

BROWNS PARK NATIONAL WILDLIFE REFUGE

Maybell, Colorado

ANNUAL NARRATIVE REPORT

Calendar Year 1978

NATIONAL WILDLIFE REFUGE SYSTEM
FISH AND WILDLIFE SERVICE
U. S. DEPARTMENT OF THE INTERIOR

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Personnel

1. James A. Creasy, GS-11, PFTRefuge Manager
2. Gerald L. Deutscher, GS-5, PFT.Assistant Refuge Manager
(Transferred 6/18/78)
3. James L. Sellers, GS-5, PFTAssistant Refuge Manager
(Converted October, 1978)
4. Norma A. Wardle, GS-5, PFT. Clerk
5. James R. Webb, WG-2 Laborer
(7/5/78 to 12/15/78)
6. Ronald J. Boyd, WG-2. Laborer
(7/17/78 to 8/12/78)

Staff photo next page.

Review and Approvals

<i>James A. Creasy</i>	<i>Spil O'Brien</i>	<i>3/19/79</i>
Submitted by	Date	Area Office
Browns Park N.W.R.	<i>Marvin Plunk</i>	<i>4/9/79</i>
Refuge	Regional Office	Date

Complex Office

STAFF PHOTO



L to R: Sellers, Creasy
Front: Wardle

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I. GENERAL

A. Introduction

Browns Park National Wildlife Refuge is located in an isolated mountain valley in extreme northwestern Colorado. It lies astride the historic Green River, entirely within Moffat County, 25 miles below Flaming Gorge Dam. It contains 13,374 acres of river bottomland and adjacent benchland. The Utah-Colorado state line delineates the western boundary and to the south it shares a mutual boundary with Dinosaur National Monument. The remainder of the refuge shares a mutual boundary with BLM (Bureau of Land Management) lands. The refuge is 53 miles northwest of Maybell, Colorado on State Highway 318, fifty miles northeast of Vernal, Utah over Diamond Mountain and ninety-five miles south of Rock Springs, Wyoming via State Highway 430.

After Flaming Gorge Dam 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

Precipitation for the year totalled 8.27 inches, a welcome .53 inch over the nine year average of 7.74 inches. The sorely needed water did a great deal to alleviate conditions following the drought after the 1976-77 winter. January through March brought 1.50 inches, compared to 0.22 inches in 1977 and three to four inches in the past. We received 1.58 inches in April and 1.21 inches in May and June, compared to 1.05 inches and less than one inch for the same periods in 1977. In July and August we had 1.47 inches, against 3.29 inches in 1977; in September and October, 1.57 inches against 0.76 inches; 0.64 inches in November against 1.19 and 0.39 inches; in December compared to 0.07 inches in 1977.

The high temperature for the year was 98° in August, with all four months from June through September in the nineties. January's low was -06°, with lows between 0° and 10° through March, when the weather moderated. Winter set in in full force in November, with snow on November 13 followed by cold weather, lows to 01°; the year's low came in December at -33°. Old timer's in the area cannot remember snow lying on the ground for more than a few days at a time, but this year the snowfall of mid-November had not melted by end of the year.

In contrast to the virtual lack of vegetative growth in 1977, river bottoms and benchlands displayed excellent improvement.

Brush species in some areas still show the effects of the drought, but are slowly coming out of it. Grasses flourished with the timely rains in March, April and May.

C. Land Acquisition

1. Fee Title

Realty is still working on buying an approximate 80 acres inholding in the Grimes Bottom from J. G. Jones.

The refuge is still leasing from the State of Colorado the 1,305 acres in two school sections within the refuge. An approximate 200 acre inholding in the Carr Bottom changed ownership from Mr. Lee Watson to Mr. Wright R. Dickenson.

2. Easements

Not applicable.

3. Other

Nothing.

D. System Status

1. Objectives

Objectives were not updated this year because of BLHP planning and a lack of manpower. Also, we are waiting for the new directions.

The work program was devoted primarily to habitat maintenance and improvement. In order to maintain waterfowl habitat, six pumps were used to pump water from the Green River into the marsh units and for irrigation to promote DNC.

With 1240 money we bought 30-gallon garbage cans to replace the 55-gallon drums (hernia makers) that we have in the campgrounds. The remaining 1240 money was spent on litter control on the entire refuge, enforcement of regulations, picking up garbage in two campgrounds, road maintenance, maintenance of two campgrounds, including two comfort stations.

Our primary objective is waterfowl maintenance and production. The objective is 308,000 goose use days,

3,700,000 duck use days and waterfowl production at 12,240. In FY 78 we had 130,650 goose use days (42% of objective) and 908,970 duck use days (21% of objective). In 1978 we produced 2,740 waterfowl (22% of objective).

2. Funding

Funding for the refuge will be up slightly for FY 79 (\$89,400) over FY 78 (\$76,800). The following chart illustrates funding over the past five years.

<u>FY</u>	<u>Activity</u>	<u>Amount</u>	<u>Total</u>
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, includes Pay Act)	45,400	76,800
	1210 (BLHP - O&M)	20,000	
	1210 (Cyclic Maintenance)	5,000	
	1220 (Cyclic Maintenance)	1,000	
	1240 (O&M)	1,400	
	1240 (Cyclic Maintenance)	4,000	
1979	1210 (O&M)	65,400	88,400
	1210 (Cyclic Maintenance)	12,000	
	1210 (Rev. Reh.)	6,000	
	1240 (O&M)	1,000	
	1240 (Cyclic Maintenance)	4,000	

We started the year with three employees in residence (a Refuge Manager, Assistant Manager and a Laborer). on the refuge. Our clerical work is done by the Clerk in the Vernal Office, and 20% of her salary comes from Browns Park's allotment. In may the Laborer was converted to a Bio-Tech. In June the Assistant Manager transferred and we hired two two temporary laborers in July. One of them quit after a

month, but the other worked until mid-December when his appointment ran out. In October the Bio-Tech. (Career-Seasonal) was converted to Assistant Manager, PFT. We ended the year with two employees in residence at Browns Park. When all of the BLM projects are completed the staffing at Browns Park should be a Refuge Manager, an Assistant Manager, a Clerk-Bio-Tech., and one or two maintenance people.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

We tried beefing up the waterfowl nesting islands in the Spitzie marsh by hauling in dirt, gravel and rock. However, the frost was not deep enough and the trucks kept getting stuck. We did get six islands partially done. We shall continue this project in 1979 as the frost is much deeper this year.



Gravel was hauled to beef up several islands in the Spitzie marsh. The frost didn't get deep enough and we kept getting stuck. January '78. J.C.



Jerry Deutscher and Jim Sellers burning a fire line along the north edge of the Hoy Marsh. March '78. J.C.

Waterfowl habitat improvement work continued in the Horseshoe marsh. The road and dike was raised about a foot to prevent the water from running over it. Channels were cut in the cattail and bulrush and ditches plugged to prevent water from draining out of the marsh. Several nesting islands were pushed up from the material removed from the channels. We hope to complete this project in early 1979 before the nesting season. 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.

We had three BLHP projects scheduled to begin in FY 77. They are the Beaver Creek development, Flynn and Warren Bottom development and a multi-purpose road and tour route. The Beaver Creek development was the only one to be completed in FY 77. We applied for a 404 Permit on June 8, 1977 and received it on January 23, 1978. We got the Beaver Creek crossing and road completed in early March. We purchased the gabions for erosion control work along Beaver Creek, but no contractor wanted to do the work for what we were willing to pay. This work will be done by force account, possibly using YCC personnel this summer.



Putting in drop gate and CMP for Beaver Creek Crossing, a BLHP project. March '78. J.C.



Completion of the project. This saves us driving up into Utah, then back into Colorado to get to the Butch Cassidy unit. March '78. J.C.

The Flynn and Warren Bottom development, and multi-purpose and tour road were put out on bid. The Flynn and Warren Bottom job had to be put out twice before we got a bid within reason, \$49,203.00. We got a good bid on the road job, \$67,275.10. Both projects were well underway when adverse weather conditions shut them down for the winter. .

The new residence (modular) scheduled for FY 78 ran into many delays, but was delivered and set on the foundation in January, 1979. However, at this writing, is still not completed. Cost of this BLHP project is \$52,000.

There were sixteen YCC's and five leaders on the refuge for two weeks. Their major project was the construction of one and one-eighth miles of sheep-proof fence along the east boundary. Refuge personnel also contributed much help and supervision for this project.



Two members of a YCC crew along with Jim Sellers working on the fence on the east boundary of the refuge. 7/20. J.C.



A YCC crew doing some cleanup work on the Horseshoe Bottom after the fire. 7/21 J.C.

B. Maintenance

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

The Hoy and Nelson marshes and three brush (salt cedar) covered islands in the Green River were burned. It opened up the marshes and made them accessible to waterfowl. The brush was so thick on the islands that they were almost worthless to nesting waterfowl. After burning a goose nested on one of the islands, although it was a little late for goose nesting. A nest search was made before the islands were burned and no nests were found.

After a windstorm had blown more asphalt shingles off the roof of Quarters 1, the entire roof was shingled. Also, a 22-gallon hydroseal (pressure tank) was installed to replace one of the two 14-gallon tanks in the domestic water system. This gave us more storage capacity and the pump does not cycle as often and saves burning out controls.



The middle of the Hoy Marsh after the burn and
the water is starting to raise. March '78. J.C.



The north end of the Hoy Marsh as it is just
beginning to fill. March '78. J.C.



Three islands in the Green River across from the Spitzie pump after they were burned. 3/29/78 Herbert G. Troester



Nelson Bottom after it was burned and the water has been pumped into it. 3/29/78 Herbert G. Troester



An aerial shot of Hog Lake, the Green River and a large island in the river. The large area in the top of the photo is Flynn Bottom and will be a marsh next year.
Herbert G. Troester 3/29/78



Nelson Bottom after burning and water has been pumped in. Herbert G. Troester 3/29/78

A small shed was constructed across the river from headquarters to park the Rokon motorcycle in to check the pumps on the south side of the river. This saves many miles on the GSA vehicles as we can take the boat across the river and use the cycle instead of driving 12 miles to the Swinging Bridge then 10 miles back down the river to the pumps and then return to headquarters.

Sixty-one rolls of barbed wire, 1,055 used steel posts and 1,000 new steel posts were picked up at Ouray NWR as they were surplus to their needs.

Boundary posting of the refuge was completed this year with the completion of posting south of the Green River.

A 12-inch Crisafulli pump and diesel motor were purchased to be used for irrigating some of the river bottoms to promote vegetative growth for waterfowl nesting. This pump will be used in areas that do not have pumps and it can be moved from one area to another.

The Hog Lake pump was pulled and transported to the Mountain States Company in Craig in January and overhauled. After putting it back into operation it operated more efficiently. In December we pulled the Hoy and Nelson pumps and took them to Craig to be overhauled. They haven't been completed yet, but we hope to have them in and ready to pump by the end of February. Some of our pumps were installed by the former land owners and were old when the refuge was purchased in 1965. Previously, we only had enough funds to patch them up enough to keep them pumping. Rebuilding these pumps will improve their efficiency.

Two new radios (a base station and a mobile) were purchased to replace a couple of old sets that were costing a lot to keep repaired.

Besides the fence construction mentioned previously, the YCC's also helped with the following projects: Removed the top wire from a pasture fence in Hoy Bottom, transplanted bulrush from Hoy marsh to the north edge of Hog Lake, faced the concrete base of the entrance sign on the Colorado-Utah border with native stone, replaced an old wooden bridge with a culvert in the Hoy water delivery ditch, removed an old goose drive trap in Hog Lake, did some clean-up work in a burned area in Horseshoe Bottom, and removed an old corral and fence at the Swinging Bridge.

We had an electrical inspection by a licensed electrician to get our facilities up to code. The inspection was done in

January and we are still waiting on a bid from the company that made the inspection on the cost to remedy the discrepancies.



A YCC crew planting bulrush along the north edge of Hog Lake. 7/14, J. Creasy



A YCC crew replacing a wooden bridge with a culvert in the Hoy delivery ditch. 7/14, J. Creasy



The base of the entrance sign on the Colorado-Utah border was faced with native stone by a YCC Crew. July '78, J. Creasy.



Jim Sellers and Jamie Creasy look over the water wheel that Jim and his Dad built. We used it to water the lawn at headquarters. July '78, J. Creasy.

C. Wildfires

There were three lightning caused wildfires on the refuge this year. One was in the Nelson Bottom, less than an acre was burned. The other two were in the Horseshoe Bottom. One of them burned approximately one acre and the other about twenty acres. No facilities were destroyed, only a lot of deadfall, grass, brush and several deal cottonwood trees and live cottonwoods.

The Fire Management Plan was approved in time for us to burn two marshes and three river islands.



The large burned tree in the center of the photo is one of two trees that lightning struck to start 20-acre fire in Horseshoe Bottom on 7/11. The other tree that lightning struck was completely destroyed. 7/17, J.C.



Horseshoe Bottom with fire still smoldering. Although the fire was contained between the marsh, a road, the river and water delivery ditch, it smoldered for a couple of weeks. 7/14, J.C.

III. HABITAT MANAGEMENT

A. Croplands

Currently, there are no croplands on the refuge.

B. Grasslands

Two former land owners (Lee Watson and Jack Leonard) have the principal grazing permits on the refuge. During the 1977-78 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. It was changed to get the livestock out before the key forage plants begin 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 range conditions in order to improve 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 Permit is that at least twice a week they drift their cattle off the refuge and on to their adjacent BLM permit lands.

Fred Blevins was allowed to graze 100 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.

Meadow hay is usually harvested by Lee Watson, Jack Leonard and Fred Blevins on three meadows near Beaver Creek. The permittees are required to fertilize and irrigate the fields. On the advice of Mr. Blake T. Smith, Range Ecologist, Billings, Montana, the permittees were told they could either graze or hay the meadows, but not both. Mr. Blevins chose to hay the meadow, while the other two wished to graze. Mr. Blevins harvested 1,460 bales of hay (40 tons).

Revenue for haying and grazing for 1978 was as follows:

Fred Blevins	100 AUMs x \$1.51/AUM =	\$ 151.00
Jim Creasy (5 horses)	60 AUMs x 1.51/AUM =	90.60
Jack Leonard	800 AUMs x 1.51/AUM =	1,208.00
Lee Watson	800 AUMs x 1.51/AUM =	1,208.00
Fred Blevins	40 Tons x 4.00/Ton =	<u>160.00</u>

Total Revenue: \$2,817.60

During the fall of 1978 Lee Watson sold his holdings (fee title land and BLM permits) in Browns Park to Wright Dickinson. Since Wright Dickinson now has all of the BLM permits on the area adjacent to the refuge, he was allowed to have Lee Watson's AUMs on the refuge. At this time the refuge boundary is not fenced and the grazing is on an on-and-off basis with adjacent BLM land. During 1979 the plan is to fence the refuge boundary with BLHP funds. Then we will be able to control the grazing on the refuge. We are obligated to give animals grazing on adjacent BLM land access to water in the Green River.

During the grazing season of 1978-79 Wright Dickinson and Jack Leonard were given permits for 800 AUMs each. The price was raised from \$1.51 to \$1.75 per AUM and the grazing season changed to November 1 to March 31.

Fred Blevins was not issued a grazing permit because he had chosen to hay the Beaver Creek meadow. He was also told that he would no longer be able to hay or graze the Beaver Creek meadow as that is where the new headquarters will be constructed in 1979.

C. Wetlands

Approximately 872 acres of seasonally flooded basin or flats, deep fresh water 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 daily.

The Butch Cassidy unit is gravity fed from Beaver Creek and only requires periodic checking and cleaning of the water delivery ditch, diversion and outlet structures. This spring there wasn't much run-off in Beaver Creek and the Butch Cassidy unit did not stay at optimum level. In the fall as much water as possible was drained out of the unit to aerate the bottom and promote growth in the unit.

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 vary from 800-4,000 c.f.s., depending on power usage. This summer the construction of the louvers on the intake towers at Flaming Gorge Dam were completed. This allows them to take water from all levels of the lake instead of just the bottom. Previously, the river was too cold to be prime trout water. The water in the river at the refuge was 49 degrees in previous years, but this summer after the louvers were put into operation the temperature of the water was 64 degrees.

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

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.

Pumping into Warren marsh was terminated in June to let it dry out enough to construct a dike in the fall.

In July pumping was discontinued in Spitzie marsh because a sand bar moved around the pump site. We could have continued pumping by checking and back flushing the pump every three to four hours. Pumping the sand is also very hard on the pump. Some water was still in the unit in November. We plan on doing some work in this unit this winter.

We quit pumping in the Horseshoe unit in August and allowed it to dry up in order to do some vegetative control work in it this summer.

In early March several year's accumulation of cattails and bulrush were burned in the Hoy and Nelson marshes. Both of these marshes along with Hog Lake, were kept as near optimum levels as possible until freeze up in late November.

A dozen nesting structures that were picked up at Ouray NWR were put up. Over one hundred goose nesting structures were inspected and repaired and nesting material added when needed. Although the structures are not aesthetically pleasing, the geese and mallards like them and nesting success is good on them.

D. Forestlands

The large living and standing 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 on the uplands (benches) did quite well this spring and summer. The two dominant species, Indian rice grass and needle and thread grass, did well and seeded out. Last year, due to the drought, they did not set seed. The brush did much better than last year, but in some areas on the benches it did not leaf out and is showing the effects of the past drought.

F. Wilderness and Special Areas

The siding that was placed on Lodore Hall, a historic site, late last year was painted with Olympic stain. The stain was purchased by the Brown's Park Ladies Club and put on by local volunteers.

We received word that the Two-Bar Ranch has been entered on the National Register as a historic site.

No work was done on the Indian-White contact site this year.

Two archeologists from Ft. Lewis College, Durango, Colorado, completed an archeological survey of the BLHP projects. The complete report has not yet been received.

G. Easements for Waterfowl Management

Not applicable.



Just beginning to put a coat of stain on historic
Lodore Hall, an old school house built in 1911.
May '78, J.C.



After the stain had been put on. The siding had
been put on the fall of 1977, but it got too cold
before the stain could be applied. May '78, J.C.

IV. WILDLIFE

A. Endangered and/or Threatened Species

Bald eagles, six adults and two immature, wintered on the refuge through the first part of February. One adult and one immature remained until the end of the month.

Four adults returned in December.

B. Migratory Birds



Black-chinned and rufous hummingbirds were frequent visitors to the feeder. July '78, J.C.

Four whistling swans arrived on March 4 for a week's stay. Five adults and two immatures were on the refuge on October 18.

The Great Basin Canada goose population was 350 at the end of January; numbers remained between 300 and 400 into April.

Goose nest surveys conducted beginning April 11, with nest rechecks completed May 20, turned up 73 nests. The fates of 59 were determined, with 46 successful, a hatch ratio of 78 percent. Nests checked had an average clutch of 5.35 eggs, and an average hatch of 5.03 compared to 4.8 in 1977. Ninety-three percent of the eggs in successful nests hatched, compared with ninety-four percent in 1977.

73 nests x .78 nest success x 5.03 eggs = 286 eggs hatched.

From 100 to 250 of the geese leave the refuge daily to feed in the alfalfa fields on an adjacent ranch.



When the marshes freeze over, the waterfowl move to the Green River. December '78, J.C.

Goose numbers peaked at around 550 after nesting season, as compared to 700 in 1977. Seventy-five to 100 apparently moved onto the Utah Division of Wildlife Waterfowl Management Area and an adjacent rancher's hay fields, with others moving into the Dinosaur National Monument.

Nonbreeding birds apparently moved into southeastern Wyoming. Numbers remained between 300 and 450 through the rest of the year, as some of these young birds returned.

The usual goose nests were found in an abandoned hawk nest in a cottonwood tree, and on a ledge in the cliffs along the river. A second nest was located in the cliffs this year.

Several flocks of snow geese totaling 500 were on the refuge the first week of November, but travelled on before the thirteenth.



Jim Sellers checking out a goose nest on a muskrat house in Hoy marsh. April '78, J.C.



Jim Creasy checking out a goose nest on a man-made island in the Spitzie marsh. April '78, J.S.



A goose on a nest on one of the islands in the Green River. April '78, J.C.



Upside
down?

This year two goose nests were found on the cliffs above the Green River in Rattlesnake Canyon. This particular nest has been used every year for many years. It is several hundred yards downstream from the Swinging Bridge on the north side of the river. April '78, J.C.

The year 1978 started with approximately 600 ducks, mostly mallards. Common goldeneye were the next most common, as opposed to gadwalls in the past.

Spring migration in March and April brought a peak of approximately 6,000 ducks. Coot migration in late April peaked at about 2,000.

Breeding pair counts were conducted from 11 to 18 May. Total pairs were down in number, apparently in response to increased water area available elsewhere as drought conditions of the last one and one-half years moderated.

Dabblers showed a decrease overall, while divers were up in numbers. Gadwalls were the most common, at 156 pairs (down 56%), cinnamon teal at 151 pairs (down 7%), and mallards at 142 pairs (down 16%).

Bluewing teal, 58 pairs (up 53%) and greenwing teal, 67 pairs (up 29%) were the only dabblers which showed an increase.

Divers were up markedly, with 81 pairs of redheads (up 5%) and 21 pairs of canvasbacks (up 950%).

Total duck production was 2,450, with 1,900 dabblers and 550 divers. Bluewing and cinnamon teal production was estimated at 600, gadwalls at 450 and mallards at 400. Coot production was estimated at 2,100.

Waterfowl populations peaked in July with brood recruitment and summering birds, with 3,500 coots and 7,765 ducks.

Fall migration maintained fairly constant numbers between 7,000 and 8,000 birds, with most migrants and locals gone by the end of October.

Coots went from a peak of 3,500 the first of July to 800 the first of November and were gone by 13 November.

No banding was done in 1978.

Table I. Goose Nesting Sites, 1978.

Nest Sites	No. Nests	Successful	Abandoned	Avian Predation	Mammalian Predation	Unknown Predation	Flashed	Unknown Fate
Natural Islands	8	2	1	1	3			1
Muskrat House	3	1					1	1
Beaver Lodge	0							
Tree	1	1						
Cliff	2	2						
Man-Made Islands	7	3			1	1		2
4-Legged Towers	17	12	2	1				2
Rubber Tires	11	9	2					
Wash Tubs	9	8						1
Powerpole Cribbing	3							3
Lathe-Fencing	9	7	1					
Bulrush	3	1					2	2
Totals:	73	45	6	2	4	1	3	11

Table II. Waterfowl Production From 1966 Through 1978.

Year	Geese		Ducks		Coots
1966					
1967	124	(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
1978	290	(85)	2,450	(807)	4,300

Breeding pair count is in parenthesis.

2. Marsh and Waterbirds

All seven Great blue heron nests near the headquarters were used and successful.

Black-crowned night herons nested again in Butch Cassidy and Hog Lake; snowy egrets nested at Hog Lake.

Two broods of western grebes were seen on the river this year for the first time.

A rare sighting of a black-bellied plover was made at the Spitzie marsh on May 9. Two cattle egrets were sighted in the Nelson Bottom on May 23 and occasionally for three to four weeks.

3. Shorebirds, Gulls, Terns and Allied Species

Wilson's phalarope and killdeer are the most common birds in this group. Others seen regularly, though in limited numbers, include California gulls, common terns, black terns, American avocets, common snipe, and spotted sandpipers.

4. Raptors

Bald and golden eagles are seen almost daily on the refuge throughout the winter. Bald eagles left the refuge in early March.

Five golden eagle nests were located near the refuge in the early summer, with adults and fledglings using the refuge throughout the year.

American kestrels are common throughout the spring, summer and fall. Red-tailed hawks nest on the refuge, with three known active nests in 1978. Rough-legged, sharpshinned and Cooper's hawks are common throughout the winter. Marsh hawks are common year-round.

Osprey were noted on various days throughout the summer.

Prairie falcons were seen occasionally on areas adjacent to the refuge year-round, but only one was sighted over refuge lands in May. Likewise, merlins were seen off refuge from March through September, but with one sighting in September on the refuge.

Great horned owls were seen regularly, but only one nest was located this year.

5. Other Migratory Birds

Mourning doves appeared to be back up from last year's low to a level comparable to previous years.

C. Mammals and Non-migratory Birds and Others

1. Game Mammals

Pronghorn antelope remained at about the same numbers as in years past with 50 to 75. They generally spend the summers on the river bottoms and move onto refuge and BLM lands on adjacent benches in the fall and winter.

Resident mule deer remained around 300-350 animals. The onset of a severe winter in November pushed around 1200 additional onto the refuge in December.

Elk water and feed on the refuge regularly on the south side of the river. Approximately 50 head come on occasionally from Choke-Cherry Draw and approximately 85 head from Hog Draw.



A buck mule deer cools off in the Green River
across from headquarters. 7/24/78, J.C.



A herd of antelope spent most of the summer in
the area near Hog Lake. 7/16/78, J.C.

Two nuisance beaver were removed from the refuge. One was taken from the Horseshoe when his daily damming of the outlet caused problems in filling the lower half of the unit. A second beaver was removed from the pond behind the Beaver Creek in road crossing in November when a dam in the drop structure and icing conditions threatened the road fill and water control.

Beaver continued to cut young cottonwoods and willows in the Horseshoe and Spitzie, as well as damming structures in Butch Cassidy. Freezing of water in Butch Cassidy and reduced beaver activity by late November prevented any further removals.

Muskrat increased again in Butch Cassidy and Hog Lake, but showed a marked decrease in Hoy Bottom after it was burned in March. The lower numbers did little harm, though, as it reduced the numbers of rats digging in the already dilapidated dike.

Four raccoons were removed from the headquarters area in September. Three others were seen on the refuge, along with occasional tracks.

Coyotes are present in ever increasing numbers, on and around the refuge. Red and grey fox have been seen on adjacent lands.

Skunks and badgers are also known to inhabit the refuge, but are rarely seen.

2. Other Mammals

Nothing to report.

3. Resident Birds

Chukar partridge are rarely seen around the headquarters site now. However, 45-60 are seen occasionally near the Swinging Bridge campground, and a few at other locations.

Gambel's Quail are still seen regularly on Beaver Creek, as well as in Hoy Bottom, though few in numbers. An occasional sighting in the area along Vermillion Creek was accompanied by the sightings of two broods there, and three broods on Beaver Creek.

Sage grouse were seen on the bottoms during the summer and on the benches in the winter. Two broods totalling 17 chicks were seen in the Hoy Bottom for the first time this

year. A brood was also seen in Spitzie, but no count could be gotten. Total numbers probably run between 40 and 60 birds.

Cock pheasants were heard crowing on two or three occasions again, but there were no sightings and probably no reproduction.

4. Other Animal Life

Nothing 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. Previously, all fishing on the refuge was for trout. After the water warmed up in the Green River this summer, anglers began catching a few catfish. Most of the fish caught are trout in the 10" to 15" class. Fishing is closed from March 1 through June 15 to protect waterfowl nests. During that period we have very little public use.

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

Browns Park is in the Pacific flyway. The duck season was split September 30 to October 13 and November 4 to January 21, with a seven daily bag and fourteen possession limit. The goose season is a delayed season, November 4 to December 10, with a daily bag limit of one and one possession limit. Five hunters were in the field on the opening day of duck season in October. The more serious hunters were able to limit out without much trouble. November 4 was the opening of the goose season and second half of the duck season. There were fifteen waterfowl hunters on the refuge. The bluebird weather made waterfowl hunting very poor. No geese were checked on opening day. It was estimated that fifty Canada geese were taken from the birds we checked and ones we heard of being taken.

No deer hunters were seen during the archery or muzzle loader's deer season. The regular rifle mule deer season was a split season again this year. The first part of the season ran from October 14-18. There were about forty deer hunters on the refuge for the opening day of the season. During the five-day season an estimated 25 deer were taken on the refuge. Twenty-two bucks were checked by refuge personnel. The second part of the deer season ran from November 4-8, with ten deer hunters on the refuge opening day. There were an estimated five deer taken on the refuge for a total of thirty bucks taken for both seasons. It was a bucks only season.

Most cottontail rabbit hunting is done incidental to waterfowl and deer hunting. The season was September 9, 1978 to February 28, 1979, with a daily bag limit of ten and a possession limit of twenty.

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 this year concerning the proposal to put the Green River through the refuge in the Wild and Scenic River system.

C. Enforcement

It was a very quiet year in the enforcement department. Either people are getting more careful or we are getting less observant.

We did have a few cases of unsigned waterfowl stamps, but since they were pasted on their hunting licenses we simply had them sign the stamps.

We received word that three cases from 1977 were settled in September, 1978. The three were hunting in Colorado without a license. One paid a \$25.00 fine and the other two did not show up and the court didn't think prosecution was warranted.

In May, Creasy picked up three dead golden eagles (2 adults and one juvenile) on Diamond Mountain on the way to Vernal from the refuge. The juvenile had evidently been shot off a power pole and its head, talons and one wing taken. The two adults were found together under another power pole with their talons on one leg locked together. They apparently had been electrocuted. They were picked up by S.A., Chuck Heumier from Brigham City, Utah.

We had one incident of a low flying helicopter over the refuge taking movies. We haven't heard anything more after we turned the case over to Jim Hogue, S.R.A.

VI. OTHER ITEMS

A. Field Investigations

Mr. Warner P. Gorenzel, a graduate student at Colorado State University, Ft. Collins, Colorado, concluded his 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. We are waiting for his final report.

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

Gerald Deutscher attended three weeks of Law Enforcement training at Glynco, Georgia, in February. In April, Gerry spent the month at the Basic Refuge Managers Academy in Beckley, West Virginia.

In April, Mr. and Mrs. Riley were shown around the refuge and given information concerning the refuge for their book on the National Wildlife Refuge System.

During May, Gerald Deutscher attended a two-day Region 6 orientation course in Denver.

In June a show me tour of the refuge was conducted in conjunction with Area Office personnel for the Regional Office, Colorado and Utah Division of Wildlife, NPS, BLM, Colorado State Historical Society, and interested ranchers. Future plans and BLHP projects were discussed.



Having breakfast during show me tour of the refuge. R.D. Harvey Willoughby on the left in the straw hat. In the center of the photo Jim Sellers and Gerry Deutscher visit with Barney Schrank. June, 1978, J.C.



Fifteen YCC's from the BLM camp at Meeker, Colorado, toured the refuge. August 1978, J.C.

On June 17, Gerry and Nancy Deutscher departed for Bear Lake NWR in Idaho. We were very sorry to see them go as Gerry and Nancy are great folks and were missed very much, both at work and as friends and neighbors. It was a good opportunity for Gerry to advance, as he is in charge of Bear Lake NWR under a complex supervisor in Pocatello, Idaho.

Jim Sellers was switched from Laborer WG-3 to Bio-Tech. GS-5. Jim was later switched to Assistant Refuge Manager GS-5.

Penny Creasy was elected President of the Brown's Park Ladies Club.

In September, Bob Shields (AM) and Jim Gritman (DRD) inspected the refuge and looked over the BLHP projects.

Bob Webb and Ron Boyd were hired as Laborers during the summer. Ron only worked for 30 days, but Bob worked until mid-December when his temporary appointment ran out.

Bob Webb and Margaret Thomson (school teacher at the Brown's Park school) were married at Lodore Hall on December 30. The ceremony was attended by about 100 people.

Jim Sellers helped the NPS, Colorado and Utah Division of Wildlife on a goose nesting survey on a float trip from the Lodore Ranger Station to Split Mountain Campground through Dinosaur National Monument along the Green River.

The in lieu of tax payment for the refuge (\$5,656.05) was delivered to the Moffat County Treasurer in Craig.

Jim Sellers wrote Part I, B, D, D; and 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 color prints were done commercially.

D. Safety

No lost time accidents occurred this year.

Jim Sellers and Jim and Penny Creasy received eight hours of Red Cross First Aid Training at the Gates of Lodore Ranger Station put on by the National Park Service



The view off the patio at Quarters 1. The sunset reflects off the Green River. July '78, J.C.