

Regional office copy

*Narrative  
Report*

SALTON SEA NATIONAL WILDLIFE REFUGE  
SUMMARY NARRATIVE  
July 1 - December 31, 1975

Salton Sea summer temperatures need no elaboration. Only a high of 115° was recorded during the period. The lowest temperature recorded was 32° in December. Precipitation for the six months was below normal with only 0.49 inches recorded.

In July, the Salton Sea elevation was at -229.60 and by December the level had gone down to -230.25. Unfortunately, it was still one foot higher than the previous year with the outlook for an increasing level rather than decreasing.

To keep up with the rising level of the Sea, material was hauled onto the Sea dikes around tracts 7-14, 6, 3, and 1-2, Unit II, during November and December. This is going to be an annual maintenance project to stay above the rising water.

On December 3, one juvenile Aleutian Canada goose was killed on the refuge public hunting area. The area was closed to Canada goose hunting until the regular State-Federal public hunting area closure on December 21 took effect. The other five Aleutians remained on the refuge for several days and then disappeared. We learned later that most of this family group were harvested in Mexico.

A single Tule white-fronted goose was in Unit I from November 13 thru November 30, staying in the marsh units with lesser snow geese.

An American peregrine falcon was seen on the refuge on July 14 and again on August 23.

About 300 wood storks were present on July 2. The last sighting was of a single bird on October 12.

An exceptionally early fall migrant Mountain plover was in Unit I on August 25.

Unusual occurrences or sightings of other migratory birds were as follows: one male European wigeon was in Unit I on December 22; a male wood duck was in the same area on November 15; and about 5-10 oldsquaws were in Unit II on November 22!

The first Arctic loons recorded for Imperial County were seen on the Christmas Bird Count on December 22. Two birds were at Ramer Lake south of Calipatria.

Only two American flamingos were present at the end of the year.

From August 14 to September 15 a total of ten ruddy turnstones were present at the south end of the Salton Sea. A semipalmated sandpiper in Unit I on August 23 was the first fall record for Southern California. An immature Sabine's gull at the north end of the Sea on September 15-26 was most unusual. Black skimmers successfully nested at the north and south ends of the Salton Sea.

A whip-poor-will in the headquarters on August 23 was the first interior record of a migrant in California. It is also a new species for the refuge birdlist.

Only eleven common crows wintered here. They were present from early November until late winter.

The following are total use days, by category, for the reporting period: 36,320 endangered/threatened species use days; 4,699,080 waterfowl use days; 538,500 coot use days; 816,505 marsh and water bird use days; 2,058,325 shorebirds, gulls, terns etc., use days; and 7,190 raptorial bird use days.

The annual National Coyote Survey routes were run September 12-16. The number of coyote visits per line was slightly higher this year than for 1974.

Public use during the July - December 1975 period totaled 32,715 visits and 98,858 activity hours.

Of the above total, 808 hunters spent 5,800 activity hours on the public hunting area. They bagged 2,045 birds for a 2.53 birds/hunter average. The total kill included 1,230 ducks; 766 geese, mostly snow geese; and 49 coots.

During December gizzards were collected from ducks taken on the public hunting areas in the Valley. A total of 109 gizzards were collected and sent to the California Department of Fish and Game Laboratory in Sacramento. Only three gizzards had lead shot for a 2.8 percent occurrence of ingested shot.

The lost time accident record stood at 5,994 days by the end of the year.

Review and Approvals

<u>Stephens, Vels 3/14/77</u>			
Submitted by	Date	Area Office	Date

<u>Salton Sea NWR.</u>		<u>Edward J Smith 3-18-77</u>	
Refuge		Regional Office	Date

**SALTON SEA NATIONAL WILDLIFE REFUGE**

**NARRATIVE REPORT**

**FY 1975**

**Department of the Interior  
U.S. Fish & Wildlife Service  
Calipatria, California**

---

FY 1975  
NARRATIVE REPORT  
SALTON SEA NATIONAL WILDLIFE REFUGE

PERSONNEL

Stephen R. Vehrs	Refuge Manager
Don V. Tiller	Assistant Refuge Manager
Judy Fischer	Administrative Clerk
Jose Barros	Engineering Equipment Operator Leader
Lawrence L. Laizure	Engineering Equipment Mechanic
Raymond Ybarra	Engineering Equipment Operator
Nestor B. Gonzales	Engineering Equipment Operator
Richard Marquez	Maintenanceman
Marcos C. Orozco	Maintenanceman

# C O N T E N T S

	<u>Page</u> <u>No.</u>
I. GENERAL	
A. Weather.....	1
B. Habitat Conditions.....	1
1. Water.....	1
2. Food and Cover.....	1
II. WILDLIFE	
A. Migratory Birds.....	2
1. Waterfowl.....	2
a. Waterfowl Depredation.....	2
b. Ducks.....	2
c. Geese.....	2
d. Swans.....	4
e. Coots.....	4
2. Waterbirds.....	4
3. Shorebirds, Gulls, Terns, and Allied Species..	9
4. Doves, Pigeons, etc.....	10
B. Upland Game Birds.....	10
C. Big Game.....	10
D. Fur Animals, Predators, Rodents & Other Mammals..	10
E. Hawks, Eagles, Owls, Crows, etc.....	10
F. Other Birds.....	11
G. Fish.....	11
H. Reptiles and Amphibians.....	12
I. Disease.....	12
III. REFUGE DEVELOPMENT AND MAINTENANCE	
A. Physical Development and Maintenance.....	12
B. Plantings.....	13
1. Aquatics and Marsh Plants.....	13
2. Trees and Shrubs.....	13
3. Upland Herbaceous Plants.....	13
4. Cultivated Crops.....	13
C. Collections and Receipts.....	13
1. Seeds and other Propagules.....	13
2. Specimens.....	14
D. Control of Vegetation.....	14
E. Planned Burnings.....	14
IV. RESOURCE MANAGEMENT	

V.	FIELD INVESTIGATION OR APPLIED RESEARCH	
	A. Banding.....	14
	B. Ecological Monitoring.....	15
	C. Other Cooperative Programs.....	16
	D. Studies and Publications.....	16
VI.	PUBLIC RELATIONS	
	A. Recreational Uses.....	16
	B. Refuge Visitors.....	16
	C. Refuge Participation.....	17
	D. Hunting.....	17
	E. Violations.....	17
	F. SAFETY.....	17
VII.	OTHER ITEMS	
	A. Items of Interest.....	17
	B. Photographs.....	19
	C. Credits.....	19

## ANNUAL NARRATIVE REPORT

July 1, 1974 - June 30, 1975

### I. GENERAL

#### A. WEATHER

The weather for this desert refuge was about normal. The highest recorded temperature for the year was 112° which occurred during July and August. The summer months were "cooler" than expected. The lowest recorded temperature was 26° during February.

Total precipitation for the year was 1.65 inches, again well below the annual average of 2.77 inches. December was the wettest month with 0.70 inches of rain.

#### B. HABITAT CONDITIONS

##### 1. Water

The Salton Sea level in July was -230.20 feet and by November and December had reached its lowest level at -230.75 feet. By March 1975 it had reached an all time high level of 229.30 feet. Refuge shoreline units suffered flooding and habitat deterioration. Sinclair and Severe county roads were flooded during this time.

The 912 acres of bulrush impoundments required a total of 5,587.2 acre-feet of water, 590.2 acre feet purchased and 4,997.0 acre-feet free.

Ryegrass pastures required 132.8 acre-feet of purchased water. Alfalfa and ryegrass-barley pastures and the milo, wheat, and barley crops under the cooperative farming permits required 1,488.8 acre-feet of water. The cost of the water is assumed by the cooperators under the special use permit conditions.

##### 2. Food and Cover

The bulrush-millet impoundments had abundant feed for fall migratory waterfowl. Due to the low numbers of snow geese, cattail patches were under-utilized during the fall-winter period.

Alfalfa pastures in the Union and 1-2 tracts were heavily utilized by snow and Canada geese. Ryegrass-barley fields in the Hazard, 3, and C tracts were also fed off by the geese.

During the month of February, the refuge fed 255 tons of grain to waterfowl under the supplemental grain feeding program. A total of 109 tons of milo and 146 tons of barley was fed. The feeding began January 31 and ended on March 1, 1975. By the first week of February 110,000 pintail and 3,500 geese had congregated on and around the feeding site.

## II. WILDLIFE

### A. MIGRATORY BIRDS

#### 1. Waterfowl

##### a. Waterfowl Depredation

There were fewer depredation complaints than normal this year. Only ten permits were issued for the herding of ducks and geese. Two permits were issued for gull depredations. For the first time in the Valley a permit was issued to herd sandhill cranes off of wheat and sugarbeet fields.

##### b. Ducks

Unusual duck sightings or occurrences were as follows. One male greater scaup was at the south end of the Salton Sea (SESS) on December 21, 1975.

On February 10 the first migrant fulvous tree ducks (15) were seen. Fewer than the normal amount of tree ducks were present during spring and summer of 1975.

A hooded merganser was at SESS on January 25.

A single white-winged scoter seen at the SESS on May 11 was the only individual seen during the year.

The only spring record of blue-winged teal was that of a single male seen on May 30.

##### c. Geese

The first fall migrant lesser snow geese arrived in Unit I on October 19, 1974. A peak population of 9,000 snows was drastically low from previous years totals. The frightening aspect was that less than one percent were juvenile birds! This was the end result of poor reproduction success for the last several years by snow geese in the Arctic.



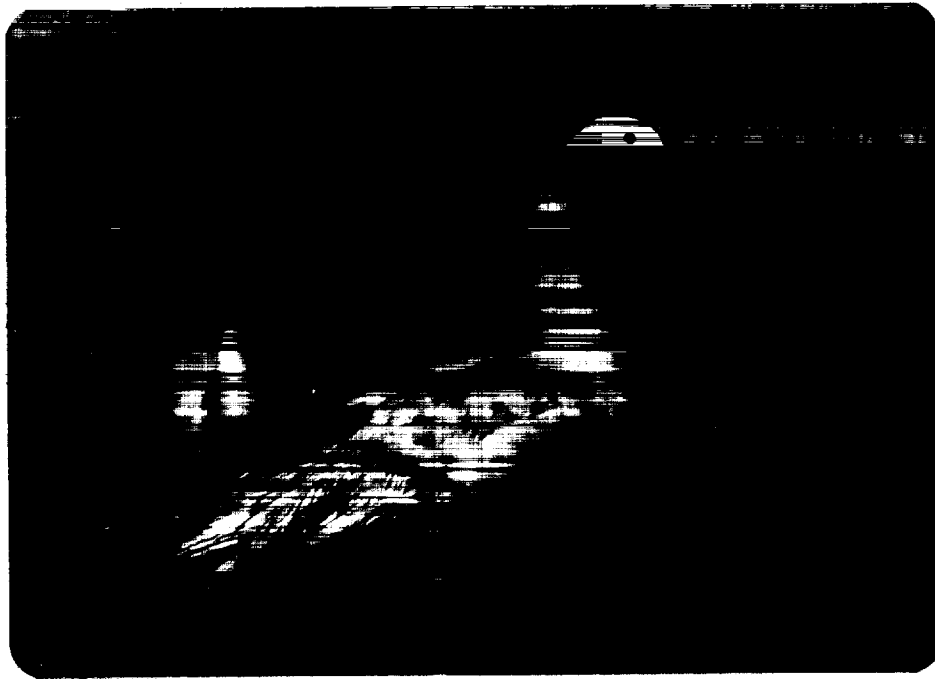
Up to a total of five Russian, pink-dyed snow geese were seen in Unit I. These are birds that were banded and dyed on Wrangel Island. One bird was killed on November 27 on a duck club near Unit I.

Many of the snow geese marked with green neck collars by Utah and Salton Sea NWR were sighted during the fall-winter period. These birds were marked in conjunction with the USSR for a cooperative environmental research program.

As usual we had a few of the "blue geese" winter on the refuge. A total of four birds were present this year.

The first fall migrant Great Basin Canada geese appeared on October 23, when thirteen birds were seen in Unit II.

An imperfect, albino Canada goose was captured on February 4 during our banding operation. This is the second year this bird has wintered at Salton Sea.



On March 8, a total of six cackling Canada geese were seen with other geese in the ryegrass pastures.

The first spring migrant white-fronted geese had returned to Salton Sea by January 8. Seven birds were seen on that date.

Spring migrant black brant appeared early when one was at the north end of the Salton Sea (NESS) on March 26, 1975. One was seen at SESS on April 13 and four more there on May 6. One bird remained all summer.

d. Swans

No whistling swans were reported again this year in the Imperial Valley.

e. Coots

Nothing unusual to report.

2. Waterbirds

Unusual sightings or data on waterbirds were as follows.

During the fall period only one common loon was observed on November 2. During the spring migration up to 12 birds were seen on the Sea from April 6 through May 11, 1975.

A breeding plumaged horned grebe, rare at any time of the year, was observed at NESS on April 26.

On August 28 a total of 17 California brown pelicans, all immature were at SESS. By October 19 only four birds were still on the Refuge. Fifteen hundred white pelicans were seen on the same day heading south.

The only booby species seen all year was a brown booby at NESS from August 24 through September 2, 1974. This booby species is the rarest to visit our area during the summer months.

One immature magnificent frigatebird was at NESS on August 11 and seen on the west side on September 2, 1974.

One adult little blue heron could be seen around Rock Hill during the period of December 7, 1974 through February 8, 1975. This is only the fourth record for Salton Sea.

A single Louisiana heron was at NESS on April 26, 1975.

The wood stork peak population was lower than last year with only 370 birds present on August 28. By September 26, only 91 birds could be found and these left our area shortly thereafter. Storks returned to the Valley on June 25, 1975 when 35 birds were seen around the Alamo River.

The refuge population of American Flamingos jumped from 5 to 6 on July 18, 1974. Four pink and two lighter colored birds were seen. It was only a matter of time until they were shot during the waterfowl hunting season even though they had survived several seasons past. So, when the season opened October 19 it was no surprise when the two lighter colored birds were shot and killed. But the acme of absurdity came on November 11, 1974, when three "hunters?" shot, killed, and took home three pink "geese". The lone flamingo remained around the Sea into the summer months. The sad note is that no violators were apprehended for either shooting.

A high of 82 greater sandhill cranes were at their usual wintering location, southeast of Brawley, on December 4. The first arrivals were seen on October 3 when 32 birds were counted.

Endangered Yuma clapper rails were censused on May 29-30, 1975. The following table compares the 1974 and 1975 surveys. The census is done with the use of a tape played at various locations in suitable rail habitat.

Location (ownership)	1974 Clapper Rails	1975 Clapper Rails	Per Centage of Available Habitat Censused in 1975
Wister Unit Total (State)	86	11	20
Fields Y16 C and D	41	9	20
Field 115 C	5	0	0
Field 312 D	1	0	0
Field W12	2	0	0
Marsh Area West of 513	37	2	0
Finney Lake (State)	4	3	75
Hunter Pond (State)	1	0	50
Culver Pond (State)	?	0	25
Alamo River Delta (IID)*	15	0	0
New River Delta (IID)	16	0	0
Salton Sea NWR (Federal)	12	10	90

\* Imperial Irrigation District

WILDLIFE AREA

WISTER UNIT

HEADQUARTERS

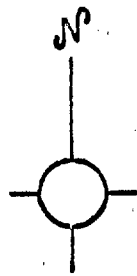
CHECK STATION

3 1/2 Mi. To Niland →

HAZARD UNIT

OLD HEADQUARTERS

K LATERAL TO Hwy 111 →



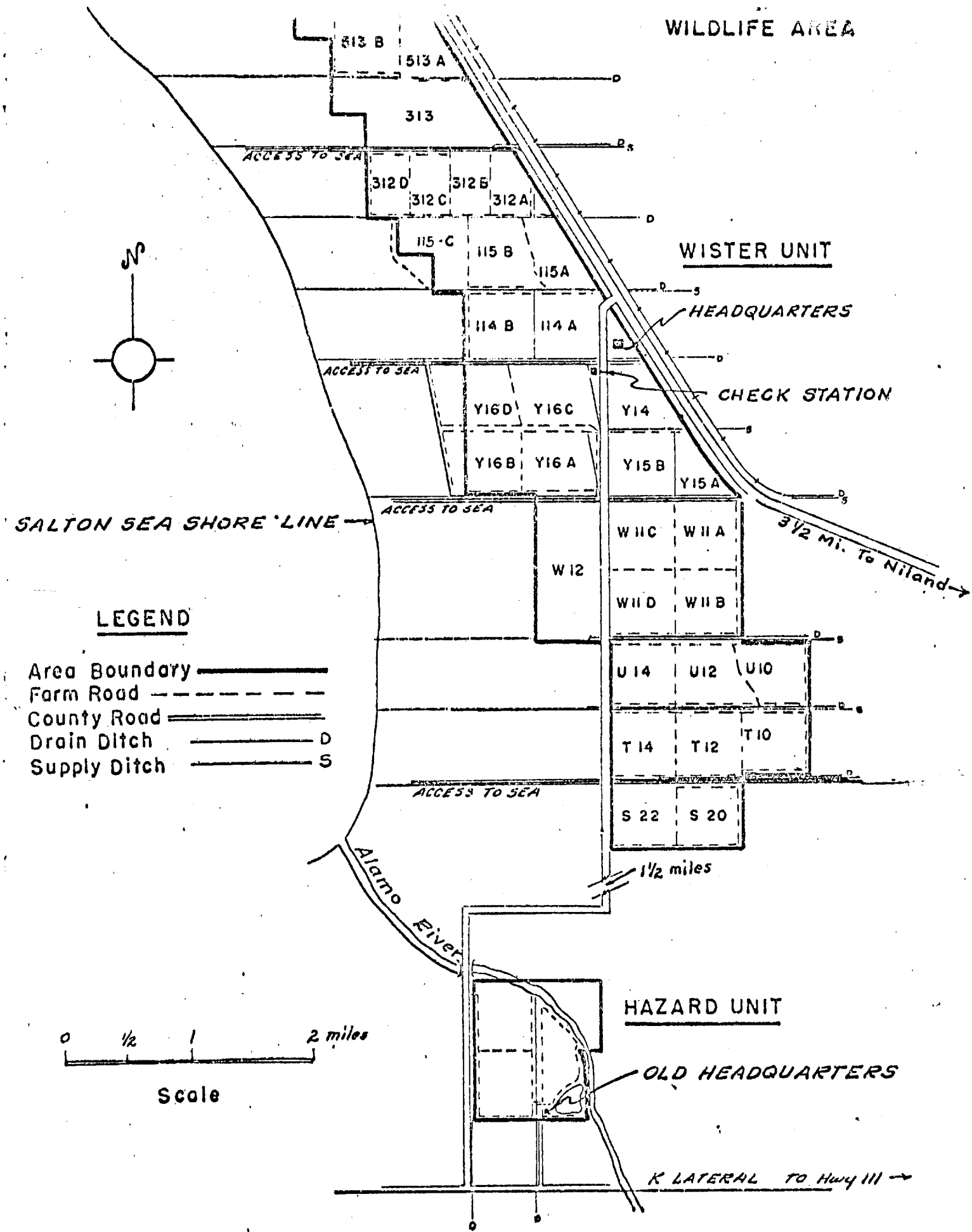
SALTON SEA SHORE LINE

**LEGEND**

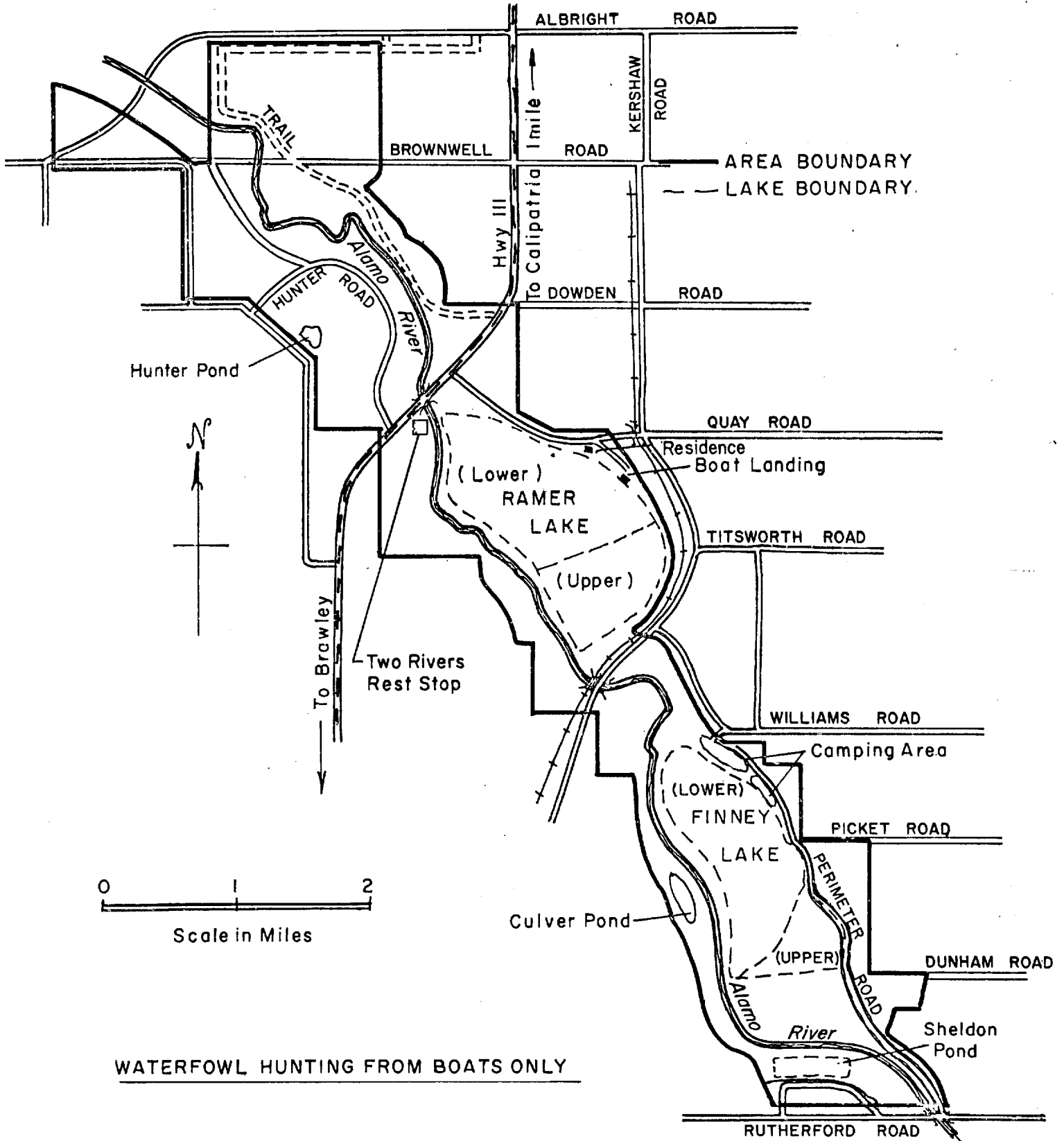
- Area Boundary —————
- Farm Road - - - - -
- County Road = = = = =
- Drain Ditch ————— D
- Supply Ditch ————— S



Scale



# FINNEY - RAMER UNIT IMPERIAL WILDLIFE AREA





## GENERAL INFORMATION

1. Hunters using Federal hunting areas must have one-day permits. Permits are issued by California Game Department at the Wister Check Station. Fee is \$3.50 for adults, no charge for junior hunters.
2. Hunting days shall be Wednesday, Saturday and Sunday. (Any exception will be published by California Department of Fish and Game.)
3. Loaded guns are not allowed in the parking areas.
4. No firearms, other than shotguns, may be discharged on the area.
5. Camping is allowed only in the designated parking areas.
6. Please keep the parking areas clean.
7. All blind materials must be removed from goose fields at the close of the hunt.
8. Please do not drive on roads posted "Closed to Vehicles".
9. All refuge visitors are requested to obey the closed area signs.
10. Dogs must be kept under control at all times.

Information available from:

Salton Sea National Wildlife Refuge  
P. O. Box 247, Calipatria, California 92233  
Telephone: 714-348-2323

Wister Waterfowl Management Area  
Niland, California 92257  
Telephone: 714-348-2955

Some areas censused in 1974 were not surveyed this year due to weather conditions and manpower shortage. No boat time was logged thus the delta areas were not covered.

A very rare sighting was that of a single California black rail flushed from the marshes of Unit I on February 9, 1975.

### 3. Shorebirds, Gulls, Terns, and Allied Species

Unusual sightings or occurrences were as follows.

No ruddy turnstones were seen in the fall but four birds were at NESS on April 26.

Two red knots were seen August 17 during fall migration and six were seen on May 6 during the spring migration.

On August 17 a rufous-necked sandpiper was seen at the Alamo River. It is the second record for California but only the third in North America outside Alaska.

One semipalmated sandpiper was seen May 4 and another on May 12, 1975. All but one of the thirteen spring records for California are for the Salton Sea.

A dunlin on August 17 in Unit I was an exceptionally early fall migrant.

Six sanderlings were observed during spring migration April 13 through May 4, 1975.

Four Wilson's phalarope at SESS during February were unusual since the species is rare anywhere in California in winter. Early spring migrants were observed on March 29, 1975 at SESS.

An immature glaucous-winged gull was seen at SESS on December 14 and January 25.

Yellow-legged western gulls from the gulf of California peaked at 100 birds on September 5.

One immature Thayer's gull was present between December 15 and January 25. Another individual was at NESS from April 13 through 26, possibly the same bird.

Laughing gulls peaked at 170 birds on August 28 and one was still present on November 28.



One adult Franklin's gull was at NESS between April 25 and May 31. Single immature Heerman's gulls were seen at SESS on August 17 and 28 and on November 2. One immature Sabine's gull was at NESS on September 19.

Gull-billed terns peaked at 50 birds on August 24. Nesting occurred but available nest sites are more difficult for the birds to find due to flooding of habitat. Two birds were still present on September 12. The first spring migrant gull-billed tern was seen on March 21, 1975, flying over refuge headquarters.

Several adult common terns were at NESS on May 31. A single endangered California least tern was at NESS on August 17. Early spring migrant black terns were seen near Unit I on April 22.

Black skimmers again nested in what available sites they were fortunate to find. A maximum of 21 birds were present on August 24. Skimmers stayed longer than usual in our area; two adults were still present on November 17.

#### 4. Doves, Pigeons, etc.

A band-tailed pigeon in the headquarters area on August 12 and 13 is the third record for the Imperial Valley. It may be the same bird that visited refuge headquarters on May 9, 1974. In any case it is still way outside its usual habitat and range.

#### B. UPLAND GAME BIRDS

Nothing unusual to report.

#### C. BIG GAME

None.

#### D. FUR ANIMALS, PREDATORS, RODENTS, & OTHER MAMMALS

Most mammal populations appeared to be normal.

#### E. HAWKS, EAGLES, OWLS, CROWS, ETC.

Two white-tailed kites seen near Brawley on November 28-30 was the first record for Imperial County. One was still around on January 25.

Another red-shouldered hawk was at NESS on October 12. One was there last year about the same time.

Rough-legged hawks are becoming regular winter visitors. One bird was at SESS November 28. One light and one dark phased bird wintered in Unit I from December 15 through April 2.

Only one immature bald eagle was seen during the year. It was seen several times in Unit I during November.

One common crow was observed flying over headquarters on November 15. Two days later 31 birds were near Unit II. A total of 37 birds wintered in our area, usually roosting at the New River. By February 24 only 14 birds were still present. The last sighting was of one bird on March 4 near refuge headquarters.

#### F. OTHER BIRDS

A road killed poor-will found near Calipatria on November 3 was the first reported for the area in many years.

Two bank swallows were at SESS on December 28.

Rough-winged swallows were seen during the winter and appear to be wintering in southeastern California.

A single purple martin was seen at NESS on April 13 and one was at SESS on May 3.

A curve-billed thrasher near Brawley on November 28 is only the sixth record for the Imperial Valley. One record is of a bird at refuge headquarters on November 1, 1964, all others are of birds seen or collected along the Colorado River.

A Lucy's warbler was near Unit I on September 28.

Great-tailed grackles were around most of the winter. A male was seen October 23 and a female December 7 near Red Hill Marina. One was at nearby Ramer Lake on February 28. Two females were in the refuge headquarters area during April and May. Five pairs were on nesting territories at Finney Lake on May 11, 1975.

A single black-chinned sparrow was at SESS on August 13. There are very few records for Imperial County.

A Cassin's kingbird was at SESS on February 28. There are only a few records of this species in our area.

Barn swallows again nested in Unit I for the second year in a row. Swallows were observed applying mud to the nest on May 19, 1975.

#### G. FISH

Nothing unusual to report.

## H. REPTILES AND AMPHIBIANS

On March 7, 1975, over one hundred soft-shelled turtles were found dead in a drainage canal that runs through the Union tract (14), Unit II. It was a pesticide poisoning confirmed by the California Department of Fish & Game. The pesticide originated farther south in the Valley.

## I. DISEASE

An outbreak of botulism occurred at the north end of the Salton Sea late in September. Most of the birds were waterfowl. It centered around one duck club and the Sea shoreline area. About four hundred birds died before the disease terminated in Mid-October.

At about the same time an outbreak of botulism occurred at the south end of the Salton Sea along the refuge shoreline of tracts 9-10, 3, 4, and 5 in Unit I. About two hundred ducks died and a few shorebirds. By the end of October it had ceased to be a problem.

On January 27, 1975 about two hundred eared grebes were found around the Sea shoreline near Salton City. A red tide outbreak was suspected but not confirmed.

## III. REFUGE DEVELOPMENT AND MAINTENANCE

### A. PHYSICAL DEVELOPMENT AND MAINTENANCE

No major development projects were funded this year, however, the continuation of soil quality improvement projects were in effect in tract C. This 160 acre tract was leveled into a flat field from leaching ponds. A 2,548 foot concrete irrigation ditch was installed through contract with the Imperial Irrigation District, along the south border of the field to provide for 47 water outlets into the field. After completion, the field was turned over to our cooperative farmer for cropping summer milo and winter ryegrass.

Sea diking was continued east of Rock Hill for 1 3/4 miles. This diking is required due to the rising level of the Salton Sea which continues to threaten our existing marsh units. This project continues using draglines, carry-all scrapers, and a dump truck. Rip-rap will eventually be placed to check wind-water erosion.

## B. PLANTINGS

### 1. Aquatics and Marsh Plants

A total of 912 acres of refuge lands were managed for the production of alkali bulrush. This year we again totally volunteered the crop by maintaining water levels in various units until Mid-June, at which time the ponds were drained for the hot summer months. By utilizing as much free water as possible and reducing paid water during the high evaporation months we were able to reduce water costs and increase the quantity and quality of bulrush stands.

A special effort was made this year to eliminate salt cedar invasion on the water control dikes within the marshes. This growth provided early mourning dove nesting sites, however reduces waterfowl use in the marsh if uncontrolled. Mechanical control was effective and will be continued to maintain a desirable balance.

### 2. Trees and Shrubs

Nothing to report.

### 3. Upland Herbaceous Plants

Nothing to report.

### 4. Cultivated Crops.

Our cooperative farming agreements remained in affect and double cropping was successful on all farm fields.

The refuge share consists of all green browse available during the winter and 25 percent of the grain which is harvested by the cooperators during the summer. The grain was delivered to our storage by the cooperator for winter supplemental waterfowl feeding.

Green browse crops were 90 percent consumed during the winter period by grazing snow and Canada geese as well as wigeon and pintail ducks.

Alfalfa production continues to be the key to successful depredation control by browsing geese. At the present time we do not have alfalfa in Unit I. Future crop rotations will include approximately 160 acres of alfalfa on either the Johnson fields or tract C.

## C. COLLECTIONS AND RECEIPTS

### 1. Seeds and other Propagules

Approximately 2,400 pounds of annual ryegrass was purchased from Vogel's Feed and Seed in Brawley.

In July 1974, we received 146 tons of barley grain from Merced Refuge to supplement our refuge grown grain for waterfowl depredation feeding during February.

## 2. Specimens

The following birds were salvaged and donated to colleges and universities: 9 marsh and water birds; 33 waterfowl; 2 gallinaceous birds; 8 shorebirds, gulls, and terns; 3 doves, 1 owl; 1 road-runner and 4 passeriformes.

## D. CONTROL OF VEGETATION

Vegetation control consisted of discing salt cedar on borders, roads, and canal banks. Burning was used to control rank growth of cattail on approximately 100 acres in Unit I.

## E. PLANNED BURNINGS

Reported above.

## IV. RESOURCE MANAGEMENT

Nothing to report.

## V. FIELD INVESTIGATION OR APPLIED RESEARCH

### A. BANDING

In February 1974, the refuge color marked the first lesser snow goose for the U.S./ U.S.S.R. Cooperative Environmental Agreement, Project B-8. This year in February 1975 we continued with the plastic neck collar marking of lesser snows. A total of 150 birds were marked. Our goal is to have 200 birds marked from this locality.

Other birds banded during the year were 2 California Brown pelicans, 3 Canada geese (1 albino), 650 pintail, 11 green-winged teal, 2 cinnamon teal, 20 American wigeon, 2 ground doves, and 5 yellow-headed blackbirds.

Refuge personnel again assisted a research student in banding and color marking cattle egrets in the New River heronry. The refuge also banded 62 snowy egrets during this time.

Refuge personnel also cooperated with the Western Bird Banding Associations Cooperative Banding Project - White-crowned Sparrows. A total of 110 white-crowned sparrows was banded, aged, weighed, and measured for this project.

#### B. ECOLOGICAL MONITORING

Refuge personnel completed or participated in the following ecological monitoring programs.

California Fish & Game Shorebird Survey - This completes the refuges involvement in this study. The objectives were to compile data on shorebirds in California in relation to changing environmental conditions.

North American Nest Record Card Program - Every summer data is taken on nesting birds and recorded for Cornell Universitys Laboratory of Ornithology.

Wildlife Services Annual Coyote Census - Line #28 (Coachella canal) was censused from September 9-14 and Line #29 (West Side Main) was censused from September 10-15. Each line was run five consecutive nights.

Cooperative Annual California Condor Survey - Refuge personnel participated during the survey held on October 16-18.

Annual Audubon Christmas Birdcount - The annual count was held on December 21 this year. A total of 61 party hours tallied 143 species (6 additional races) and about 134,425 individuals.

ADC's Nationwide Blackbird-Starling Winter Roost Survey - Refuge personnel censused three blackbird roosts in our area on January 12, 19, and 20.

USF&W Annual Breeding Bird Surveys - The Glamis route was completed on May 23 and the Brawley route on June 1, 1975. The following table compares the routes for the last five years.

Route	<u>TOTAL SPECIES</u>				
	1971	1972	1973	1974	1975
Brawley	18	22	22	21	25
Glamis	not censused	13	17	22	17

Cooperative Annual Yuma Clapper Rail Census - The census was conducted on May 29 and 30.

Earthquake Research - California Institute of Technology installed an accelerograph station in refuge headquarters on February 10. The device is a self-contained, battery-powered, electronic unit that only records earthquakes in excess of 3.0 on the Richter scale.

U.S. Geological Survey Geothermal Well Monitoring - The Geological Survey drilled a shallow test well on the refuge during March 1975. The 500 foot well is equipped with extensometer and fluid-pressure recording equipment. The objective is to monitor ground-water conditions.

#### C. OTHER COOPERATIVE PROGRAMS

Refuge personnel cooperated with various Agencies and Divisions in the completion of the following programs.

Salton Sea Project - A Water Quality Control Study - This is a cooperative study by fourteen state and federal agencies concerning the salinity of the Salton Sea and its relationship on wildlife utilizing this habitat.

#### D. STUDIES AND PUBLICATIONS

One unpublished masters thesis study is still unfinished. A revised date of completion is for mid-fiscal year 1976. The San Diego State University students thesis is entitled Population Dynamics of Two Breeding Colonies of Cattle Egrets in Southern California.

### VI. PUBLIC RELATIONS

#### A. RECREATIONAL USES

Nothing unusual to report

#### B. REFUGE VISITORS

Frequent visits were made by state and federal employees throughout the year. A list of visitors is maintained in the refuge files each year.

### C. REFUGE PARTICIPATION

Refuge personnel attended various meetings and conducted many programs, talks, tours, and demonstrations throughout the year.

### D. HUNTING

This year California had a straight ninety-three day waterfowl hunting season; avoiding the mid-season split which usually causes some confusion to hunters. The season opened on October 17, 1974 and ended on January 19, 1975.

A total of 1,069 hunters bagged 1,869 waterfowl for an average of 1.75 birds per hunter on the refuge public hunting area. One reason for the lower average was that only 296 snow geese plus 91 other geese for a total of 387 geese were killed compared to last fiscal years kill of 1,333 snows and 80 other birds for a total of 1,413 total geese killed. This was due to the fact that less than one percent of the snow goose population was juvenile.

### E. VIOLATIONS

Refuge personnel apprehended 114 individuals for hunting violations during the year. We must have the trespassing problem partially solved because it only accounted for about 10% of our cases. The majority of the violations were: overlimits (8), loaded gun in vehicle (10), late shooting (16), littering (14), take non-game birds (8), no State duck stamp (7), no Federal duck stamp (14), failure to have a feathered head/wing (11), trespassing (9), powerboating (9), and others.

### F. SAFETY

Staff and SAFETY meetings were held monthly.

The Station SAFETY record as of June 30, 1975 was 5,808 days without a lost time accident.

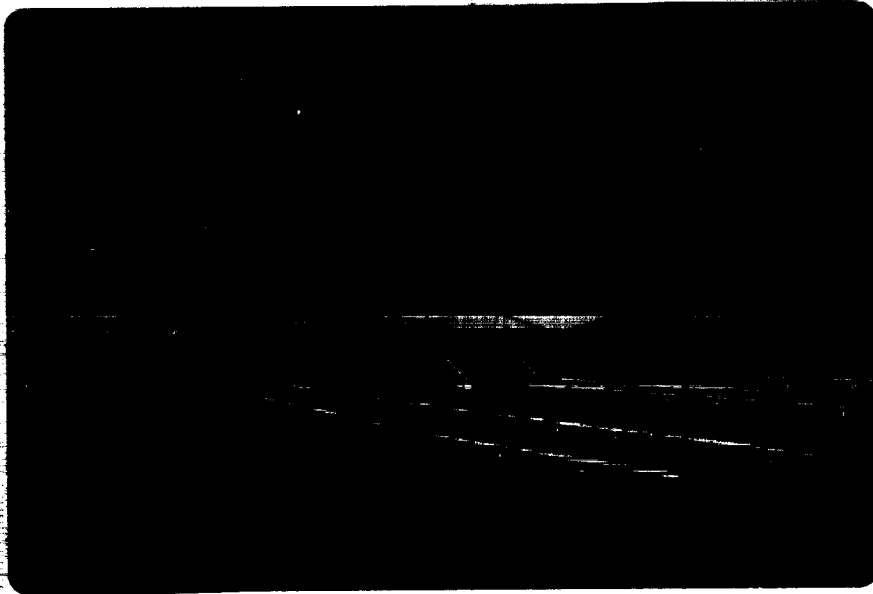
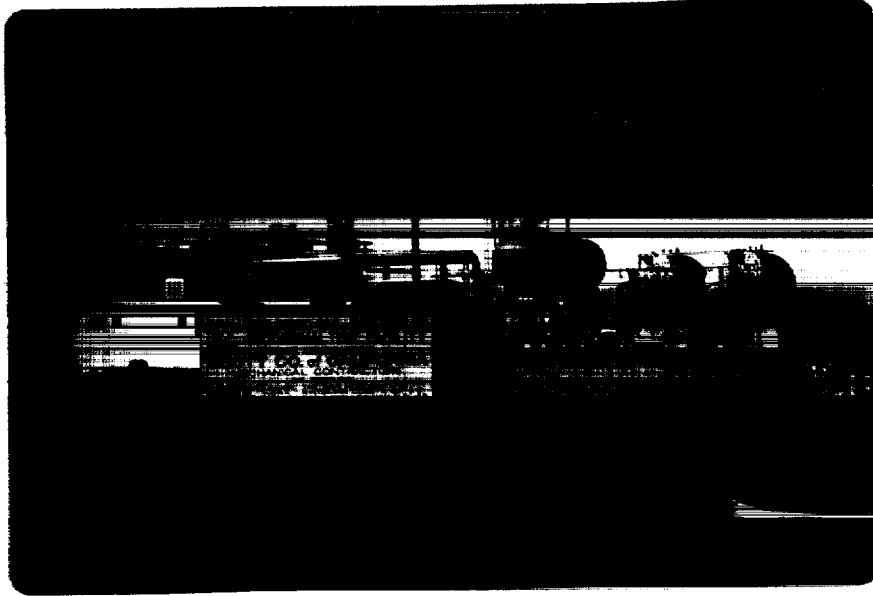
## VII. OTHER ITEMS

### A. ITEMS OF INTEREST

We seem to be experiencing more earthquakes during the year than before. Earthquakes were recorded by the Imperial Irrigation District on August 13, 1974 (4 quakes), December 6 (1), May 21, 1975 (1), June 17 (1), June 19 (3), June 20 (2), and June 21 (1).



San Diego Gas and Electric Company and Magma Energy Incorporated expanded their geothermal test facility during the year. The test site is located one mile south of refuge headquarters.





The brine water is reinjected into another well site about  $3/4$  mile northwest of the test facility. This fluid is piped to the injection well. The valve was leaking and saline water spilling into the well site along McKendry Road just south of the refuge boundary.

A sum of \$3,423.43 based on  $3/4$  of one percent of acquisition cost due annually was presented to Imperial County by the Refuge Manager in January 1975.

B. PHOTOGRAPHS

All the photographs in this report were taken by Assistant Manager Tiller.

C. CREDITS

Refuge Manager: Sections III, VII

Assistant Manager: Sections I, II, IV, V, VI, VII

Mrs. Fischer typed and assembled the report.

SIGNATURE PAGE

Submitted by:

Stephen P. Veho  
(Signature)

Refuge Manager  
(Title)

Date: February 26, 1976

Approved, Regional Office:

Date: \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)