Island. Deer mice are common and may be the staple item in the diet of the Island's numerous rattlesnakes. Until this year, there were no other known mammals on the Island with the possible exception of bats. On June 10, one whitetail antelope ground squirrel was observed for several minutes near the crest, and between the two peaks, of the Island. This was the first record of mammals other than deer mice on the Island.

There is some raptor use on the Island, including eagles, but not to a significant degree. Production, if any, is unknown.

During the spring months, rattlesnakes and gopher snakes are commonly observed. Other reptiles occurring on Anaho are zebra-tailed, desert spiny and whiptail lizards.

UNITED STATES GOVERNMENT

BUREAU OF SPORT FISHERIES AND WILDLIFE
P.O. BOX 3737 PORTLAND, OREGON 97208

Memorandum

TO : Refuge Managers, Region 1

FROM : Acting Regional Refuge Supervisor
Portland, Oregon

SUBJECT: White Pelican Specimens

MANAGER
 ASSISTANT
 DATE: April 3, 1975
 CLERK
 BIOLOGIST

Part 1

FILE DESTROY

Every year we lose perhaps two dozen white pelicans on refuges due to unknown causes. Pesticides are suspected, but without data.

This memo is a request that if any dead pelicans are found by you, the carcass, or if too bulky, at least the head, should be frozen and shipped to Dr. Daniel Anderson, Biologist, Section of Pesticide-Wildlife Ecology, Davis Field Station, P.O. Box C, Davis, California 95616, for analysis.

Lawrence W. De Bates

Lawrence W. De Bates

No longer in force
 According to Dick Bauer
 R.O.
 5/77

APR 10 1975

June 10, 75

1975

OK

Anaho Island

SPECIES	DATE	TYPE C.	NO.	AVG. NO. EGGS	ESTIMATED
Masked Booby					
Western Gull					
Pied-billed Grebe					
✓ Least Auklet	(67)				
Black-footed Albatross					
Lowland Gull					
Rocky Gull					
Virginia Gull					
Sooty					
Common Noddy					
✓ White Pelican	185+250+350 + 900 + 150				1600 nests
✓ D.C. Cormorant	75+250		(325)		
Sooty Plover					
✓ Kittiwake	only one observation				
Green Scaup					
Long-billed Curlew					
American Avocet					
Black-necked Stilt					
Willet's Phalarope					
Forster's Tern					
Black Tern					
Willet's Gull					
✓ California Gull	No estimate made, colony similar in size to 1974				
✓ Caspian Tern	No estimate made				

Very few hatched pelicans, most adults still incubating. One antelope ground squirrel observed in rocks between the two peaks at 10:30 AM. First record of mammal sighting other than deer mice on the island J.C.H.

STILLWATER
NWR

MANAGER
ASSISTANT
CLERK
BIOLOGIST
MB

E. J. O'Neill, Biologist
Tulelake NWR, Tulelake, Calif.

Clinical Diagnostician, NFWHL

FILED DESTROY

November 3, 1976

NOV 22 1976

Preliminary Results of Necropsy of White Pelicans (PR 287)

The three white pelicans were examined on 28 October 1976 with the following results:

76-1853 Adult Male. This male was the pelican found dead by the power-line on July 1, 1976. (Your number 76476). There were multiple fractures of the scapulae and multiple lacerations in muscles attached to the scapulae. There was a band of hemorrhages and fracture that ran across the middle of the back from left to right and was 4 to 7 inches wide. Internally this pelican had abundant deposits of abdominal and coronary fat. There was considerable hemorrhage into the lungs. The lower portion of the esophagus, the proventriculus and the stomach all contained recently ingested fish; these fish were heavily parasitized with nematodes and the nematodes appeared to have been moving from the ingested fish (probably intermediate hosts) into the lumen of the pelican's stomach. Brain was accidentally discarded.

Diagnosis: Impact Injuries

76-1854 Adult Female. Weight: 3875 gms. (Your number 76478) This pelican had been dead for a little while longer than either 76-1853 or 76-1855 and was not in as good a state of preservation. There were no external signs of injuries, and there were no ante-mortem fractures of the wing or leg bones. No subcutaneous, abdominal or coronary fat were present. Heart, lungs and liver were grossly normal; there were sero-fibrinous tags on the pericardium and on the mesenteries. There were numerous nematodes in the lower esophagus, the proventriculus and the stomach. No food was present. Intestines appeared hyperemic.

Findings in 76-1854 are suggestive of possible pesticide poisoning. Because of the somewhat advanced post-mortem changes no virological or bacteriological studies were attempted on the tissues from this pelican. The carcass, brain, liver and kidney have been saved for chemical analysis at PWRC.

76-1855 Adult Male. Weight: 6,000 gms. (Your number 76475). There were no external signs of injuries on this pelican. No subcutaneous, abdominal or coronary fat was present. Liver, spleen, heart, lungs

cc sent Stillwater NWR

11/17

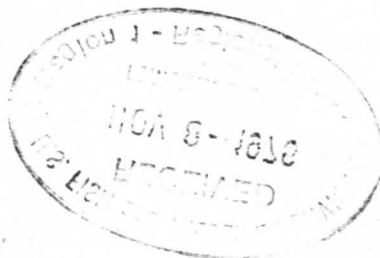
and air sacs were normal except for sero-fibrinous tags attached to the air sac membranes and to the pericardial sac. The intestines appeared hyperemic; but no lesions were found. There were numerous nematodes in the lower esophagus, the proventriculus and in the stomach. No food was present; there were a few fish scales and what resembled beetle elytra in the lumen of the stomach.

Bacteriological and virological studies of the organs of this pelican are now in progress. The carcass, brain, liver and kidney have been saved for later chemical analysis at PWRC. Dr. Stickel has informed me that she is most anxious to receive any other pelican specimens you may care to submit to her laboratory for pesticide workup. If you have additional pelican specimens, please give her a call (FTS 937-7211; commercial (301 AC 776-4880, ext. 211) for instructions, etc.

Louis N. Locke

LNL:kr

cc to Stillwater





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Stillwater Wildlife Management Area

Box 592

Fallon, Nevada 89406

August 17, 1976

Mr. Al Lapp
Fish and Wildlife Assistant
Honey Lake Wildlife Area
Wendall, CA 96136

Dear Mr. Lapp:

Below is a listing of that information that we have on file concerning white pelicans:

Woodbury, W. Verne, The History and Present Status of the Biota of Anaho Island, Pyramid Lake, Nevada, June 1966, Masters Thesis, University of Nevada, Reno, 1966

King, Clarence, Geological Exploration of the 40th Parallel, Ornithology Section by Robert Ridgeway, 1868, Publisher unknown, could be Superintendent of Documents, Wash. D. C. Copy should be on file at Washoe County Library.

Thompson, Ben H., History and Present Status of the Breeding Colonies of White Pelican in the United States, U.S. Department of the Interior, 1932.

Amaral, Anthony, Pelican Island, Nevada Highways and Parks Magazine, Winter, 1969.

Amaral, Anthony, Nevada's Endangered Pelicans, National Parks and Conservation Magazine, National Parks and Conservation Association, July, 1970.

That is about all that we have, however, the University at Reno, or Washoe County Library would no doubt have additional publications.

Your interest in our Anaho Island pelican colony is appreciated. Please feel free to contact this office if we can be of further service.

Sincerely,

Lynn C. Howard
Refuge Manager



Save Energy and You Serve America!



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Stillwater Wildlife Management Area

Box 592

Fallon, Nevada 89406

September 24, 1976

Mr. Gary Page
Pt. Reyes Bird Observatory
P.O. Box 321
Bolinas, CA 94924

Dear Mr. Page:

Cathy Osugi has passed on to us your interest in the white pelicans nesting at Honey Lake, CA. We have had a talk with the Manager there about the possibility these birds are ones who normally nest at Anaho Island, Nevada. This is indeed possible, although they could also come from the nesting population in the Klamath Basin at Clear Lake, CA. The population at Anaho fluctuates widely and the number of birds using Honey Lake would not be missed. The following are our ten year estimates of annual production:

1966 - 2,500	1971 - 2,980
1967 - 1,655	1972 - 2,500
1968 - 3,090	1973 - 2,500
1969 - 3,400	1974 - 1,725
1970 - 1,822	1975 - 1,700
	1976 - 2,500

1977 - 1,400

78 - 1,500

79 - 1,575

80 - 1,400

81 - 1,370

I hope this is the information you needed.

Sincerely,

1981 - 3,200 !!

Lynn C. Howard
Refuge Manager



Save Energy and You Serve America!

76 - Pelican Info

	<u>MAY.</u>	<u>DATE</u>	<u>USE - DAYS</u>
Fernley	20	10/2	2345
MASSIE	10	6/30	680
SODA	5	6/23	27
OLD RIVER	1	6/30	675
Shecklen	250	9/19	13,915
CARSON	150	6/30	5263
Hornman	50	9/5	2275
S-Line	60	9/5	3400
Canneshack	200	9/5	6,800
SWMA	1,110	9/8	481,090



United States Department of the Interior

FISH AND WILDLIFE SERVICE
PATUXENT WILDLIFE RESEARCH CENTER
LAUREL, MARYLAND 20811

Handwritten initials
MANAGER
ASSISTANT
CLERK
BIOLOGIST

September 19, 1977

FILE DESTROY

MEMORANDUM

TO : Refuge Manager, Stillwater NWR
Fallon, Nevada

FROM : Project Leader, ERC
PWRC, Laurel, Maryland

SUBJECT: White Pelicans - File No. PR-1310

There are attached necropsy and analytical reports for the specimens you submitted to the National Fish and Wildlife Health Laboratory, Madison, Wisconsin. The white pelicans were received at our Center for chemical analysis on 21 June 1977.

The level of endrin in the brains (0.44 and 0.52 ppm) of the white pelicans is dangerous but not high enough to account for death. According to extensive work recently done at Patuxent with several kinds of birds, these levels are about what occurred in birds that died when it was clear that health factors other than outright endrin neurotoxicity contributed to death. It appeared from our study that endrin dosage caused other weaknesses or illnesses to flare up in a small minority of the birds. Endrin has been known to cause such effects as delayed clotting times, nosebleed and dysenteric symptoms.

If you have any questions on the interpretation of these residues, please call or write the Director at Patuxent Wildlife Research Center.

Handwritten signature of W. L. Reichel
W. L. Reichel

Attachments

cc: Zoological Museum, U. of Wisconsin
Regional Director, Portland (ECE)



SEP 26 1977

PATUXENT WILDLIFE RESEARCH CENTER - ANALYTICAL REPORT - PR-1310

Submitter: Refuge Manager, Stillwater NWR, Fallon, Nevada.


Specimen Data: Two white pelicans found dead at Lahontan Reservoir, 10 miles SE of Fallon, Nevada, on 16 May 1977. Endrin was used in the area.

<u>Sample No.</u>	<u>NFWHL No.</u>	<u>Identification</u>	<u>Wet Wgt.,g</u>	<u>Lipid Wgt.,g</u>
77-1149	77-1436	Carcass	10.00	0.07
77-1150	77-1436	Brain	20.37	1.66
77-1151	77-1437	Carcass	10.00	0.07
77-1152	77-1437	Brain	20.24	1.36

Results: ppm wet weight; organochlorine compounds. Lower limit of detection = 0.1 ppm. Residues were confirmed by GC-MS.

<u>Compound</u>	<u>77-1149</u>	<u>77-1150</u>	<u>77-1151</u>	<u>77-1152</u>
p,p'-DDE	3.5	7.6	12.	16.
p,p'-DDD	0.3	0.64	1.2	1.4
p,p'-DDT	-	-	-	0.30
Dieldrin	0.55	1.4	0.93	1.5
Heptachlor epoxide	-	0.16	0.33	0.56
Oxychlordane	-	0.15	0.17	0.32
<u>cis</u> -Chlordane	-	0.52	0.50	0.69
<u>trans</u> -Nonachlor	-	-	-	-
<u>cis</u> -Nonachlor	0.11	0.23	0.13	0.20
Endrin	0.18	0.44	0.25	0.52
Est. Toxaphene	-	0.10	-	0.22
HCB	-	-	-	-
Mirex	-	-	-	-
Est. PCB	1.3	5.2	2.8	3.5

- = none detected


W. L. Reichel, Project Leader
Env. Residue Chemistry

NATIONAL FISH & WILDLIFE HEALTH LABORATORY

FINAL REPORT

Accession No. 77-1436 Field No. PR-1310 PR No. 547
Species White Pelican Sex female Weight 2850 g Age Adult
Collector Stillwater NWR Location Lahontan Reservoir
10 mi SE Fallon, Nev. Date Collected 5/16/77
Date Received 6/3/77 Date Examined 6/6/77 Necropsy by S. Hurley

HISTORY: Found dead - No sign of injury. Endrin used in area

Collector: Stillwater NWR
P. O. Box 592
Fallon, Nevada 89406

RESULTS:

Bacteriology - pericardial fluid - coagulase positive Staph. aureus

Virology - Negative Newcastle Disease Virus and Avian influenza

Parasitology - Numerous (several hundred) Contraceacum spp. in proventriculus.

Toxicology - liver lead 0.33 ppm

Gross Pathological (Diagnosis)- +4 atrophy of pectoral muscles
Contraceacum sp. in ventriculus; fluid filled
Histopathology - none pericardial sac. No abdominal, mesenteric or
coronary fat, or subcutaneous fat.

Photographs - none

FINAL DIAGNOSIS:

Open -possible Staph aureus septicemia

S. Hurley mk
Laboratory Diagnostician

6/16/77

Date

NATIONAL FISH & WILDLIFE HEALTH LABORATORY

FINAL REPORT

Accession No. 77-1437 Field No. PR-1310 PR No. 547
 Species White Pelican Sex Male Weight 4775 g Age Adult
 Collector Stillwater NWR Location Lahontan Reservoir
10 mi SE Fallon, Nev Date Collected 5/16/77
 Date Received 6/3/77 Date Examined 6/6/77 Necropsy by S. Kerr

HISTORY: Found dead - No sign of injury

Collector: Stillwater NWR
 P. O. Box 592
 Fallon, Nevada 89406

RESULTS: (No fat or coronary fat +4 pectoral atrophy)

Bacteriology - No significant growth

Virology - Negative - Newcastle disease virus and Avian Influenza

Parasitology - Numerous -(several hundred) Contracaecum spp. in proventriculus

Toxicology - liver lead 0.30 ppm (negative)

Gross Pathological (Diagnosis) - no subcutaneous, coronary, abdominal or mesenteric fat

Histopathology - none

Photographs - none

FINAL DIAGNOSIS:

Open

P. Husley mh
 Laboratory Diagnostician

6/16/77
 Date

MANAGER
ASSISTANT
CLERK
BIOLOGIST

Date Recorded _____
by _____

NATIONAL FISH & WILDLIFE HEALTH LABORATORY

FINAL REPORT

Accession No. 77-1436 Field No. _____ PR No. 547
Species WHITE PELICAN Sex Female Weight 2850 Age Ad
Collector STILLWATER NWR Location LAHONTAN RESERVOIR
10 mi. S.E. OF FALLON Date Collected 16/5/77
NEV.
Date Received 6/3/77 Date Examined 12/6/77 Necropsy by A. H. Hensley

HISTORY: FOUND DEAD -> NO SIGN OF INJURY. Embryo used in necropsy.

Collector
Stillwater NWR
P.O. Box 512
Fallon, Nevada
89406

PURC-
Please send a copy of your report due to
Zootecnical Museum
U. of Nevada
2500 N. 7th St.
Fallon, Nevada 89406

RESULTS:

Bacteriology pericardial fluid - negative positive Staphylococcus aureus
Virology
Parasitology
Toxicology - river lead 0.33 ppm
Gross Pathological (Diagnosis) - +4 atrophy of posterior muscle
contraction of left ventricle
Histopathology fluid filled pericardial sac.
Photographs no evidence of mesenteric or
coronary fat or injury.

FINAL DIAGNOSIS:

open - possible Staphylococcus aureus septicemia

JUL 7 1977

A. H. Hensley, DVM
Laboratory Diagnostician
Date 6/12/77

MANAGER
ASSISTANT
CLERK
BIOLOGIST
MB

Date Recorded _____
by _____

NATIONAL FISH & WILDLIFE HEALTH LABORATORY

FINAL REPORT

Accession No. 77-1437 Field No. _____ PR No. 547
Species WHITE PELICAN Sex male Weight 4775 Age Ad
Collector STILLWATER N.W.R. Location LAHONTAN RESERVOIR
10 mi. S.E. OF FALLON Date Collected 16/5/77
NEV.
Date Received 6/3/77 Date Examined 6/11/77 Necropsy by J. K.

HISTORY:

FOUND DEAD - NO SIGN OF INJURY.
Collector: STILLWATER NWR
P.O. Box 592
Fallon, Nev.
89406
Please send a copy of your report also to
Biological Museum
U. of Wisconsin
250 N. Mills
Fallston, Wisc 53706

RESULTS:

Bacteriology - no significant growth

Virology

Parasitology

Toxicology - liver lead 0.30 ppm

Gross Pathological (Diagnosis) no subcutaneous, internal, abdominal or
mesenteric fat

Histopathology

Photographs

FINAL DIAGNOSIS:

open

JUL 7 1977

J. H. H. DVM
Laboratory Diagnostician
6/16/77
Date

W. F. Sigler & Associates Inc.

OFFICERS

Dr. W. F. Sigler, President
Dr. G. W. Workman, Vice President
Mrs. M. E. Sigler, Secretary
Dr. G. S. Innis, Treasurer

MANAGER
ASSISTANT
CLERK
BIOLOGIST
FILE
DESTROY

1005 Terminal Way, Suite 155

Reno, Nevada 89502

Telephone: 702-323-1522

702-323-1523

May 17, 1977

BOARD OF DIRECTORS

Dr. W. F. Sigler, Chairman
Dr. W. T. Maughan
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Dr. G. W. Workman
H. M. Carlisle

Lynn C. Howard
Refuge Manager
Stillwater Wildlife Management Area
Box 592
Fallon, NV 89406

Dear Lynn:

We have not completed our report on pelicans and cormorants, primarily because we want to include some data for this year. So far, we have made the following aerial surveys:

25 March 77

Honey Lake
Pyramid Lake
Delta
Humboldt Sinks
Stillwater
Lahontan Reservoir
Carson Sinks

Pelicans in Feeding Areas

1318
0
15
72
86
0
0

TOTALS
1491

7 April 77

Honey Lake
Pyramid Lake
Delta
Humboldt Sinks
Stillwater
Carson Sinks
Lahontan Reservoir

1480
0
260 (Most loafing)
225
553
0
0

2516

21 April 77

Honey Lake
Pyramid Lake
Delta
Humboldt Sinks
Stillwater
Carson Sinks
Lahontan Reservoir
Washoe Lake

0
50
450
115
1350
0
0
0

1965

MAY 23 1977

Lynn C. Howard

2

May 17, 1977

10 May 77

Honey Lake	0
Pyramid	0
Delta	0
Humboldt Sinks	268
Stillwater	<u>505</u>
Lahontan Reservoir	0
Carson Sinks	0
Washoe	1

774

Poor weather, most birds at nesting colony.

I saw a bald eagle at Stillwater on the 10 May count. I also saw a large group of pelicans on the ground at Stillwater that may have been establishing a nesting colony. It was about one to two miles west or southwest of the buildings. It certainly warrants checking if you have the time.

If you plan to make a nesting success count this year, I would like to go with you. We can provide transportation on the lake and save you some trouble.

Sincerely,


Joseph L. Kennedy
Study Director

JLK:dk

7/13/77
ANAHO ISLAND TRIP

White Pelican - ANAHO

Est Total Young - 1,400
" Total Nesting Adults - 3,000
" Non-nesting Adults - 1,000

76
2,500

TOTAL 5,400

Double-Crested Cormorant

Est Total Young - 300
" TOTAL Adults 700
TOTAL 1,000

350

Great Blue Heron

Est. TOTAL 30

CALIFORNIA Gull

EST. TOTAL 1,500

3,500

NO CASPIAN TERNS SEEN.

Other sightings

Red-TAILED HAWK - 3
MARSH HAWK - 2
BARN OWL - 1

White Pelican

Stillwater W.M. Area

1977 - peak 1,350

73-77 Ave 2370

Anaho Island

Breeding Pop - '77 4,000

73-77 ave - 5970

Production '77 - 1400

66-77 ave - 2031

BAND returns - (outside Nev)

Chiefly California and Mexico
Scattered Oregon, Idaho, Utah.

19 October, 1977
3317 White Oak Ct.
Sacramento, Ca. 95825

Mr. Mark Barber
Ecologist
Stillwater National Wildlife Refuge
Fallon, Nevada

Dear Mr. Barber:

I am presently engaged in a survey of aquatic bird populations in California's Great Basin for the California Department of Fish and Game. In an effort to evaluate the relative importance of the bird populations which occur in the basin in California, I am attempting to gather preliminary information on populations in adjacent states. I am particularly interested in Eared Grebe, Western Grebe, White Pelican, Double-crested Cormorant, Great Blue Heron, Black-crowned Night Heron, Snowy Egret, Great Egret, Wilson's Phalarope, Northern Phalarope, California Gull, Ring-billed Gull, Forster's Tern, and Caspian-Tern. I would very kindly appreciate any information you can forward on breeding and/or migrant populations of these species (especially maximum populations) on Stillwater Refuge and Pyramid Lake.

I realize that this is a very busy time for you, and if time restrictions make it impossible to reply to this letter in entirety soon, I would have to place the utmost priority on obtaining estimates on the size and productivity of the White Pelican colony at Pyramid over the past five years. I realize that Dr. Joe Kennedy in Reno is studying the pelicans at Pyramid, but he indicated to me that he would be unable to give me the census figures until the paper he is preparing with Dr. Knopf is published. It was then that he suggested that I contact you for the figures, since my request for them is official Department of Fish and Game business. If you wish I can insure that the census figures are not published for public perusal until the publication of Drs. Knopf and Kennedy's paper.

If at all possible I would greatly appreciate any information you can send me by 10 November, as the first draft of my survey must be completed by the beginning of December.

If you would like to contact me through California Fish and Game you can leave me a message with Alan Craig in the Nongame Wildlife Investigations office in Sacramento. (1416 Ninth St. 95814 916-445-1146)

Many thanks for your time.

Sincerely yours,

David W. Winkler
David W. Winkler

OCT 21 1977



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Stillwater Wildlife Management Area
P.O. Box 592
Fallon, Nevada 89406

October 27, 1977

Mr. David Winkler
3317 White Oak Ct.
Sacramento, CA 95825

Dear Mr. Winkler:

In reply to your request of October 19, 1977, the following charts summarize peak populations at Stillwater Wildlife Management Area and Anaho Island National Wildlife Refuge:

Stillwater W. M. Area

Species	Fiscal Year (July-June)				
	73	74	75	76	77
Eared Grebe	275	175	75	80	50
W. Grebe	1,200	2,000	800	1,000	210
White Pelican	6,000	2,000	1,000	1,500	1,350
DC Cormorant	25	20	20	50	75
Great Blue Heron	250	250	225	225	45
BC Night Heron	1,200	450	450	500	80
Snowy Egret	300	300	100	100	30
Great Egret	30	75	40	40	40
W. Phalarope	8,000	8,000	9,000	9,000	800
N. Phalarope	1,000	-----No Data-----			
California Gull	225	300)	500	500	400
RB Gull	250	300)	50	50	50
Forster's Tern	300	500	350	350	50
Caspian Tern	25	25	25	20	5

Anaho National Wildlife Refuge

Species	Breeding Population Estimates				
	73	74	75	76	77
White Pelican	8,500	5,175	5,175	7,000	4,000
DC Cormorant	1,000	1,025	1,050	2,000	1,000
Great Blue Heron	280	255	255	130	30
California Gull	6,500	7,200	7,200	1,500	1,300
Caspian Tern	--	90	90	--	--



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David Winkler 10/27/77
SWMA and Anaho Bird Populations
Page 2

White Pelican Production - Anaho Island NWR

1966 - 2,500	1972 - 2,500
1967 - 1,655	1973 - 2,500
1968 - 3,090	1974 - 1,725
1969 - 3,400	1975 - 1,700
1970 - 1,822	1976 - 2,500
1971 - 2,980	1977 - 1,400

I hope the above information meets your needs.

Sincerely,

Lynn C. Howard
Refuge Manager

MJBarber:iec

7/12/78 - ANAHO IS. TRIP

White Pelican

Est. Total Young - 1540
Est Total Nesting Adults - 3420 (10-15 dead)
non nesting ad. ? ?
TOTAL 4960 (5400 - '79)
inc 1,000 non nesting

Double-Crested Cormorant

Est. Total Young - 850
Total Adult - 1850
1700
2700 (1,000 - '77)

Great Blue Heron

TOTAL 60 (30 - '77)
(10-15 nests)

California Gull

Est total - 800 (1,500 - '77)

Others

MARSH Hawk - 2 (2 - '77)
Western Grebe - 10 (No dead carcasses)
MALLARD - 1
SNOWY Egret - 1
Raven - 6
Turkey Vulture - 1
Common Merganser - 10

Many D.C. Cormorant throughout Pelican colonies. One main pelican colony with 3 small sub-colonies all at lower levels. Young 80% nearly full grown 20% in down.

Pelican

ANAHO 7/12/78

$$724 \div .7 = 1034$$

$$616 \div .8 = 770$$

$$104 \div .7 = 149$$

$$50 \div .7 = 71$$

$$128 \div .7 = \underline{183}$$

$$2203 + 75 =$$

(1622¹)

$$2203 \times .70 = 1540 \text{ young.}$$

$$1540 \div .45 = \underline{3429} \text{ ADULTS}$$

TOTAL 4960

Cormorant

350

265

60

50

100

150

$$\underline{975} \div .8 = 1219$$

$$1219 \times .696 =$$

$$850 \times 2.3 =$$

$$\begin{array}{r} 850 \text{ young.} \\ 1950 \text{ adult} \\ \hline 2800 \end{array}$$



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Stillwater Wildlife Management Area
P.O. Box 1235
Fallon, Nevada 89406

July 13, 1979

Tex Williams, Production Manager
Pyramid Lake Indian Tribal Enterprises
Star Route
Sutcliffe, Nevada 89510

Dear Mr. Williams:

Thank you for permission to conduct our annual count of colony nesting birds on Anaho Island National Wildlife Refuge.

It appears that the number of pelicans and production of young is comparable to recent years, but still much less than in the past. Enclosed for your information are past estimates on bird populations of the Island.

There have been a number of problems with maintaining the white pelican population. Illegal shooting during migration is one cause, diminishing food supplies and less wintering areas are others. Pesticides which directly affect adults and cause thinning of egg shells have been a serious problem.

A contributing factor also is increasing human activity and disturbance on or near nesting islands, including Anaho Island. Any nest abandonment, no matter how short, usually results in the loss of young or eggs, due to the predation of gulls.

During my visit, July 3rd and 4th, two boats landed on the Island and an amphibian aircraft pulled up on the southeast beach area. These people did not approach colonies in my presence, but it does indicate considerable human use of the Island. There is not much we can do legally, since the lower area of the Island is not a refuge, but reservation lands.

It is disturbing to me that violations occur despite the closure of water within 500 feet of the Island as listed in your brochure. I



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mentioned these violations to a Tribal Game Warden, but he did not appear to be too concerned. He did report that a number of aircraft have operated at low levels on the lake. Low level aircraft flights are known to cause nest abandonment.

The next time your regulations are printed on a brochure, it would probably help to include a map showing the closed areas. Possibly, a sign on the boat launching area would help. We could provide the sign. I also think it would help if we reposted the Island, as many of the old signs are now faded and down.

If you would like to, we could get together this winter to discuss how we can protect this unique nesting colony.

Sincerely,

Morris LeFever, Refuge Manager

ML:ce

Enclosure



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Stillwater Wildlife Management Area
P. O. Box 1236
Fallon, Nevada 89406

September 19, 1979

David W. Winkler
Museum of Vertebrate Zoology
2593 Life Sciences Building
Berkeley, California 94720

Dear Mr. Winkler

Sorry to take so long to respond to your letter. Mr. Howard has transferred to our Sacramento Area Office and I was on detail to Washington, D.C. until the first week of September.

Presently, we have about 12,000 acres of water, about 45,000 ducks, 1,000 Canadian Geese and 37,000 coot. Marsh and waterbird populations are high also. Of note, 190 nesting pairs of White-Faced Ibis were counted in early August, the first recorded nesting on the Stillwater Wildlife Management Area since 1960.

We conducted a count on Anaho Island on July 3rd and 4th. Although not a thorough statistically valid count, we recorded 1,575 young, 3,500 adult and 700 non-nesting white pelicans, about average from recent years. Also, recorded 1,250 young and 2,300 adult double-crested commorant, a 100% increase over recent years. Production of great-blue heron appeared good. On the southeast part of the Island (the traditional nesting area) we recorded 2,975 breeding, 300 non-breeding and 900 young California gulls, about 300-400 higher than recent estimates. I believe these were estimates not actual counts.

I am very concerned about illegal tresspass on the Island. While there, we observed two boats which landed on the Island and one amphibian aircraft which was pulled up on the beach within one-eighth of a mile of the gull colony.

Please call collect (702) 423-5128 to discuss your study needs and Anaho Island.

Sincerely,

Morris LeFever, Refuge Manager



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UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

☒ MANAGER
☐ ASSISTANT
☐ CLERK
☐ BIOLOGIST

Reply to:
MUSEUM OF VERTEBRATE ZOOLOGY
2593 LIFE SCIENCES BUILDING
BERKELEY, CALIFORNIA 94720

15 August, 1979

Peli'com
☒ FILE ☐ DESTROY

Mr. L.C. Howard
Refuge Manager
Stillwater Wildlife Management Area
P.O. Box 592
Fallon, Nevada 89406

Dear Mr. Howard:

In 1977 you were kind enough to send me information on the bird populations at Stillwater and Anaho Island National Wildlife Refuge. The information you provided was very helpful and will be incorporated in a paper I am preparing for Western Birds.

I am now a Ph.D. student here at Berkeley, working on the nesting ecology of the California Gull at Mono Lake, California. I am very interested in the California Gull colony at Pyramid Lake. Do you have any recent estimates for the production of young there? Is the colony in any danger of disturbance? I am considering the possibility of studying the Pyramid Lake gulls as a comparison to the Mono colony. I would appreciate any advice you can provide on the advisability and logistics of such an investigation.

Thank you for your time.

Sincerely yours,

David W. Winkler

AUG 21 1979

7/3, 4/79 ANAHO IS. TRIP

WHITE PELICAN

EST. TOTAL YOUNG	1575	}		
EST. TOTAL NESTING ADULTS	3500			
EST. TOTAL NON-NESTING	<u>700</u>			
	5775		<u>1978</u> 4960	<u>1977</u> 5,400

DOUBLE-CRESTED CORMORANT

EST. TOTAL YOUNG	1250	950 - 300		
TOTAL ADULT	<u>2300</u>	1800 - 500	<u>1978</u>	<u>1977</u>
	3,550		2,700	1,000

GREAT BLUE HERON

	40			
TOTAL	<u>60</u>		<u>1978</u>	<u>1977</u>
13-18 NESTS	100		60	30

CALIF. GULL

2,975 Breed. ad.

300

3,275 + 900 young

4,175

-300
3,8751978

800

1977

1,500

OTHER

MARSH HAWK 2

MERGANSER 4

SNOWY EGRET 20

B.C.N. HERON 30 + 20 young = 50

NO CASPIAN TEAL
OBSERVED!

PELICAN COLONIES SHIFTED TO NE POINT & MIXED WITH CORMORANT - 180
 NEARLY GROWN PELICANS ON TOP OF IS - SAW NO SNAKES. FOUND
 COYOTE SCAT. SOME COLONIES STILL HATCHING, OTHERS SMALL DOWNY.

(AIRPLANE ON SE SAND SPIT & 1 PARTY OF BOATERS ON IS. TWO MAIN
 COLONIES AND 2 SMALLER PLUS ON ON TOP OF MOUNTAIN?)

ANAHO IS

7-4-79



 = COLONY

M. LeFever

Sancho Is. July 2, 1979

115

335

450 A flat

50 B 13 young 2 nests + 4 young + 17 nest to clip

C 130 NE flat - D + 300 flat - nesting

E point { 100 + 30 + 20 34 young + 3
1450 comm - 800 young.

5 + 3y.

F. Egg point. 130 6y, 6y - 14 young. 18 young. + 24y
count 250 - 50y

400 - 400 young

G, 100 adult point, over 64 young + 20y
45 young 25y

H 18p 50 adult 100 young grown

200 cormorant NE point shifted

Gulls 150, 100, 150 point = 300

BEN HAWK

17 ~~known~~ GB Hawk 8 yoc

205 known

20 L w Hawk

Colony	# PELICAN
#1 A	450 ✓ A
#2	50 ✓ ← B
#3 C	130 ✓ C
#4 D	300 ✓
E	150 E ✓
F	130 ✓
G	100 ✓ ←
#5 H	50
	1300 OBSERVED
	× 2.57
	3,500 EST ADULT

one colony

2800 + 100 Culls - well colony

2900 + 150

one ~~2850~~ + 125 2975 $\times 0.33$ to $0.30 =$ 900 young

2 hawk 1 p. falcon



SANTA BARBARA MUSEUM OF NATURAL HISTORY

2559 Puesta Del Sol Road • Santa Barbara, California 93105

16 Dec 1979

Lynn C. Howard
U.S. Fish & Wildlife Service
National Wildlife Refuge
Region 1
Room E-2740
Federal Bldg.
2800 Cottage Way
Sacramento, Ca. 95825

Dear Mr. Howard:

Garry Heron of the Nevada Fish and Game Department suggested I contact you relative to obtaining information on California Gull nesting colonies on the Stillwater National Wildlife Refuge.

I have been working with Dr. Dennis M. Power on a review of the present worldwide status of the California Gull (Larus californicus). Part of this study has involved a literature review of what is presently known regarding the biology of this species. I have also been attempting to assess the present population status of the California Gull in each of the states and provinces in which it is known to nest. In my review of the literature I have found reference to the fact that California Gulls have nested in the past at Pyramid Lake on Anaho Island.

I felt that you might be able to provide me with information on the present and past status of the California Gull on Stillwater National Wildlife Refuge. In particular, do you know of any present or past censuses of the California Gull nesting colonies? Do you know of the location and habitat characteristics of these colonies? Would it be possible to acquire a summary of any of this information?

I have enclosed a list of the questions I will be attempting to answer regarding the status of the California Gull. I have placed checks in front of those questions for which I could use information relevant to the California Gull colonies on the Stillwater National Wildlife Refuge.

Has your department prepared any technical reports, memos, annual colonial nesting surveys or correspondence regarding California Gulls on the Stillwater Refuge? If so, would it be possible to obtain copies of these reports? I have run across a reference to an ecological study of Pyramid Lake, Nevada which

DEC 27 1979



SANTA BARBARA MUSEUM OF NATURAL HISTORY

2559 Puesta Del Sol Road • Santa Barbara, California 93105

was coordinated by J. Kennedy. Would it be possible to obtain a copy of this report? What is the complete reference to this report? Who else might I contact who may have first hand knowledge of the California Gull colonies at Stillwater Refuge? Do you know of any graduate theses projects which might have involved the California Gull colonies at Stillwater?

Finally, what effect has the lowering lake levels had on the colonial nesting birds on Anaho Island? Have predators been able to cross the existing channel to Anaho Island?

Sincerest thank for your help.

Merry Christmas,

Paul W. Collins

Paul W. Collins
Associate Curator of Birds

A. General

1. Life span.
2. Age before young gulls can breed.
- * 3. Food sources.
- * 4. Resourcefulness/adaptability of California Gulls.
- * 5. Use of "gull control" programs to control gull populations in other areas of the country.

B. Population and Breeding Habits

- * 1. Worldwide population of California Gulls.
- * 2. Breeding distribution (breeding areas - location, and number of breeding adults).
- * 3. - Is it common for gulls to change their nesting areas or do they always return to the nesting area where they were born?
4. Does the population of breeding adults at a given rookery site generally vary from year to year?
5. Nesting area requirements (predator-free islands?)
- * 6. Adaptability of gulls relative to establishing new nesting areas if previously used areas are disturbed.
7. Natural mortality of gull chicks at a typical rookery. (Cause of mortality-predation, etc.)

C. Migratory Habits

1. Where do Mono, Great Salt Lake, other gull colonies migrate to during winter?
2. Does entire colony migrate to same place?
3. Do all of adult birds return to nesting area each year?
4. Do the young return to their birth place each year?

AREA MANAGER
2800 Cottage Way, Room E-2740
Sacramento, California 95825

DEC 20 1979

742
MANAGER
ASSISTANT
CLERK
BIOLOGIST
FILE

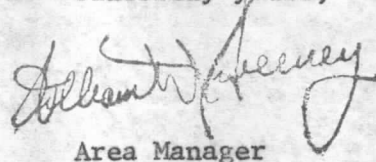
Mr. Paul W. Collins
Associate Curator of Birds
Santa Barbara Museum of Natural History
2559 Puesta Del Sol Road
Santa Barbara, California 93105

Dear Mr. Collins:

This is in reply to your letter of December 16 requesting information on California gulls.

This office does not have most of the data that you need. I have forwarded your letter to Morris LeFever, Manager of Stillwater National Wildlife Refuge for response. I am sure that he will be able to assist you.

Sincerely yours,


Area Manager

Copy to: Stillwater NWR
(w/copy of incoming letter)

LCHoward:jr:12/21/79

DEC 27 1979



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Stillwater Wildlife Management Area
P.O. Box 1236
Fallon, Nevada 89406

January 23, 1980

Mr. Paul W. Collins
Associate Curator of Birds
Santa Barbara Museum of Natural History
2559 Puesta Del Sol Road
Santa Barbara, CA 93105

Dear Mr. Collins:

This is in response to your letter of December 6, 1979 to Lynn Howard requesting information on California gulls. During the past year there has been a complete changeover in personnel at this refuge. Some information, except what can be located in the files, cannot be readily provided.

There has been a California gull colony on Anaho Island since the 1860's. They apparently did not nest there in the 1920's. The colony recently has been located on the southeast side of the island on a low sandy plain. Actual nesting sites have apparently shifted east and west in recent times. Gulls prior to 1900 nested on the north end of the island. The *Geological Exploration of the 40th Parallel* by Clarence King (1868) states: "on a rocky plateau between the northern peak (on south end of island) and the (north) shore an immense colony of gulls (*Larus Californicus*) had their nests...". As the lake level has receded 70-80 feet since then, the colony now is at a lower elevation.

I am not acquainted with the Anaho Island study coordinated by J. Kennedy. Our best report on Anaho Island is W. Verne Woodbury's University of Nevada-Reno Thesis, *"The History and Present Status of the Biota of Anaho Island, Pyramid Lake, Nevada 1966"*. It sites numerous references relative to Anaho Island. (The section on gulls is attached.) There apparently are no technical reports regarding gulls specifically in the files. The biologist with the longest familiarity with Stillwater's water birds is Norman Saake, Nevada Department of Wildlife, 380 West "B" Street, Fallon, Nevada 89406.

Egg laying on Anaho begins the second week of April until June. Incubation is about thirty days. Hatching occurs from mid May to mid July and gulls are "gone" by mid August. Our recent gull records at Anaho Island indicate:



Save Energy and You Serve America!

January 23, 1980
Page 2

<u>PEAK POPULATIONS</u>	<u>DATE</u>	<u>NUMBER OF YOUNG (included in peak)*</u>
4,175	07-05-79	900
1,000	07-01-78	250
1,200	07-01-77	300
1,300	07-01-76	500
7,500	07-15-75	3,500
7,500	07-15-74	3,600

*To Flight Stage

The records of Stillwater National Wildlife Refuge from 1970 to 1979 do not show any nesting of California gulls. I would suspect there may be a few produced, but no colonies are present. Perhaps several small colonies may have been present in the past years. These gulls prey heavily on eggs and young, and of course, feed on all animal food available, frogs, fish, crustacea, carrion, insects, etc.

Sincerely,

Morris LeFever, Refuge Manager

ML:ce

Attachment



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Stillwater Wildlife Management Area
P.O. Box 1236
Fallon, Nevada 89406

July 15, 1980

William Crutcher
Pyramid Lake Tribal Council
Nixon, NV 89424

Dear Bill:

I certainly enjoyed having you along with us to survey Anaho Island's bird populations and production. I was impressed with your keen interest in and knowledge of island resources. We will try to make a brief visit to Anaho the week of August 4th. We will try to let you know ahead of time so one or two tribal members could accompany us. We have a request to take along one or two employees of the Division of State Parks. They are developing a write-up and brochure on Nevada's designated wilderness areas and designated natural areas. As nesting will be over by then, I see no problem. They need only to visit the west side and the high areas away from the bird colonies for their purposes.

Attached are some slides and a map of the island showing the approximate refuge boundary. If you can't locate a copy I can have a copy made of Mr. Woodbary's Thesis "The History and Present Status of the Biota of Anaho Island, Pyramid Lake, Nevada, June, 1966".

The age classes of young pelicans, cormorants and gulls indicate that egg laying and nesting occurred at least three weeks earlier than average, unusual for such a cool, wet spring. Pelicans shifted nesting areas from the northeast rocky point area to the Island's central east side. There were four colonies, each with a different age class of young. This is the area used in the 60's and early 70's. No evidence was found of a colony on the top of Anaho this year. Pelicans appeared less tolerant of human presence this year. I can only speculate that they were harrassed recently. I think the best approach to avoid undue disturbance for counts is to proceed directly from the west side of the Island to the top of the Island. After locating colonies, personnel can then descend to a lower elevation, only if accurate counting is too difficult from a distance.



Save Energy and You Serve America!

July 15, 1980
Page 2

Probably the most accurate way to estimate populations is by using aerial photography in June, supplemented by ground observations, one in June and one in July (dates depending on the chronology of nesting). Our preliminary data indicates a few hundred less pelican young this year. This may not be significant since nesting was so far advanced this year.

We will provide tribal enterprises with additional Anaho brochures as soon as possible. I will try to develop sign proposals acceptable to the Council and your enforcement personnel. One would be for a single sign in the launch ramp area describing Anaho's wildlife, giving reasons why public use is prohibited and informing them of your boating restriction for the Island area. The other proposal would be a smaller sign to be posted along the Island shoreline. Our standard sign "area closed" without the FWS emblem on it may be adequate.

Sincerely,

Morris LeFever, Refuge Manager

ML:ce

cc: Mr. Jackson, Pyramid Lake Tribal Enterprises
bcc: Pelican and Anaho Files

TO: Michigan Technological University



Houghton, Michigan 49931

School of Forestry and Wood Products
Department of Forestry 906/487-2454

February 8, 1980

MANAGER
ASSISTANT
CLERK
BIOLOGIST

FROM: Refuge Manager
Stillwater Wildlife Management
Area Office
Box 592 1236
Fallon, Nevada 89406

Return
FILE DESTROY

Dear Sir or Madam:

In 1972 I asked for your assistance in making a survey of white pelican populations in the United States. I would like to again ask for your assistance in conducting a new survey of white pelicans so that we can have a better idea of the current condition of this species. The white pelican has been placed on the Blue List as a species to keep under surveillance for possible inclusion as an endangered species. In 1972, we estimated the total U. S. population of white pelicans at about 40,000 individuals.

I would appreciate it if you would provide me with the following information:

1. Spring estimate of adults in nesting colony for 1979: 3,500
2. Estimate of young produced in the nesting colony for 1979: 1575
3. Estimate of young birds surviving to flight state for 1979: 1375
4. Were actual 1979 counts made of:
 nests - Yes ☒ No ☐ Actual Number
 adults - Yes ☒ No ☐ Actual Number
 young - Yes ☒ No ☐ Actual Number
5. List what you feel are the major mortality factors affecting your flock:
 a. HUMAN DISTURBANCE, BOATS, AIRCRAFT
 b.
 c.
6. Do you feel that the colonies in your area are increasing?
 decreasing? stationary? ☒ 70'S A DECREASE FROM 60'S
7. Estimate of non-nesting birds in colony for 1979 - 700

Name and title of person filling out the questionnaire:

Address M. LeFever, REFUGE MGR
Box 1236
FALLON, NV 89406

Thank you for providing this information. It will be compiled and published as soon as possible. You will be credited for supplying the information.

Sincerely,

Norman F. Sloan
Norman F. Sloan
Professor

Why don't you contact the
COLONIAL BIRD REGISTER
159 SAPSUCKER WOODS RD
ITHACA, NY 14850
FEB 14 1980

NFS:ci

they have registered all this info

Pelican Count at Anaho Island:

Date: July 9, 1980

Marguerite Ross, Morris LeFever, Bill Crutcher, (Pyramid Lake Tribal Council)

Weather: 20% cloud cover, temperature 80°F, slight breeze.
Time at Anaho Island: 9:45am to 2:00pm

Methods: Landed boat on NW side of Island, then hiked to the ridge near the center of the Island. When it appeared that the pelicans were getting spooked, we retreated and hiked to the highest mound looking NE where most of the colonies lay.

Results: Table 1. Four separate colonies were observed on the flat interior part of the island, named A,B,C, and D. D.C. cormorants and white pelicans were found interspersed in the colonies, as well as California gulls, which also flew over the colonies. The young pelicans in the colonies were between two - seven weeks and one small group (25) of adults may have been on nests. Immature D.C. cormorants were impossible to count. One colony of California gulls consisted of a ratio of one young to three adults. There was one small colony of D.C. cormorants with 130 nests and they appeared to have completed nesting.

TABLE 1

California Gulls	3,399	(25% Young)
D.C. Cormorants	2,372	
G.B. Herons	68	
White Pelicans	3,513	(953 outside colonies)
BCN Herons	19	
Caspian Terns	1	
Western Gulls	40	
Rock Wrens	2	

Discussion: All of the colony nests on Anaho Island were further along in nesting activities than previous years. Only 50 or less adults were on nests. Perhaps the reason for this is the early spell of warm weather followed by a cooler spring and summer this year.

Also, it appeared that there was less white pelicans productivity than would be expected considering the wet season: 2,143 adults and 1,370 young were seen on and around the Island. Probably, there are 4,286 adults if only one parent stays on the Island while the other goes off to feed. Yet still production is down from 1,575 young in 1979 to 1,370 in 1980.

It seems that the counts would be more meaningful if they were made early in the morning while at least $\frac{1}{2}$ of the adults are off feeding. In the August count, this will be the objective.

1370 Reported
on summer
narrative.

Pelican Count on Anaho Island

Date: August 6, 1980

Marguerite Ross and Floyd Graham

Weather: No clouds, sunny and warm, slight breeze as we started out but none as day expired.

Time at Anaho: 10:00 a.m. to 1:30 p.m.

Methods: Were the same as July 9th census. This time counter was used to more efficiently count birds.

Results: Totals included in Table 1. Very few pelicans remained in the four colonies, and there were no squabs. Virtually, all of the adults were gone from the nesting colonies and most of the sub-adults were resting, many huddled in groups and others asleep beneath the shrubs. The youngest pelicans were found in colony D at the south end.

There were generally more cormorants in the colonies than pelicans. Age ratios are unknown for these cormorants.

Most of all the birds are on the periphery of the Island. Many of the young pelicans unable to fly have migrated down to the waters edge. Also, many cormorants are unable to fly and flap across the water.

Discussion: This was obviously an early year: All nesting activity on the Island is completed, with colony D being the latest. Almost all of the adult pelicans are gone with only sub-adults left on the Island. Of the 538 California gulls seen, 95% were adult plumage birds. Two young rock wrens were seen high on the rocks of the Island.

TABLE 1

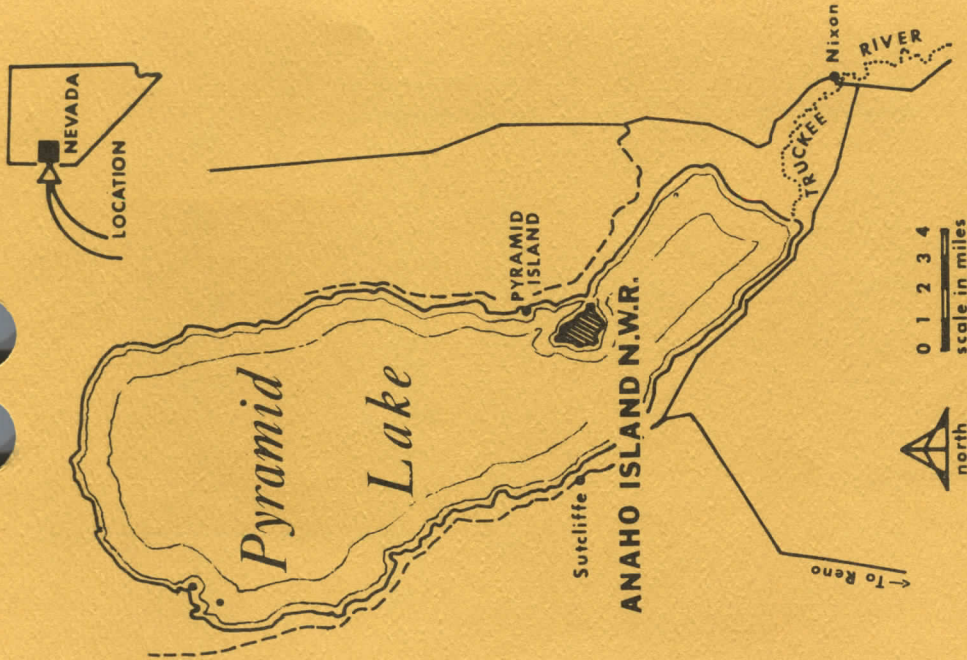
California Gulls	538	(42 in colonies)
D.C. Cormorants	1,823	(655 in colonies)
G.B. Herons	7	
White Pelicans	496	(373 in colonies)
Canada Geese	10	
Rock Wrens	6	(2 young)
Mallard	2	

White Pelicans: Adult 88
Immature 408

Productivity: 408 young were seen as opposed to the 1,370 young seen July 9th. Since some young have probably reached flight stage, it is expected that productivity is about 50%.



↑ north



Anaho Island National Wildlife Refuge is administered from the Stillwater Wildlife Management Area office in Fallon. Further inquiries should be addressed to the Refuge Manager, P.O. Box 592, Fallon, Nevada 89406.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE



As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.



RL-1351401-2 - FEB., 1975

INTERIOR—PORTLAND, OREGON

Birds seen on July 9, 1980
by Morris LeFevre &
Marguerite Ross

THE WILDLIFE OF

ANAHO ISLAND

ANAHO ISLAND, a National Wildlife Refuge, lies in Pyramid Lake. It was set aside in 1913 as a sanctuary for colonial nesting birds, but other kinds of wildlife are also common. Reptiles present are similar to those that occur on the adjacent mainland. The island, about 750 acres in size, is quite barren with extremely sandy soil.

This preliminary list of birds that occur on Anaho Island National Wildlife Refuge was compiled from a master's thesis entitled, *The History and Present Status of the Biota of Anaho Island, Pyramid Lake, Nevada* by W. Verne Woodbury in 1966. It contains 39 species.

Horizontal lines separate each group or family of birds. Birds that nest on Anaho Island are preceded by an *. The following legend describes the relative abundance categories and seasons of the year.

- a — abundant — occurs in large numbers.
- c — common — occurs regularly in moderate numbers.
- u — uncommon — occurs regularly in small numbers.
- o — occasional — a few noted each year.
- r — rare — a few noted, but not each year.
- S — Spring — March - May
- S — Summer — June - August
- F — Fall — September - November
- W — Winter — December - February

SPECIES	S	S	F	W
EARED GREBE.....		c	c	
WESTERN GREBE.....		c	c	u
45 *WHITE PELICAN.....		a	c	u
3,500 *D.C. CORMORANT.....		c	a	c
2,372 *GREAT BLUE HERON.....		c	u	o
68 CANADA GOOSE.....	u	u	u	u
MALLARD.....		o	o	
GADWALL.....		o	o	
PINTAIL.....		o	o	
19 Black-crowned night heron.....				c
SNOWY egret.....				

ECIES

S | S | F | W

—	BUFFLEHEAD.....				o
—	*COMMON Merganser.....		u	c	u
1	TURKEY VULTURE.....		o		
—	RED-TAILED HAWK.....		o	u	o
1	*MARSH HAWK.....		o	u	o
—	*PRAIRIE FALCON.....		u	u	o
—	*AMERICAN KESTREL.....		u	u	o
—	AMERICAN COOT.....				u
2	*KILLDEER.....		o	u	u
—	MARBLED GODWIT.....		o		o
—	WILSON'S PHALAROPE.....		o		o
3,400	*CALIFORNIA GULL.....		a	c	
1	HEERMANN'S GULL.....		u		
2	*CASPIAN TERN.....		o	u	o
—	MOURNING DOVE.....		o	o	o
—	BARN OWL.....		o	o	o
—	RUFIOUS HUMMINGBIRD.....		o	o	o
9	*SAY'S PHOEBE.....		o	u	o
—	*COMMON RAVEN.....		u	u	o
2	CANYON WREN.....		o		
—	ROCK WREN.....		c	c	c
—	MOUNTAIN BLUEBIRD.....				o
—	LOGGERHEAD SHRIKE.....		o		o
—	YELLOW-RUMPED WARBLER.....				
—	(AUDUBON).....		o		o
—	WESTERN MEADOWLARK.....			o	
—	HOUSE FINCH.....		u	o	c
—	SAVANNAH SPARROW.....				o
—	DARK-EYED JUNCO.....				o
—	WHITE-CROWNED SPARROW.....		c	o	a
—	SONG SPARROW.....			o	o

The only known mammal occurring on Anaho Island is the deer mouse, (*Peromyscus maniculatus*), and is quite common. This species is probably the primary food source for the island's rattlesnake population. There may be bats present on the island, but species and occurrence rate are not known.

REPTILES AND AMPHIBIANS OF ANAHO ISLAND

This tentative list of reptiles was compiled from W. Verne Woodbury's Master's Thesis, *The History and Present Status of the Biota of Anaho Island, Pyramid Lake, Nevada* completed in 1966. Species names and taxonomic order follow Robert Stebbins' *A Field Guide to Western Reptiles and Amphibians*, 1966.

LIZARDS

- Zebra-tailed Lizard (*Callisaurus draconoides*).
common
- Desert Spiny Lizard (*Sceloporus magister*).
common
- Northern Side-blotched Lizard (*Uta stansburiana stansburiana*). uncommon
- Northern Desert Horned Lizard (*Phrynosoma platyrhinos platyrhinos*). rare
- Western Whiptail (*Cnemidophorus tigris tigris*). abundant

SNAKES

- Desert Striped Whipsnake (*Masticophis lateralis*). uncommon
- Gopher Snake (*Pituophis melanoleucus*). uncommon
- Western Garter Snake (*Thamnophis elegans*). uncommon
- Great Basin Rattlesnake (*Crotalus viridis lutosus*). common



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Stillwater Wildlife Management Area
P.O. Box 1236
Fallon, Nevada 89406

October 5, 1980

William Crutcher
Pyramid Lake Tribal Council
Nixon, NV 89424

Dear Bill:

We are entering in our records for CY 1980 the following data for Anaho Island:

<u>Species</u>	<u>Peak Population</u>	<u>Production</u>
White Pelican	4,000	1,370
Double-Crested Cormorant	2,500	2,000
Great Blue Heron	80	30
Black-Crowned Night Heron	25	--
Snowy Egret	5	--
Western Grebe	60	--
Caspian Tern	1	--
Kill Deer	15	--
California Gull	3,400	750

As I indicated earlier, production was very early this year, thus, it is difficult to compare with past years. There may have been a slight decline in pelican production. Cormorant nesting is up. Gulls continue to increase. We probably missed some nesting of herons and egrets.

Next year we plan to visit in May, June and July, plus some aerial photography in June.

Best wishes,

Morris LeFever, Refuge Manager

cc: Pyramid Lake Tribal Enterprises



Save Energy and You Serve America!