

BROWNS PARK NATIONAL WILDLIFE REFUGE

Maybell, Colorado

ANNUAL NARRATIVE REPORT

Calendar Year 1977

NATIONAL WILDLIFE REFUGE SYSTEM  
Fish and Wildlife Service  
U. S. DEPARTMENT OF THE INTERIOR

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Personnel

1. Herbert G. Troester, GS-11, PFT... . . . . Refuge Manager
2. James A. Creasy, GS-9, PFT . . . . . Refuge Manager
3. Gerald L. Deutscher, GS-5, PFT . . . . Assistant Refuge Manager  
(EOD 2/14/77)
4. Norma A. Wardle, GS-5, PFT . . . . . Clerk  
(Also Clerk for Ouray N.W.R.)
5. James L. Sellers, WG-3, Career-Seasonal. . . . . Laborer  
(EOD 10/9/77)
6. James B. Goodman. . . . . Heavy Equipment Operator  
(EOD 1/30/77, Terminated 3/25/77 - Temporary)

(Herbert Troester was Project Leader at Ouray and Browns Park until May 23, 1977 when the refuges were separated and Jim Creasy put in charge at Browns Park.)

(Staff photos on next page.)

Review and Approvals

<u>James A. Creasy</u>	<u>Mitchell G. Sheldon</u>	<u>23 Oct 78</u>
Submitted by	Date	Area Office mgr. (RW)
<u>Browns Park N.W.R.</u>	<u>Gerald J. Wilson</u>	<u>6/9/78</u>
Refuge	Regional Office	Date
<u>Vernal, Utah</u>		
Complex Office		

STAFF PHOTOS



L to R: Sellers, Deutscher, Creasy

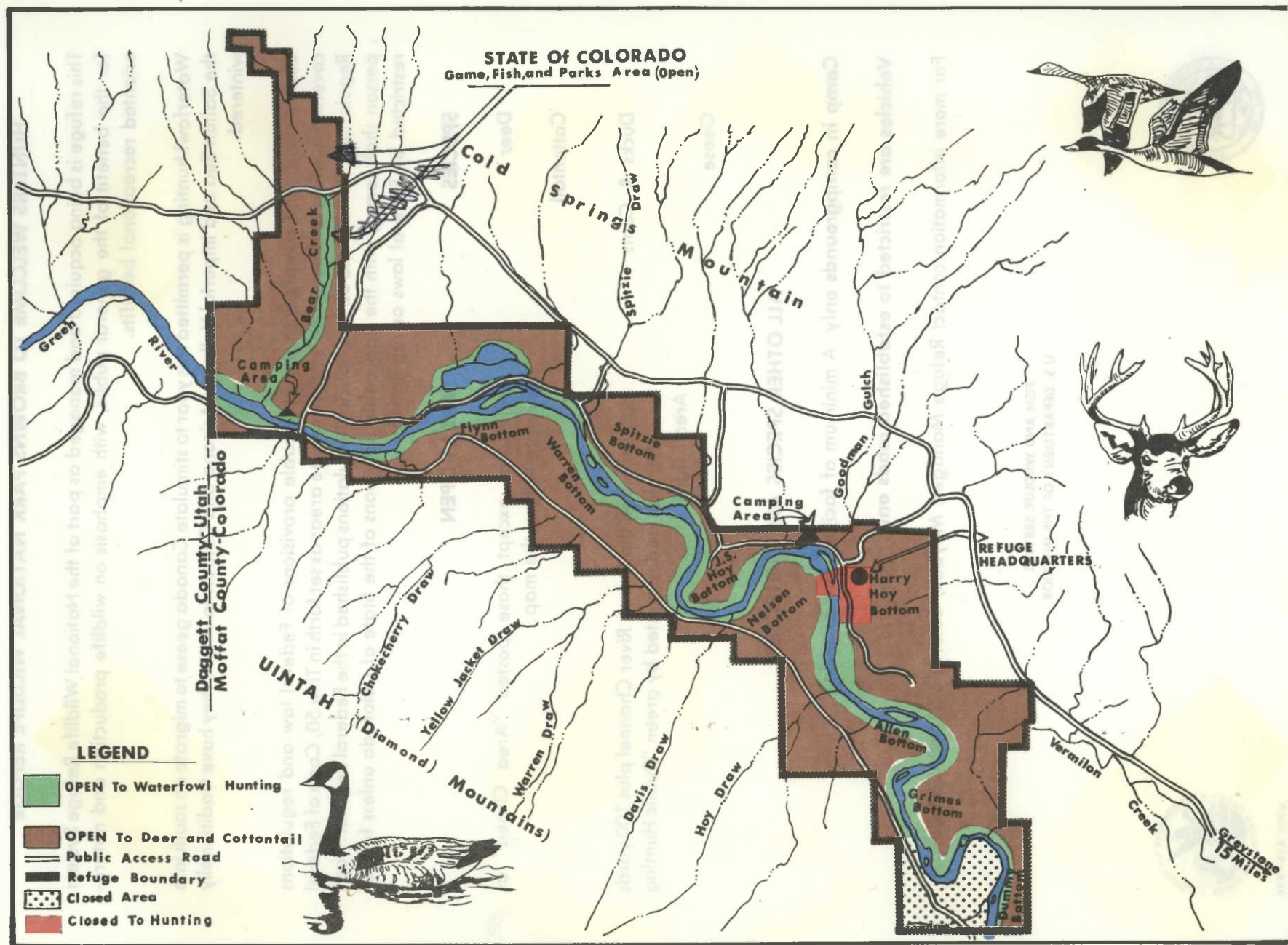


L.to R: Troester, Wardle



# BROWNS PARK NATIONAL WILDLIFE REFUGE

## MOFFAT COUNTY, COLORADO



## HUNTERS WELCOME TO BROWNS PARK NATIONAL WILDLIFE REFUGE

This refuge is being acquired and managed as part of the National Wildlife Refuge System for the benefit of the general public, with emphasis on wildlife production and nature-oriented recreational benefits.

Waterfowl hunting is permitted this year to stimulate Canada geese to migrate on south into the Salton Sea and Imperial Valley of Arizona and California where they have traditionally wintered.

Each person shall comply with the applicable provisions of Federal law and regulations covering hunting and access on wildlife refuge areas as set forth in Title 50, Code of Federal Regulations, Part 26 and 32 and Special Regulations published in the Federal Register. Each person shall comply with the applicable provisions of the State of Colorado unless further restricted by Federal laws or regulations.

### SPECIES

### AREAS OPEN

Deer

All areas except those posted "Area Closed" as designated on the map.

Cottontail

Ducks & Coots

Hog Lake and the Green River Channel plus 100 yards on either side as designated by green "Public Hunting Area" signs

Geese

### ALL OTHER SPECIES ARE PROTECTED

**Camp in campgrounds only.** A minimum of facilities are provided.

**Vehicles are restricted to established roads only.**

For more information contact Refuge Manager, Maybell, Colorado 81640 (365-3695).

FISH AND WILDLIFE SERVICE  
U.S. DEPARTMENT OF THE INTERIOR



GPO 836-886

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## I. GENERAL

### A. Introduction

Browns Park National Wildlife Refuge is located in an isolated high mountain valley in extreme northwestern Colorado. It lies astride the historic Green River, entirely within Moffat County, below Flaming Gorge Dam. It contains 13,374 acres of bottomland and adjacent benchland. The Utah-Colorado state line delineates the western boundary and to the south it shares a mutual boundary with the Dinosaur National Monument. It is 53 miles northwest of Maybell, Colorado on state highway 318, and 50 miles northeast of Vernal Utah over Diamond Mountain.

After Flaming Gorge Dam, 25 miles upriver from Browns Park, was completed seasonal flooding of the river bottoms no longer occurred. This eliminated the flooded meadowlands preferred by nesting waterfowl. Pumping from the Green River now maintains this waterfowl habitat on the refuge.

### B. Climatic and Habitat Conditions

The amount of precipitation received, 7.29 inches, was only slightly less than the nine year average of 7.74 inches. However, the times that we received the moisture was different than in past years. We received practically no moisture from September through December, 1976. The first three months of 1977 we received only 0.22 inches compared to three to four inches in past years. We did receive 1.05 inches in April and less than an inch in May and June. In July and August we received a total of 3.29 inches of rain. During September and October we measured a total of 0.76 inches of precipitation. In November we recorded 1.19 inches of precipitation, most of it (1.10 inches) in sixteen inches of snow on November 19-20. During December we received .07 inches.

The high temperature for the year was 98° recorded in July. The low for the year was minus 22° recorded on November 21. Most of the marsh areas froze over at that time.

Vegetative growth on the benchlands was practically nil. Many of the brush species such as shadscale, greasewood, four-winged saltbush, big sage and horse brush were dormant. After the rains came in July the Indian rice grass, needle and thread and other perennial grass species greened up, but did not grow enough to seed out. It was so dry that the cheat grass did not even grow, although it did green up a little in July.

Vegetative growth in the river bottoms was somewhat better than on the benches. The perennial grass species did fair, but the sweet clover did not grow enough to produce seed.

C. Land Acquisition

1. Fee Title

Realty is currently working on buying approximately 80 acres of land from J. G. Jones. This land is in the Grimes Bottom area and is an inholding on the refuge.

There are three other inholdings totaling over 1,505 acres within Browns Park National Wildlife Refuge which should be purchased. The bulk of this land is contained in two school sections (1,305 acres) located within the refuge boundaries. The USFWS currently leases this land from the State of Colorado. Mr. Lee Watson still owns an inholding of approximately 200 acres located in the Carr Bottom.

2. Easements

Not applicable.

3. Other

Nothing.

D. System Status

1. Objectives

The objectives should be reviewed and updated, but with the BLHP planning, and manpower limitations, we did not get this chore accomplished.

The work program was devoted primarily to waterfowl habitat maintenance and improvement as far as monetary and time limitations allowed. In order to maintain waterfowl habitat, six pumps were utilized to pump water from the Green River into the marsh units and for irrigation to promote DNC. We got \$20,000 to rehab Spitzie marsh, but were unable to use it all as we thought we could carry over the surplus to finish the project, but could not. With 1500 money we were able to finish the comfort station at the Swinging Bridge. The remaining 1500 money was spent on litter control on the entire refuge, picking up garbage in two campgrounds, cleaning toilets, having the vaults pumped, etc.



Our primary objective is waterfowl maintenance and production. We are striving for 308,000 goose use days, 3,700,000 duck use days and waterfowl production at 12,240. At this time we are achieving approximately thirty percent of our goal.

## 2. Funding

Base funding for the refuge will be increased for FY 78, thanks to BLHP and Cyclic Maintenance. Separating Browns Park from Ouray probably contributed somewhat to the increase in funds. Without the rehab money we received during FY 76 we would have had to cut back drastically.

<u>FY</u>	<u>Activity</u>	<u>Amount</u>	<u>Total</u>
1974	1200	\$33,000	\$36,000
	1500	3,000	
1975	1200	36,000	39,500
	1500	3,500	
1976	1210	30,000	55,950
	1220	450	
	1500	3,500	
	1210 (Rehab)	22,000	
TQ	1210	9,000	10,075
	1220	100	
	1500	975	
1977	1210	35,000	57,500
	1500	2,500	
	1210 (Rehab)	20,000	
1978	1210 (O&M)	40,000	71,400
	1210 (BLHP-O&M)	20,000	
	1210 (Cyclic Mnt.)	5,000	
	1220 (Cyclic Mnt.)	1,000	
	1240 (O&M)	1,400	
	1240 (Cyclic Mnt.)	4,000	

By doing the rehab work by force account during FY 77, we were able to make ends meet. However, because we didn't get all our rehab work done in Spitzie Marsh, we had some funds left over.

We started the year with only a Refuge Manager in residence at Browns Park. On January 30 we hired a heavy equipment operator, who was on board for two months. He spent most of his time on the Spitzie rehab project. On February 14,

a Bio-Tech. entered on duty and before the end of the year he was converted to Assistant Manager. On October 9, we got a laborer on board as a Career-Seasonal. We ended the year with three employees in residence at Browns Park. Our clerical work is carried out by the Clerk in the Vernal office. By the time all of our BLHP projects are completed the staffing at Browns Park should be a Refuge Manager, Assistant Manager, Clerk-Bio-Tech., and one or two maintenance people.

## II. CONSTRUCTION AND MAINTENANCE

### A. Construction

Twenty thousand dollars was allocated to rehabilitate Spitzie Marsh. Since we had already purchased a new pump for Spitzie during FY 76, we were able to do the job for \$15,635. This included the price of a new Dri-Bak pumper. The pumper was used when we burned the marsh. Over 50 bulrush and dirt nesting islands were pushed up using a D-8 Cat and Cat-12 Grader. Channels were cut through the bulrush using the same equipment. Approximately 130 acres of matted bulrush, cattails, grass and brush were burned after the islands and channels were done.



Barney Goodman pushing up nesting islands in Spitzie Marsh in February. He is using a D-8 Cat acquired from surplus via Bear River MBR. 2/77 J.C.



Approximately 130 acres of matted bulrush, cattails, grass and brush were burned in Spitzie Marsh in February. 2/77 J.C.

The islands and channels were built after drying the marsh out for two years. Even after two years all the work was done as the ground was thawing to prevent the equipment from bogging down. The top thawed layer was skimmed off, but we didn't get much dirt on the islands. In the future we plan on hauling dirt and gravel in and beefing up the islands as we found out they work quite well as nesting islands for ducks as well as geese. Approximately 3/4 mile of the Spitzie dike and road was graveled with four to six inches of pit run gravel to allow access to the area when it is wet.

Cattail and bulrush were mowed in Horseshoe Bottom. The road and dike are being raised about a foot to prevent the water from running over them. Channels are being cut in the cattail and bulrush and ditches plugged to prevent water from draining out of the marsh. This will open up the marsh for waterfowl use and give us better control of the water in order to cut down on the emergent vegetation. Several nesting islands will be pushed up from the material removed from the channels. This project was still in progress at the end of the year.





Spitzie Marsh before work began on it February 1977. It had several years accumulation of matted bulrush and cattails and very little open water. 2/77 J. C.



Spitzie Marsh flooded in April after the work in it was completed and it was burned. The bulrush floating in the foreground was washed off the islands. 4/77 J. C.

The comfort station at the Swinging Bridge Campground was completed. Mr. O. M. Gallegos (a minority contractor) from Craig, Colorado faced two sides and the front of the building for \$1,800. The other estimate we got was for \$2,400 from a Vernal, Utah, contractor. Refuge personnel picked up the native stone from nearby rocky slopes. Total price for the structure was \$21,774 with most of the money (\$19,974) coming from pollution abatement funds.



The comfort station at the Swinging Bridge was completed in September. The rock facing was put on by O. M. Gallegos (a minority contractor from Craig, Colorado) for \$1,800. Refuge personnel picked up the native stone from nearby rocky slopes. After excess rock was picked up and stacked and the area cleaned up it improved the appearance. 9/77  
J. C.

We had three BLP projects scheduled to begin in FY 77. They are the Beaver Creek development, Flynn Bottom development and a Tour Route and Trail Construction. The Beaver Creek development was the only one to be completed in FY 77. However, we applied for our 404 Permit on June 8, 1977 and received it on January 23, 1978. We are now ready to get on with construction. We also applied for a 404 Permit for the Flynn Bottom development, but were told by the Army Corps of Engineers that we didn't need one.



Most of the planning, surveying, etc., has been completed on the Flynn Bottom and the Tour Route.

We have one other project scheduled for FY 78. This is a new residence to replace a trailer now being occupied. Planning has almost been completed for the house and the contract should be let in about a month.

B. Maintenance

B

Routine maintenance of three quarters (one is a mobile home, the other a bunk trailer), a garage-shop and a trailer containing a small office was performed.

Water delivery ditches into Hoy, Horseshoe, Warren, Nelson, Butch Cassidy and Spitzie were cleaned.



Jim Sellers cleaning the water ditch that carries water from Beaver Creek to the Butch Cassidy Unit. Jim is using a Case backhoe we borrowed from the Colorado Division of Wildlife. 11/7/77 J.C.

About 250 yards of new entrance road was built and graveled, which eliminated two bad curves. There had been several near misses there in the past.



The front axle on the 4020 John Deere tractor was replaced after it broke and the front wheel fell off.

The rotary mower was repaired with new seals on the gear box, new blades and the ram rebuilt.

A blind corner on the road in Spitzie was widened and the brush cut following a minor accident.

A 16-foot tubular steel gate was installed at Headquarters on the entrance road for security reasons.

Approximately 50% of the south boundary of the refuge was posted and a lot of boundary signs inside the refuge were removed.

An old wire corral at the Swinging Bridge and two old hay corrals were removed.



Jerry Deutscher looks over cottonwood tree that fell over after the roots rotted off. Luckily, the tree fell away from the trailer where Jerry and his wife, Nancy, live. 9/77. J.C.

The following projects were completed with help from 20 YCC's and four leaders: Two trailers were pulled in from Ouray NWR and hooked up to the water and propane; two old trailers were removed; approximately 350 yards of fence was constructed at the Swinging Bridge campground and 100 yards of an old fence removed; Quarters 1, the shop and oil house were scraped and painted with two coats of paint; three old hay corrals were removed from Hoy Bottom; seven B-B-Q grills were placed in the Crook Campground; the comfort station at the Swinging Bridge was partially painted; cleaned up around headquarters and the campground; installed CMP in Horseshoe Bottom for better water control. We had 20 YCC's and four leaders for a week and six YCC's and one leader for a week. They were from the non-resident YCC camp at Ouray NWR.

Skirting was put around the two trailers acquired from Ouray NWR and electrical wiring was run underground to them.

Several loads of rock and gravel were dumped along the river bank in the Hog Lake area to stabilize the bank where it was eroding.

C. Wildfire

There were no wildfires on the refuge during the year. However, refuge personnel helped to control three fires off the refuge, one at the Brown's Park Waterfowl Management Area in Utah, another at the Willow Creek Ranch and a third at the Watson Ranch at Sterling Springs, our nearest neighbor.

The Fire Management Plan was completed and submitted to the AO for approval on December 13. We heard from the AO that it had been approved there and forwarded to the RO for approval.

III. HABITAT MANAGEMENT

A. Croplands

Currently there are no croplands on the refuge.

B. Grasslands

Two former owners (Lee Watson and Jack Leonard) have the principal grazing permits on the refuge. Fred Blevins, who had the haying and grazing permit on the land traded from the Colorado Division of Wildlife, was issued a permit for one year. The grazing season was from November 15 to May 15 for the 1976-77 season, and the cost was \$1.51/AUM. Watson and Leonard were each issued a grazing permit for 900 AUMs. Total revenue,

\$2,718. Refuge Manager Creasy was issued a permit for 50 AUMs (1 horse for 6 months, 1 horse for 8 months, and 3 horses for 12 months) at \$1.51/AUM. Total revenue, \$75.50.

During the 1977-78 grazing season Watson and Leonard were each cut 100 AUMs, which gives them 800 AUMs each. Their grazing season was changed from November 15 to May 15 to November 15 to April 15. We changed it to get the livestock out before the key forage plants start to green up. Since the 1972-73 grazing season Leonard and Watson have been cut from a total of 2,600 AUMs to the current total of 1,600 AUMs in an effort to improve the range conditions to increase waterfowl nesting. All livestock are removed from the areas adjacent to the marshes prior to March 1 so waterfowl nests will not be trampled. A stipulation of the permittees' Special Use Permits is that they make an effort at least twice a week to drift their cattle off the refuge and on to their BLM permit lands.

Fred Blevins was allowed to graze 120 AUMs from November 1, 1977, to February 28, 1978, on the Beaver Creek meadows we acquired from the Colorado Division of Wildlife. Mr. Blevins had the grazing and haying on these meadows before we acquired them. However, he was told verbally that this would probably be the last year he would be allowed to graze the area. This is where we plan to construct our new headquarters complex in FY 79.

Meadow hay is usually harvested by Lee Watson, Jack Leonard and Fred Blevins in three meadows near Beaver Creek. The permittees are required to fertilize and irrigate the fields. This year Jack Leonard and Lee Watson didn't cut any hay because of lack of growth due to the lack of water for irrigation because of the drought. Fred Blevins did cut part on one field and got 236 bales of hay (7 tons) where he usually gets 1,400 bales. Total revenue from Mr. Blevins hay, 7 tons x \$4/ton = \$28.00.

Mr. Blake T. Smith, Range Ecologist, Billings, Montana, visited the refuge on May 24-26. He made the following observations and recommendations, which we fully agree with and will try to follow up on where possible.

1. Construction of the boundary fence as planned is essential in order to control livestock use. Some cross fencing will also be required in order to manage livestock and, when possible, cross fencing should be built along the site break. (Under BLHP planning the boundary fence will be put up in FY 80.)



2. The practice of having both annual haying and grazing on the meadows should be discouraged. Blevins hay meadow, particularly, shows signs of soil erosion and poor plant vigor.
3. With winter use, livestock should be removed from the pasture in the spring before key forage plants start to green up, which would be around the first of April.
4. Nearly all the saline overflow range sites on the refuge are in low-fair to poor condition. The past history of overuse has allowed greasewood to take over on these sites, and to change the plant composition here through natural succession would require many, many years, if at all, due to the cold, dry climate, salinity in the soil, and a well established stand of greasewood. In the interest of wildlife management, the justification may exist to manipulate portions of these sites to improve the plant composition. This could be done by plowing the greasewood and seeding tall wheatgrass and alkali sacaton. Once established, these grass species would do well on the site.

*need diversity  
habitat. 3*

#### C. Wetlands

Approximately 872 acres of seasonally flooded basin or flats, deep fresh marshes and open fresh water were maintained for waterfowl and other wildlife habitat. Six of these marsh units were maintained by pumping water from the Green River. When the pumps are in use they must be checked and serviced at least every other day. A sand bar moved into the vicinity of Spitzie pump and it had to be checked and back flushed every 3-4 hours to keep it pumping at capacity. The Butch Cassidy unit is gravity fed from Beaver Creek and only requires periodic checking and cleaning of the water delivery ditch and diversion and outlet structures.

The Green River adds 925 acres of wetlands for year round use by waterfowl as it remains "open" through the refuge since the completion of Flaming Gorge Dam. The normal flow of the river consists of daily highs and lows, up in the morning and down in the afternoon, created by releases from Flaming Gorge Dam. Daily fluctuations varied from 800-3,000 c.f.s., depending on power usage and downstream commitments.

Waterfowl feeding patterns remained the same. Use shifts from marshes to the river as the marshes freeze. When the marshes thaw they move back from the river to the marshes.

All marsh units were frozen over during the winter. After thawing and during the nesting season all of the units were maintained

as near optimum level as possible. During July the Nelson unit was allowed to dry up in anticipation of doing some work in it. It is almost completely choked off with emergent vegetation.

We quit pumping in the Horseshoe marsh on August 5 to allow it to dry up so we could do some work in it to get more open water. A description of the work being done in the Horseshoe is under II. A. Construction.

We quit pumping in the Spitzie marsh July 15, but it still contained some water into November when it froze up. We were planning on beefing up the nesting islands, but because of the mild weather we weren't able to get into the unit to work by the end of the year.

Hog Lake was maintained at optimum level by pumping until freeze up.

We quit pumping into the Warren marsh on August 13 to allow it to dry up to work on it to open it up. The entire north part of it is so heavily choked up with many years of bulrush you can walk across the bulrush without getting into the water beneath it. Hopefully, our burning plan will be approved in time for us to burn it.

We quit pumping into the Hoy marsh on August 19, as it is another one we would like to burn this winter. The Hoy marsh still contained a lot of water at freeze up.

Butch Cassidy dropped below optimum level in May due to a lack of water in Beaver Creek due to the drought. We also had a high evaporation rate due to high temperatures and a lot of wind. We counted 50 dead trout (rainbows, cutthroat and brookies) in the unit in June. In October the water level began to raise and by freeze up it was only slightly below optimum.

Over one hundred goose nesting structures were inspected and repaired and nesting material added when needed. We also picked up about a dozen more nesting structures from Ouray National Wildlife Refuge as they no longer wanted them. Although not aesthetically pleasing, the geese and mallards like them and nesting success is good on them.

#### D. Forestlands

The large living and dead cottonwoods in the river bottoms were not molested. They afford the raptors and other birds fine nesting and resting areas.

E. Other Habitat

The grass and brush on the uplands (benches) did practically nothing this year because of the drought conditions. Some of the grass species greened up a little after the rains in July, but did not seed out. Most of the brush did not even leaf out.

F. Wilderness and Special Areas

Permission was obtained late last year to put new siding on the Lodore School, a historic site. The siding was purchased by the Brown's Park Ladies Club and put on by local volunteers.

The Indian-White contact site (possibly Fort Davy Crockett) was entered on the National Register. A dike of field stone 130' long, 2' high and 3' wide at the base was laid to protect the Indian-White contact site from further erosion by the Green River.

Nomination forms for getting the Two-Bar Ranch entered on the National Register as a historic site were submitted again. They were submitted last year, but were evidently lost between the RO and the WO. Luckily, we had a working copy. No word has been received on the decision. Hopefully, it wasn't lost again.

G. Easements for Waterfowl Management

Not applicable.

IV. WILDLIFE

A. Endangered and/or Threatened Species

There is a possibility of future visits from members of the foster whooping crane flock.

B. Migratory Birds

1. Waterfowl

Three whistling swans (one adult and two immatures) were present on the Green River drainage January and early February. Ten swans arrived on November 1. The peak was approximately 25 swans on November 18, just before a hard freeze. A few remained through the end of November.

The Great Basin Canada goose population was 275 at the beginning of the year. The population increased to 350 prior to nesting with approximately 75 breeding pairs.



A goose nesting survey was conducted from April 20-25 and a nest recheck was conducted between May 16 and June 2. Sixty-one nests were found during the nest survey and fates determined for 56 of the nests during the recheck.

Seventeen of the 61 nests (26%) were on natural nest sites, 12 (20%) were on man made islands, and 32 (54%) were on man made structures.

Forty of the 56 nests (71%) were successful. Completed clutches averaged 5.1 eggs and successful nests averaged 4.8 hatched. The number of eggs hatched was estimated to be:

$$75 \text{ pairs} \times .71 \text{ nest success} \times 4.8 \text{ eggs hatched/nest} = 255.$$

Production to flight stage was estimated to be 225.

The preseason population was 325, which increased to 700 by the end of November. The population dropped to 175 by the end of December.

From band returns it appears that most of the nonbreeding birds move into southeastern Wyoming, near Rock River, to moult. This leaves mainly the breeding birds and young during the summer. Some of these adults with broods probably move downriver into Dinosaur National Monument, while other broods move on the refuge from upriver and the State of Utah's Brown's Park Waterfowl Management Area. In the fall the migrant geese, which move onto the refuge, appear to be made up primarily of the returning moulters.

Two of the nesting geese were apparent returnees to unusual nest sites. One used an abandoned redtail hawk nest and the other a cliff ledge over the river.

One snow goose was seen with the Canada geese until March. About 40 more snow geese were seen passing through during the spring migration and about 130 moved through in the fall.

Approximately 300 ducks, mostly mallards and gadwalls, were present at the start of the year. The peak of the spring migration occurred the last week of March with nearly 5,200 ducks. Coots peaked the second week of April with 1,500 birds.

The breeding pair count was conducted from 16-20 May. There were 904 breeding pairs of dabbling ducks with gadwalls (352), mallards (172), and cinnamon teal (159) being the

most common. Divers had 97 breeding pairs. The only nesting divers were redhead (77), ruddy (18) and canvas-back (2). Seven hundred and fifty-seven coots were observed during the breeding pair count.

Production for the dabblers was calculated using  $.45 \times \text{Breeding Pair Count} \times \text{Average Brood Size} = \text{Annual Production}$ . Brood sizes averaged 6.2 young and the .45 factor will be used until better data are available. Diving duck production was calculated using an average brood size of 6.3 and a factor of .60. This factor was derived from breeding pair and brood counts on Spitzie Marsh, which had been burned in late winter, making visibility excellent. Using this method, the estimated ruddy duck production was 68. However, one brood count had a total of 97 young, so the estimated production was 125.

Total duck production was 3,060 with 2,625 dabblers and 435 divers. Principal producers were gadwalls (1,000), mallards (500), cinnamon and blue-winged teal (550) and redheads (300). Coot production was estimated to be 1,500.

The late summer duck population built up slowly and undramatically to about 5,000 birds in August and then dropped off to about 3,700 birds until a hard freeze arrived on November 20. Less than 400 birds remained, mostly on the river and two small open areas on Hog Lake and Butch Cassidy Marsh. The weather warmed again and duck numbers increased to over 1,800 the last week of November. As the marshes froze again, less than 100 ducks remained on the river by the end of the year.

Coots peaked at 2,600 the last week of August and dropped off rapidly. Only 700 remained the first week of November and most of those left during the freeze-up. None remained at the end of the year.

The bulrush and dirt islands which were built in Spitzie Marsh provided nesting and loafing sites for the many waterfowl that were drawn into it following the late winter burn. It provided a rich feeding area for all species, but principally the dabblers and geese. The islands were used by both geese and ducks for nesting. Two hen mallards tunneled about one foot into the loose bulrush islands for very secure nest sites.

No banding was done this year.

Table 1. Goose nesting sites which were rechecked to determine fate in 1977.

	Number of Nests	Number Successful	Abandoned	Avian Pred.	Mamm. Pred.	Unk. Pred.
Natural Islands	6	5			1	
Muskrat House	7	4		3		
Beaver Lodge	1	1				
Tree	1	1				
Cliff	1	1				
Man-Made Islands	9	3	3		1	2
Four-legged Towers	15	12		3		
Rubber Tires	7	7				
Wash Tubs	8	5	1	1	1	
Power Pole Cribbing	1	1				
Total:	56	40	4	7	3	2

Table 2. Waterfowl production from 1966 through 1977.\*

	Geese	Ducks	Coots
1966			
1967	125 (46)	1,575 ( 731)	250
1968	139 (56)	3,288 (1,109)	1,284
1969	108	3,690 (1,460)	1,430
1970	117	3,390	
1971			
1972	139	2,825	1,100
1973	150	3,200	5,700
1974	150	3,275	2,000
1975	250 (69)	3,200	2,000
1976	150 (61)	3,100	500
1977	225 (75)	3,060 (1,001)	1,500

\* Breeding pair count is in parenthesis.



## 2. Marsh and Water Birds

There were eight active great blue heron nests this year compared to six last year. High winds blew one of the nests out of the tree.

Several green heron sightings were recorded during the spring. Black-crowned night herons nested in Butch Cassidy Marsh (one nest found) and Hog Lake (two nests with three eggs each and one nest with three eggs and two newly hatched young were located on May 16).

Sixty white-faced ibis used the refuge in May. Only three sandhill cranes were sighted in the spring, but 150-200 flew over the refuge during the fall migration.

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

The Wilson's phalarope is the most common bird in this group, but is still not very abundant. The population was 350 the first week of June.

## 4. Raptors

Bald and golden eagles use the refuge primarily in the winter. Bald eagle use peaked at 10 in mid-March and all were gone by mid-April. Golden eagles averaged five during the winter and a pair nested in a canyon about three miles from the refuge. They could be seen hunting on the refuge in the summer. The first bald eagle returned to the refuge about November 1.

Three pairs of red-tailed hawks nested on the refuge and produced seven young. Ten to twelve nesting pairs of great horned owls were present as well as numerous American kestrel nests.

Swainson's hawk was added to the refuge bird list.

## 5. Other Migratory Birds

Mourning dove numbers appeared to be down from previous years.

## C. Mammals and Non-Migratory Birds and Others

### 1. Game Mammals

The pronghorn population remained stable with 50-75 during spring, summer and early fall. The does move into the

river bottoms in the spring to have their young and then move onto the surrounding benches when the hards form again in the summer.

The resident mule deer herd numbers around 300 animals. Very few deer moved onto the refuge from the surrounding mountains last winter or so far this winter because of a lack of snow in the mountains.

A few elk tracks were found on the refuge, but no sightings were made.

No nuisance beaver were trapped this year, although several were certainly being a nuisance. They continued to plug the outlet to Butch Cassidy Marsh. Also, a beaver moved into a shallow area of Beaver Creek, built a dam, and diverted one-third to one-half of the flow out of the channel and across the meadow. On the plus side, beavers have helped by cutting down salt cedar--an introduced exotic, and by building massive lodges in several marshes--excellent potential goose nesting sites.

Muskrats are increasing in Butch Cassidy Marsh and Hog Lake where year round water can be maintained. All the other units had muskrats in direct proportion to the amount of water available year round. Seven goose nests were found on muskrat houses, but only four were successful.

Coyotes are common on and near the refuge with 30-40 present. Skunk and badger make their presence known by tracks, predation or other sign, but are seldom seen. Gray foxes are also present in unknown numbers.

## 2. Other Mammals

Nothing significant to report.

## 3. Resident Birds

The 25 chukars that were present near headquarters at the end of last year dwindled to 12 at the last sighting in the spring. They may have moved to more natural sites along the base of the mountains as well as fed a few predators. A few sightings were made during the summer of two to four birds. No broods were seen.

Gambel's quail were sighted along Beaver Creek and in Hoy Bottom. No broods were seen.

Approximately 25 sage grouse were present in small groups near the bottoms during the spring and summer. A brood with two chicks was seen in Spitzie Bottom.

A cock and hen ring-necked pheasant were seen in Nelson Bottom in March. Five cocks were heard crowing on territories in May. No known reproduction occurred.

4. Other Animal Life

Nothing significant to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

Nothing to report.

2. Off-Refuge

Nothing to report.

B. Recreation

1. Wildlife Oriented

Because of the isolation of the refuge, most visitors come prepared to camp to really enjoy the other recreational uses, primarily hunting and fishing. There are some visitors who drive out from Craig (85 miles) or Steamboat Springs (125 miles) to enjoy a day of recreation, usually fishing.

Fishing is the major producer of recreational visits to the refuge. The Colorado Division of Wildlife made two plants of catchable rainbow trout in the Green River on the refuge. We didn't find out how many they planted in May, but in November they planted 1,800 pounds. All fishing is for trout with most of the fish caught in the 10" to 15" class. Fishing is closed from March 1 through June 15 to protect nesting waterfowl. During that period we have very little public use.

Waterfowl, rabbit and mule deer hunting is allowed on the refuge.

Browns Park is in the Pacific Flyway. The duck season was split October 1-15 and November 5-January 22 with a seven



bag and 14 possession limit. The goose season is delayed November 5-December 11 with a one bag and one possession limit. Ten hunters were in the field on the opening day of duck season. The more serious hunters were able to limit out without much trouble. Some flightless birds turned up in the bag. Opening day on the second part of the season there were nine waterfowl hunters on the refuge and no geese were checked. We heard of a couple of geese being taken in a nearby rancher's hay meadow. We estimated that 20 Canada geese were taken on or near the refuge during the 37 day season.

No deer hunters were seen during the archery or muzzle loader's deer season. The deer season was also a split season this year. The first part of the season ran from October 15-19. There were 40 deer hunters on the refuge opening day and 21 bucks and one doe taken during the season. Almost all of the bucks harvested were in the spike and forked horn class. The second part of the mule deer season ran from November 5-15. There were only 15 deer hunters on or near the refuge opening day. Only four bucks were checked that were killed on the refuge. This brought the total to 26 deer (25 bucks and one doe) that were known to be killed legally on the refuge. One doe was shot and left on the south side of the river.

Most cottontail rabbit hunting is done incidental to waterfowl and deer hunting.

## 2. Non-Wildlife Oriented

Most recreational use on the refuge is wildlife oriented because of the isolation of the area. We do get some non-wildlife oriented use in raft float trips. Since the river through the refuge is relatively slow, most rafters put in at the Gates of Lodore Ranger Station below the refuge for their float through Lodore Canyon.

No word has been heard concerning the proposal to put the Green River in the Wild and Scenic River system.

On February 12-13 a Sweetheart Rendezvous was held in the Crook Campground by about fifty members and friends of the Rocky Mountain Fur Company, a muzzle loader organization. On February 12, a wedding by J. D. Waddle, Circuit Ridin' Preacher, united Alice Oliver and Lee Robertson in marriage. Lee Robertson is the leader of the Company and is also in charge of the Hunter Safety Program for the Utah Division of Natural Resources. After the ceremony a council meeting

and dance were held in the Lodore Hall with over 100 visitors and local residents attending. A good time was had by all.



Tepees of the Rocky Mountain Fur Company in the Crook Camp-ground with the Green River just beyond the tepees. 2/12/77 J.C.



Mr. and Mrs. Lee Robertson in front of their tepee, after they had been united in marriage in the Crook Camp-ground. 2/12/77 J.C.

C. Enforcement

It was a relatively quiet year for the most part. Only the following people got careless.

Violators:

<u>Date</u>	<u>Violator</u>	<u>Offense</u>	<u>Disposition of Case</u>	<u>Apprehended By</u>
5/22/77	R. B. Anderson	Unlawful poss. of wildlife, 1 mallard and 4 mourning doves, loaded gun in vehicle.	\$100 + \$8 court costs, State Court.	J. Creasy G. Deutscher
5/22/77	D. S. Champion	AWOL	Turned over to Sheriff's Deputy and held for military authorities.	J. Creasy G. Deutscher
11/11/77	H. G. Ross	Poss. of illegal deer--doe with a buck tag on it.	State mail-in violation notice, \$200 fine.	J. Creasy
11/25/77	T. P. Thomas	Hunting w/o a license or duck stamp.	Juvenile (Pending)	J. Creasy G. Deutscher
11/25/77	D. B. Dial	Hunting w/o a license.	Pending	J. Creasy G. Deutscher
11/25/77	R. J. Dial	Hunting w/o a license.	Pending	J. Creasy G. Deutscher
11/25/77	M. V. Christison	Hunting w/o a license.	Pending	J. Creasy G. Deutscher



<u>Date</u>	<u>Violator</u>	<u>Offense</u>	<u>Disposition of Case</u>	<u>Apprehended By</u>
12/17/77	C. A. Katz	Hunting geese out of season	State mail-in violation, fine \$50.	J. Creasy G. Deutscher
12/17/77	G. W. Wells	Hunting geese out of season	State mail-in violation, fine \$50.	J. Creasy G. Deutscher

Also, a fisherman was written up by two Colorado WCO's for fishing without a license on the refuge, but we didn't find out what the disposition of the case was.

## VI. OTHER ITEMS

### A. Field Investigations

Mr. Warner P. Gorenzel, a graduate student at Colorado State University, Ft. Collins, Colorado, initiated a study, "Investigation of American Coots in Colorado." One of his four study areas is Hog Lake on the refuge. The major objective of his study is to obtain data necessary for development of a management plan for coots breeding in and migrating through Colorado.

### B. Cooperative Programs

A weather station was maintained at the headquarters and daily temperatures and precipitation recorded in cooperation with the Weather Bureau.

### C. Items of Interest

James "Barney" Goodman, former Heavy Equipment Operator at Browns Park, returned to work on January 31 and worked until March 25 when he returned to work on his own heavy equipment.

Gerald L. Deutscher, Bio-Tech. (Wildlife), later switched to Assistant Refuge Manager, reported for duty on February 14. He and his wife, Nancy, are a welcome addition to the refuge. Jerry came from Martin, South Dakota, where he worked for ADC on the black-footed ferret survey on the Pine Ridge Indian Reservation. Before that Jerry worked at LaCreek National Wildlife Refuge.

In May, Bob Mangus and his wife moved into the Colorado Division of Wildlife house in Browns Park. Bob helped us out a lot, especially on any law enforcement problems.

Steve and Arlie Radosevich celebrated their fiftieth wedding anniversary on September 10. They enjoyed the party and dance at the old Lodore School, which was attended by 324 friends and

neighbors. Steve is a retired Utah Division of Natural Resources warden stationed in Browns Park and is also a local rancher. Arlie is a lifelong resident of Browns Park.

We were very fortunate to be able to hire Jim Sellers as a Laborer. Jim is a graduate of the University of Wyoming with a degree in Wildlife Management. He is also a willing, able and capable worker.

Mr. and Mrs. Jim Creasy attended the annual SCS meeting in Craig, Colorado.

Deutscher and Creasy attended an inter-agency wildlife meeting sponsored by BLM in Craig, Colorado.

Jerry Deutscher attended a 40 hour Law Enforcement Workshop in Denver and a three day course on writing Environmental Impact Statements and Assessments, also in Denver.

Creasy and Deutscher attended a one day Law Enforcement Workshop in Salt Lake City, Utah.

Deutscher and Creasy attended Pesticide Application Certification training in Grand Junction, Colorado. On the return trip they visited the Upper Colorado Environmental Plant Center (run by SCS) at Meeker, Colorado.

The in lieu of tax payment for the refuge (\$8,502.04) was delivered to the Moffat County Treasurer in Craig.

Jerry Deutscher wrote Part IV of this report. Jim Creasy wrote the remainder of the report. Norma Wardle did the difficult part--she deciphered, typed and assembled the report.

The black and white photos were printed in the darkroom at Ouray National Wildlife Refuge by CETA personnel. The color prints were done commercially.

#### D. Safety

Jerry Deutscher attended a Defensive Driver's session at Ouray National Wildlife Refuge.

About 250 yards of new entrance road was built to eliminate two bad curves where several near misses had occurred.

A fender-bender occurred in Spitzie on a blind curve when a private contractor couldn't get his truck stopped and hit a GSA pickup driven by Creasy. The pickup had pulled to the right

of the road and stopped when the dump truck hit it. The driver of the dump truck paid to repair the GSA pickup (\$371.00).

Barney Goodman bumped his leg on the dozer and aggravated an old injury and was off for seven days.