

ANNUAL NARRATIVE REPORT  
Calendar Year 2000  
ARAPAHO NATIONAL WILDLIFE REFUGE  
BAMFORTH, HUTTON LAKE,  
MORTENSON LAKE and PATHFINDER  
National Wildlife Refuges  
administered from Walden, Colorado

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U.S. Department of the Interior  
Fish and Wildlife Service  
National Wildlife Refuge System

REVIEW AND APPROVALS

ARAPAHO NATIONAL WILDLIFE REFUGE  
Walden, Colorado

also

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Calendar Year 2000

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Project Leader

4/23/01  
Date

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Refuge Supervisor

4/24/01  
Date

Larry Shank  
Regional Office Approval

4/24/01  
Date

## INTRODUCTION

Arapaho National Wildlife Refuge was established in 1967 primarily to furnish waterfowl and other migratory birds with a suitable place to nest and rear their young. The Refuge was created to offset, in part, losses of breeding and nesting habitat in the prairie wetland region of the Midwest. Most of the land was purchased with funds derived from the sale of Duck Stamps.

Arapaho National Wildlife Refuge (NWR) is located in an intermountain glacial basin immediately south of Walden, the county seat of Jackson County, Colorado. The basin is approximately 30 miles wide and 45 miles long. Since it is the most northern of four such "parks" in Colorado, it is known locally as "North Park".

The Ute Indians referred to North Park as "Cow Lodge" and "Bull Pen." They were the first visitors to the area and remained only during the summer months to hunt bison, abandoning the valley during the long, snowy and icy winters. Their small numbers and nomadic life style left but a small imprint on the land.

The first recorded exploratory footsteps to appear in North Park belonged to Jacques Bijeau in the year 1820. Like many of his French countrymen, Bijeau was lured by the promise of profit in trapping beaver. In 1844, Lieutenant John F. Fremont transversed the park from Northgate to Willow Creek Pass and recorded the following in his journal:

"The valley narrowed as we ascended and presently divided into a gorge, through which the river passes as through a gate - a beautiful circular valley of 30 miles in diameter, walled in all around with snowy mountains, rich with water and grass, fringed with pine on the mountain sides below the snow, and a paradise to all grazing animals."

Others like James O. Pinkham, came to exploit mineral wealth. Miners preferred the summer months for their endeavors. The first residents to brave the cold were Jacob Fordyce and his family. They stayed during the winter of 1878, two years after Colorado became a state and a full 50 years after the first explorers entered the valley.

The high elevation and northern latitude provides North Park with a unique climate. The elevation ranges from 8,100 to 8,700 feet. North Park is classified climatically as a cold desert. Winters are very cold and normally have 60 inches or more of snow while the surrounding mountains receive at least 120 inches of snowfall. Extreme low temperatures of minus 50 degrees Fahrenheit have been recorded. Summers are cool and dry with high temperatures in the 80's and the average lows near 40 degrees Fahrenheit. Mean annual precipitation is only 9.6 inches and the mean annual temperature is 36.5 degrees Fahrenheit. There is an average of only 45 consecutive frost-free days each year.

Jackson County was formed in 1909 and supports a rural population of approximately 1,800 people of which about half live in Walden, one mile north of the Refuge. The economy of North Park relies on four main resources. The largest and most stable of these is ranching followed by tourism and recreation which are growing activities. The timber industry has taken a significant drop in activity

and mining currently is in a slump. Nearly one-half of the North Park population lives on ranches which indicates the importance of ranching to the economic stability of North Park.



00NR01                      5/00                      E&NC  
The prickly pear cactus is always a pleasant surprise to find in North Park in the springtime!

The Refuge currently encompasses 24,804 acres. Habitat types presently consist of 9,066 acres of irrigated meadows, 14,304 acres of sagebrush-grassland uplands, 839 acres of wetlands, 200 acres of riparian willow and stream habitat, 320 acres of mixed conifer and aspen, and 75 acres of administrative lands including building sites and roads.

Current waterfowl production averages about 7,275 ducks (10 year average) and 150 to 300 Canada geese annually although production varies from year to year. The current objective is to produce 11,000 to 12,000 ducks and 500 Canada geese annually. To meet waterfowl production objectives and provide optimum habitat conditions for other species of wildlife, several habitat enhancement techniques are utilized such as pond development, water level manipulation, irrigation, rest-seasonal grazing systems and prescribed burning to create habitat diversity and maintain vegetative vigor, growth and density.

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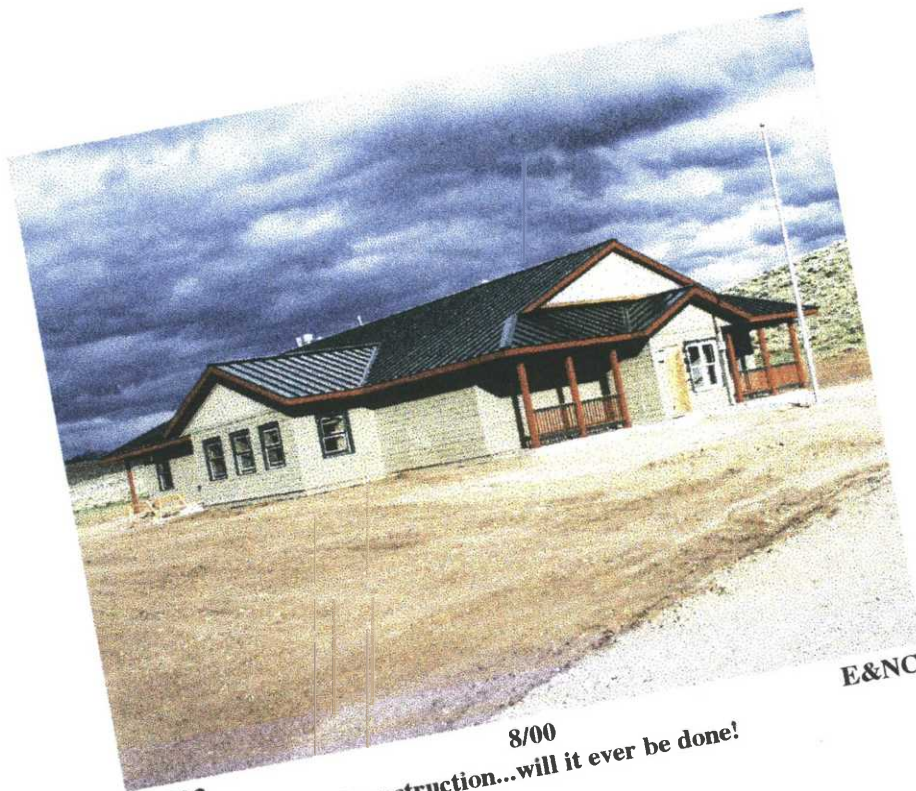


00NR2

7/00

E&NC

Hopefully this young cottontail wasn't as trusting with the rest of the Refuge's predators!



00NR3

8/00

The second year of construction...will it ever be done!

E&NC

**A. HIGHLIGHTS**

1. New Administrative Building completed. (Sec. I.1.)
2. Comprehensive Conservation Planning process begins. (Sec. D.1.)
3. Several wildfires keep staff on alert. (Sec. F.9.)

## B. CLIMATIC CONDITIONS

In 2000, the months January through May began with higher than normal precipitation, allowing us to start the spring with decent water conditions. But the summer months of June through August took their toll with above average temperatures and below normal precipitation leaving us with low to poor water conditions going into the fall and winter. The above average temperatures during the year along with the low summer precipitation greatly increased the fire danger and caused many of the surrounding neighbors in the county to loose livestock water, requiring many to place unusual calls on the Illinois river that had not been necessary for years.

January, November and December were the only months with near normal precipitation and June, October and December were the only months with near normal temperatures, while February was the warmest on record. The extreme high/low temperatures were 93 and -19 degrees Fahrenheit.

Table I.

### 2000 Weather Data: Walden, Colorado (NOAA)

<u>Month</u>	<u>Precipitation (inches)</u>			<u>Temperatures</u> <u>(degrees Fahrenheit)</u>			<u>Normal</u> <u>Average</u>
	<u>2000</u>	<u>Normal</u>	<u>Snow</u>	<u>Max.</u>	<u>Min.</u>	<u>Avg.</u>	
January	0.52	0.51	4.7	49	-11	22.9	15.7
February	1.33	0.46	11.5	50	-8	27.6	18.4
March	0.74	0.61	6.6	55	-3	30.1	24.6
April	1.38	0.87	5.5	72	11	40.4	35.4
May	1.20	1.14	1.5	81	13	49.4	45.0
June	.60	0.96	-	83	29	54.7	53.6
July	.55	1.06	-	90	32	61.8	59.0
August	2.32	1.23	-	93	33	60.9	56.6
September	1.57	0.94	2.2	86	21	51.1	49.3
October	0.06	0.68	-	69	7	39.9	39.2
November	0.62	0.52	9.8	46	-19	19.1	26.8
December	<u>0.52</u>	<u>0.51</u>	<u>8.0</u>	<u>44</u>	<u>-4</u>	17.9	18.5
Total	11.41	9.55	43.0				
Extremes				93	-19		

## C. LAND ACQUISITION

### 2. Refuge Inholdings

Jim Sinclair, Realty Specialist for Region 6, talked to Lucile Anderson in July regarding the purchase of her 480 acre ranch/inholding on the Refuge. USFWS had offered to purchase the property in the fall of 1999, however, Ms. Anderson has expressed disappointment in the offered price. Ms. Anderson said she has elected not to sell to the Refuge, and her son Philip Anderson was going to continue the ranching operation. We informed Ms. Anderson that the Refuge was always interested in purchasing inholdings on a willing buyer/ willing seller basis only.

Blaine Evans, a local rancher and Refuge grazing cooperator, expressed interest in purchasing or trading for the Pole Mountain portion of Arapaho NWR. Pole Mountain is a 800 acre parcel of land acquired as part of the Shawver purchase in 1997. Pole Mountain will be evaluated in the ongoing Refuge Comprehensive Conservation plan efforts.

## D. PLANNING

### 1. Master Plan

The Arapaho Comprehensive Conservation Plan (CCP) kick off meeting was held in Denver on June 19th. Bernardo Garza, a Realty Planner for Region 6, was assigned the planning position over the Arapaho CCP. New for the process, the Biological Resources Division (BRD) of USGS is now providing technical assistance with five portions of the plan. These include: 1) Biology, 2) Monitoring, 3) GIS, 4) Contaminant Monitoring, and 5) Social and Economic Evaluation. Murray Laubhan and David Hamilton from the Fort Collins BRD office were assigned to assist with the biological portion of the Arapaho CCP.

The two year CCP schedule was developed and initiated in June. Three-day biological workshops were conducted, one in November and one in December, with BRD and Refuge staff. Establishing habitat based goals and objectives for each of four Refuge habitat types was the primary mission. The Refuge was divided into riparian, wetland, upland and meadow habitats for planning and management purposes. Rough drafts of Riparian and wetland habitat goals and objectives were completed in during November and December.

Biological workshops will continue into the spring of 2001. The first public meetings are scheduled for February of 2001 in Fort Collins and Walden.

### 2. Management Plan

The Annual Water Management Plan was prepared and submitted to the Regional Office.

5. Research and Investigations

**Riparian/Meadow Management Demonstration Project**

The final report for the Riparian/Meadow Management Demonstration Project is ongoing with an estimated completion date of August 2001.

**Illinois River Restoration Project**

On September 20th, Colorado Division of Wildlife personnel, Biological Resources Division personnel, and Refuge staff conducted a stream condition evaluation at five points along the Illinois River. Riparian area, stream channel, riffle/pool ratios, and point bar development were analyzed.

The results indicate a generally poor condition channel, that exhibits the effects of flattening the hydro-graphs due to intensive irrigation practices. Peak spring flows have been minimized for the past 100 years and the resulting channel is very static, flat bottomed, and in-sized. Recruitment of willows is moderate to poor, and may suggest a general lowering of ground water levels. The static channel has resulted in few point bars being developed, and well defined riffles and pools do not exist. Aquatic habitats for fish and invertebrates are generally considered to be in moderate to poor condition.

The team's primary recommendation was to install river gauges to facilitate water management on the Refuge. Installation of two water gauges, one upstream and one at the downstream end, would provide an annual water budget for the Refuge. Secondly, quantitative evaluation of the stream channel should be completed to allow effective restoration efforts to be planned. Region 6 Water Resources division has offered to purchase river gauges and U.S. Geological Survey has agreed to maintain the river gauge stations. Lastly, The team submitted a proposal for an Environmental Protection Agency grant to fund evaluation of the stream channel. River gauge installation should occur during the summer of 2001.

E. ADMINISTRATION

00NR4

10/00

NK

Staff pictured left to right: Back Row - Follett, Langer, P. Bilbeisi, Varney, R. Bilbeisi, Lanier. Front Row - Stefanic, Furlo

	<u>EMPLOYEE</u>	<u>POSITION/GRADE</u>	<u>EOD</u>
1.	Gregory J. Langer	Refuge Manager, GS-0485-12	6/06/99
2.	K. Mark Lanier	Refuge Operations Specialist, GS-0485-11	8/31/97
3.	Pamela R. Bilbeisi	Wildlife Biologist, GS-0486-09	1/17/88
4.	Terri L. Follett	Administrative Office Assistant, GS-0303-07	5/28/85
5.	Randal R. Bilbeisi	Maintenance Worker, WG-4785-08	3/30/98
6.	Todd C. Stefanic	Biological Science Tech (W/L), GS-0404-06, PPT	9/27/98
7.	Carey Furlo	Biological Science Tech (W/L), GS-0404-05, TFT	5/21/00-11/17/00
8.	Daniel Varney	Biological Science Tech (W/L), GS-0404-05 TFT	5/24/0 -11/17/00
9.	Aaron MacNab	Biological Science Tech (W/L), GS-0404-04, TFT	5/22/00-11/17/00
10.	Gina DiGiallardo	Colorado State University Student Intern Volunteer	6/01/00-8/04/00
11.	Everett Collin	Volunteer	5/03/00-8/16/00
12.	Nancy Collin	Volunteer	5/03/00-8/16/00
13.	Gordon Perkins	Volunteer	5/16/00-6/28/00
14.	Nona Perkins	Volunteer	5/16/00-6/28/00

1. Personnel

The staff spent three and a half years in the two bedroom bunkhouse/temporary office. The field season again proved quite the challenge when the entire staff and YCC were in the "office" at the same time. It was really good that the summer was relatively mild, allowing us to conduct the majority of staff functions outside on the picnic tables. It does bring a new meaning to 'staff meetings' on those frosty summer mornings where it was the normal procedure to bring hot coffee, paper towels to wipe away the moisture/frost, and newspapers to sit on! We moved into our new Administration Building in November and are thoroughly enjoying the privileges of having our own offices, real furniture (instead of makeshift dressers, borrowed bunkhouse cabinets for bookshelves, folding chairs, etc.), and a real conference room and visitor center. We were down to only permanent staff when we completed the move into the building, so we haven't yet experienced a field season with all the employees on board. It should be enjoyable!

We were extremely lucky in May to bring back Wildlife Bio-Tech's Dan Varney for his third season at Arapaho and Carey Furlo for his second season. The benefits the Refuge gains when we are able to bring back individuals with prior knowledge and skills gained from previous work experience is unmeasurable. Not only do they know the lay of the land, they have become experienced enough to carry on numerous activities with little to no guidance. Dan was hired this year to assist with the Private Lands Program. He did a great job and was able to entice a large number of private landowners into signing up, or at least to inquire further into the program. When he wasn't busy with Private Lands and fighting fires in Montana he assisted in various activities on the Refuge. We would really like to see Dan come back this following field season, but it seems as if he might have caught the bug to fight fire and is actively pursuing 2001 fire season job openings. Carey was a big help this last season, taking on the field supervision of the volunteer. This responsibility along with the ability to work independently on most jobs made Carey a great asset to the Refuge. Carey also was assigned to a fire crew in Montana, but wasn't as fortunate as Dan in actively fighting fire.

Bio-Tech Aaron MacNab entered on duty at Arapaho in May. Aaron was primarily hired to fill the Youth Conservation Corp (YCC) Crew Leader position, supervising our three person YCC Crew. Typically the Crew Leader joins the rest of the staff working on various jobs around the Refuge after the YCC completes their eight week program, but Aaron had commitments that caused him to finish his tour of duty the same day as the YCC.





00NR6 7/00 E&NC  
YCC hard at work completing another section of the boardwalk on the Refuge's Nature Trail.



00NR7 7/00 E&NC  
Teamwork does have it's advantages!

The Refuge offers the use of the YCC Crew to other agencies for several days as part of the "working together for the good of the resources" philosophy. This year the YCC Crew worked for BLM, USFS, Colorado Department of Parks and Recreation (CDPR), Owl Mountain Partnership (OMP), Town of Walden and the Colorado State Forest Service (CSFS). The only requirement we ask of the agencies is that they give a short presentation about their agency and explain the environmental benefit of the work project they are completing.



00NR8

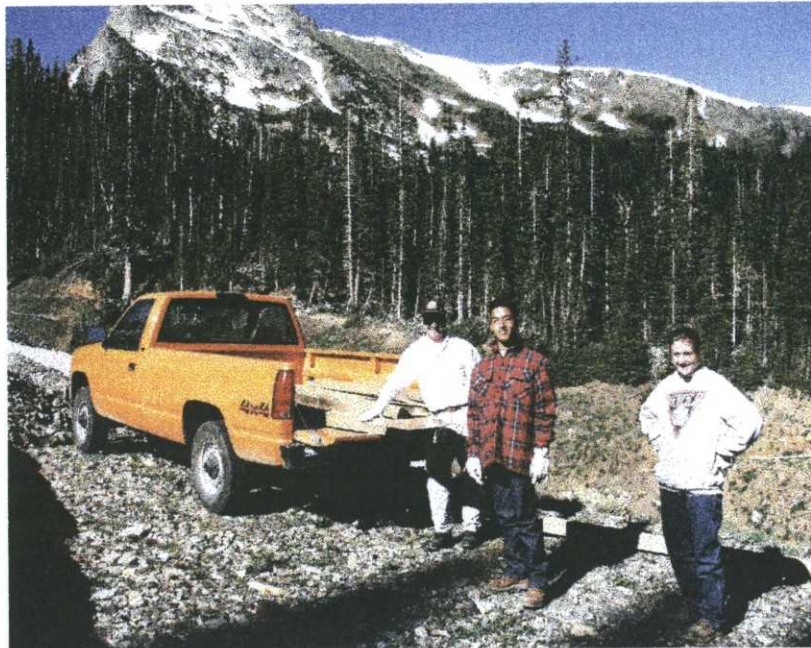
7/00

E&amp;NC

**Tiffany seems to be enjoying herself, wading in water, while doing nest searches!**

Approximately 75 percent of the eight week program was spent working on Arapaho. Projects consisted of painting, staining, noxious weed control, waterfowl nest searches, neo-tropical bird banding, nature trail boardwalk construction, and highway trash clean up, along with other varied biological and maintenance jobs.

The remaining 25 percent of the program was spent working in conjunction with the neighboring agencies. Three days were spent with the Town of Walden planting trees, painting park facilities, improving the visitor contact station and picking up trash. The OMP had the enrollees complete some wildlife habitat improvement projects. Two days were given to the BLM assisting in range management and improvements. The crew spent two days staining a maintenance building and repairing foot trails for the CDPR. The two days with CSFS were used to complete trail maintenance, dispose of slash and construction of a foot bridge. USFS used to crew to rehabilitate several camping and picnic grounds.



00NR9

7/00

E&NC

Look at their faces. They think this is going to be a “great day in the mountains” assisting the Colorado Parks and Recreation!

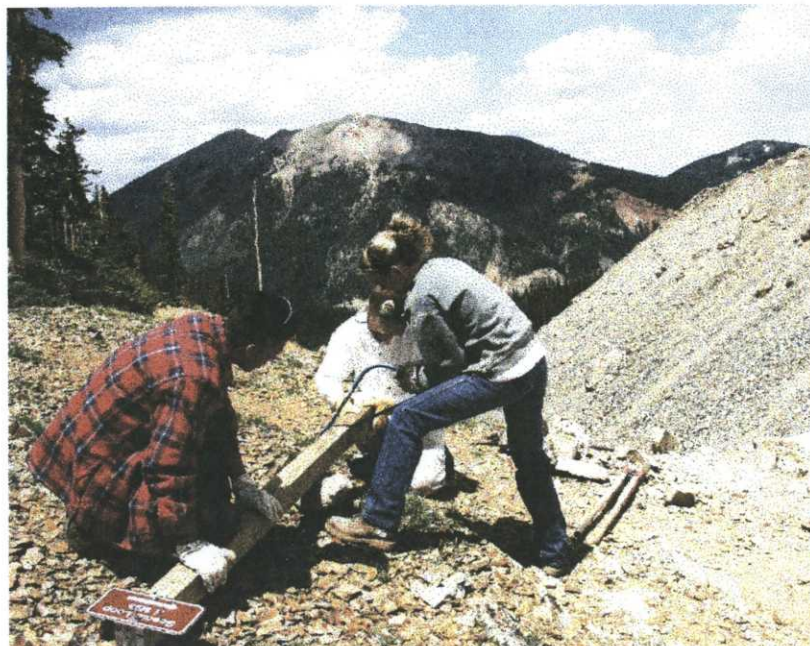


00NR10

7/00

E&NC

“You want us to dig in that rock? You’ve got to be kidding!”

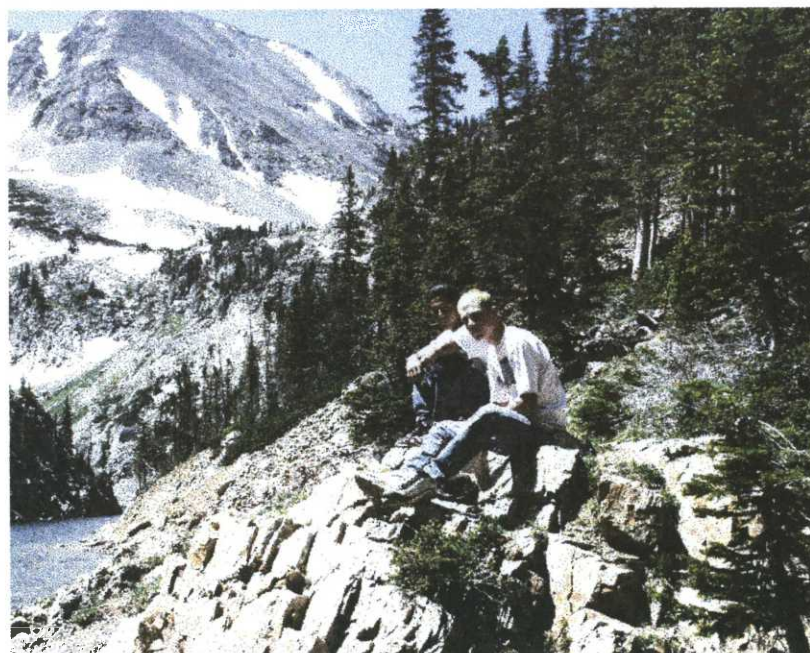


00NR11

7/00

E&NC

Yes, even the YCC shares the jobs equally!



00NR12

7/00

E&NC

After a hard day, the crew takes a well deserved break to enjoy the beautiful scenery.

One educational field trip was taken to the Rocky Mountain National Park. The day was spent looking at geological features; such as tectonic plates, glacier and volcanic activity and fault lines. Wildlife and plants were identified in an effort to increase the enrollees natural science knowledge.

Safety was stressed during the eight week program with the crew conducting one monthly safety meeting for the staff with each enrollee speaking individually on a different safety topic. Short safety meetings were held for each new project, with discussions that included safe tool handling, protective gear and safe lifting techniques. We are happy to report that the 2000 YCC program was successfully completed with no job related injuries or accidents for the seventh year in a row!

#### 4. Volunteer Programs



00NR13

5/00

E&NC

A rear view of the Volunteers campsite, "Home Sweet Home".

There is only one word for the volunteer program at Arapaho this past year 'WOW'! In May, Everett and Nancy Collin and Gordon and Nona Perkins moved their motor home and camper to Arapaho and immediately went to work. While Nona helped out in the office, Gordon did numerous woodworking jobs around the Refuge. Unfortunately, in June, Gordon had problems with an old hip replacement while working on the Nature

Trail which forced the Perkins to head home to Gordon's doctor in Nevada. And then there was the Collin crew, who arrived in a whirlwind of enthusiasm fresh from a winter volunteering at Kofa NWR in Arizona. The staff at Arapaho fell immediately in love with this couple, not only for their great personalities but for the endless amount of energy this "retired" couple displayed. Both Everett and Nancy put in a full day, everyday, with the staff and then proceeded to work many evenings and weekends "for something to do"! They took over many time consuming, but necessary, duties from all the staff, kept up the grounds maintenance, trail maintenance, public use/pamphlet distribution, mail runs, assisted with bird banding, wildlife counts, etc. They filled in as YCC Crew Leaders for a week when the regular leader was called home by a death in the family, and once again they encircled the YCC with their great attitudes and work ethics and the kids too, fell under their spell. The quality of camera/photo work they did during the summer, using their own equipment, was exceptional and added a great dimension to our photo library. All through the summer, they were constantly taking candid shots of the staff and YCC which they presented to the individuals at various appropriate times. Towards the middle of the summer they were becoming a little bored with jobs at Arapaho and needed more to do and decided they could be helpful running heavy equipment! Everett was already certified and experienced on much of the equipment but Nancy, not wanting to be left out, asked to be certified on the pieces she was familiar with, namely tractors, and then she learned to run some of the other equipment such as the excavator! Again, the Collin crew took over and assisted with many of the backlog maintenance activities. It was with great dismay that we said goodbye to Everett and Nancy in August, when they were called home to South Carolina by some urgent personal matters. And to our sadness, these personal matters will keep them in South Carolina this next field season, preventing them from returning to Arapaho. This turn of events also saddened the Kofa NWR staff who were counting on Everett and Nancy to return to them over the winter and continue a GPS/mapping program that they were working on....yes, they also have their own GPS equipment and talents that go along with this activity, such as dry camping and hiking in the desert in search for water sites, fences, etc. Last fall, both Kofa and Arapaho submitted this outstanding couple's name for the Outstanding Volunteer of the Year, and are currently waiting to hear the outcome!



**00NR14** **8/00** **ML**  
**Everett and Nancy Collin, what a couple!**



**00NR15** **6/00** **E&NC**  
**Gordon and Nona Perkins working on shelving for the shop.**



00NR16

7/00

E&amp;NC

Gina, with her natural inquisitiveness, checking out the native plants.

Gina DiGiallardo was selected as the Student Intern Volunteer to assist with “Monitoring Avian Production and Survivorship” (MAPS) Station at Arapaho with her stipend covered by 1231 funding. Gina was another volunteer who arrived at the Refuge with a great smile and an unfailing great attitude! Although Gina had never worked on a Refuge before and had come from a city upbringing, this did not hinder her from trying everything that was thrown her way. Along with learning bird banding methods, Gina was also asked to work along side the staff, helping with all the other seasonal activities that occur on the Refuge. No matter how dirty or repetitious some of the jobs became, Gina’s super attitude never failed, nor was she afraid to try anything. We were pleased to hear that Gina will be applying for our upcoming Bio-Tech positions this coming spring!

Necessary housing and utilities are provided for our volunteers, along with a stipend allowance of \$12 per day. The Volunteer Program at Arapaho has once again been very beneficial to both the Service. The Refuge has been very fortunate hiring the “retired” volunteers who have added immense talent and energies to our programs and came complete with their own motor/trailer homes. Again, Arapaho’s number one complaint with the Volunteer Program has been the **lack of adequate funding**. We are never given enough dollars to cover this worthwhile program, but because we think the benefits to the Refuge are tremendous we always manage to find the money from our base funding.

5. Funding

Table III.

Refuge 5-year Funding Summary

Fund	FY97	FY98	FY99	FY2000	FY2001
1121-06HR	14,000	25,000	55,000	20,000	20,000
1231-0000	3,500	4,400	4,400	4,700	6,700
1260-0000	349,100a	310,600a	289,737a	560,724c	524,400c
1261-60YC	-0-	5,900	5,400	5,600	5,100
6860-0000	----	6,000	6,000	5,500	5,500
7102-1106	----	---	90,000	66,500b	--
7201-0112	42,177b	42,177b	----	--	--
7203-0037	----	48,000	41,574b	16,839b	16,839b
8610-0000	3,290	2,638	1,465	3,423	1,012
9251-0000	3,000	3,100	3,000	3,000	4,200
<b>TOTAL</b>	<b>\$380,790</b>	<b>\$447,815</b>	<b>\$496,576</b>	<b>686,286</b>	<b>583,751</b>

- a. Includes ARMM &/or RP &/or FLEX &/or Cost Share monies.
- b. Carryover from the previous year.
- c. Includes MMS equipment and deferred maintenance

6. Safety

In March, Bilbeisi suffered a minor injury when some anti-freeze splashed into his eye causing irritation and discomfort. Following several doctor appointments and treatment, it was determined that no permanent damage had been incurred. An accident report was filed.

In June, Volunteer Gordon Perkins injured his artificial hip while working on the Nature Trail. As stated in the no fault accident report, that while standing up after kneeling for a long period of time, his artificial hip socket popped out of place causing severe pain and discomfort.

In August, an unidentified source contacted OSHA regarding the new radio tower installation next to the new administration building. Even though it was actually a subcontractor of

Motorola who was written up for improper site excavation, the Refuge was also reprimanded for not preventing an illegal activity from occurring on Refuge lands. The outcome of the reprimand was that the subcontractor and Motorola paid fines and the entire Arapaho staff must complete an eight hour safety course presented by OSHA early in 2001.

One new addition to weekly staff meetings at year end is the topic of safety. Safety issues are discussed at the beginning of all staff meetings. Employees can bring up any concerns and the staff discusses corrections or solutions.

Monthly safety meetings were conducted while all temporaries, volunteers and YCC were on board. The nicer weather also enabled us to conduct these meetings in an outside environment. With a TV/VCR added to our equipment in November, we should be able to do more regular and enhanced safety meetings in the upcoming year.

Safety topics were as follows:

<u>Month</u>	<u>Chairperson</u>	<u>Discussion</u>
May	Bilbeisi	General Safety when working around shop/heavy equipment, ATV's, etc.
June	Varney	Hantavirus Prevention
July	MacNab & YCC Enrollees	Hypothermia, Lightning, and Safety When Changing a Flat Tire
August	DiGiallardo	Dehydration Prevention & Treatment
September	Furlo	Frostbite Prevention & Treatment

#### 7. Technical Assistance

A WEA was established, in March, between FWS and Tointon Ranches for the purpose of willow planting in a riparian area.

In July, Varney submitted a news release to five local and adjacent county newspapers informing the public about the Colorado Partners for Wildlife Program (CPWP) and the availability of funding/manpower. Numerous trips to Kremmling, Granby, Grand Lake, and Steamboat Springs, CO regarding potential Partners for Fish and Wildlife Project resulted from

these new releases. Many of the proposed projects were not feasible due to water rights and wetland constraints. But several good prospects will be pursued.



**00NR17**                      **7/00**                      **E&NC**  
**A section of river on the Tointon Ranch shows the eroding banks.**



**00NR18**                      **7/00**                      **E&NC**  
**Another view from up above.**

Following is a list of services or assistance provided by Arapaho NWR staff to various agencies throughout the year:

A. BLM

1. Memorandum of Understanding - in place - a document which governs the sharing of heavy equipment to the benefit of both agencies.
2. Provided expertise on a waterfowl/grazing conflict area in conjunction with the Owl Mountain Partnership staff to arrive at an agreement on the best way to serve both the wildlife/land and the grazing permittee interests. The area in question is the Hebron Sloughs Waterfowl Management Area, immediately southwest of the Refuge.
3. Memorandum of Understanding - in place as part of the MacFarlane Water Agreement - Installed flume to measure flow into Eighteen Island Reservoir at Hebron slew.

B. Colorado Division of Wildlife

1. Law Enforcement - mutual assistance provided in law enforcement and bag checks during fishing, upland game, waterfowl, and big game seasons - on and off of the Refuge.
2. Committee Member - Lanier served on the North Park Habitat Partnership Program Committee. The program was formed to resolve big game forage and fence conflicts with ranchers.

C. Jackson County Fire Department

1. Cooperative Agreement - mutual assistance provided in fire protection and suppression.
2. Rizor participated in the Annual Jackson County Fire Planning meeting.

8. Other

A check for \$26,018, which represents 57.95 percent of the entitlement, was presented to Jackson County as the Refuge Revenue Sharing Act payment for FY99.

## F. HABITAT MANAGEMENT

### 1. General



00NR19

8/00

E&NC

A bird's eye view from Owl Ridge.

Snow pack for the winter was average with January precipitation normal and February and March above normal. The Illinois River opened up in the 5<sup>th</sup> of April with flows peaking in late May. Wetland conditions were good in the spring with average precipitation helping to maintain them. With June came dry weather, causing the Illinois River flows to drop considerably and by July the River was dry on the north end with a trickle on the remainder of the Refuge. Water levels in all ponds dropped in July and by August many ponds were completely dry. Fall wetland habitat conditions were below average despite higher precipitation in August and September. The Illinois River flows started increasing in late September and by October flows were good along its entire length, with the River freezing in November. Wetland conditions were poor going into freeze up with over 70 percent of the ponds completely dry. Early winter snow packs were lower than normal which may result in poor spring conditions for 2001.

## 2. Wetlands

Spring wetland conditions were good, with all ponds full and meadows 70-80 percent irrigated.

The Illinois River opened in early April with average flows and maintained moderate flows throughout the spring with very little flooding. The river peaked in late May and by June had dropped to below normal summer levels. Most of the headgates were closed in late June to help maintain flows in the River. The River was dry on the north end from July through the late September with flows returning in October.

The Water Management Plan incorporates planned draw downs of specific ponds each year when possible, to enhance emergent and submergent vegetation, encourage invertebrates and facilitate needed dike repairs. In the early fall of 1999 boards were pulled in Eagle and Elk ponds. Hampton #2 pond was part of the 1999 drawdown program, but dike work was not completed in 1999 so it was included in the 2000 drawdown plan. Work was completed on all dikes and part of Eagle was disced to encourage submergent vegetation with refill.

In January, Lanier and Rizor sat in, via telecom, on a water rights meeting in the RO. Discussion revolved around depletion issues, a supplementary supply plan and dry up options.

Willis and Fiedler, RO Water Rights traveled to the Refuge in February to further discuss options for depletion

Lanier and Rizor attended a water meeting in March in Kremmling with the BLM, RO Water Rights, Department of Justice Attorney and the State Water Commissioners to discuss water use changes on the Refuge and Hebron Sloughs.

Lanier met with RO Water Rights, BLM Water Rights personnel and Evans regarding possible changes in water use at MacFarlane Reservoir in March.

The Refuge hosted a public meeting in April with Refuge staff Rizor, Lanier, Langer, and Stefanic, along with Willis and Fiedler RO Water Rights, FWS Solicitor, Justice Department Attorney, Wheeler & Assoc. Water Engineers, BLM Water Rights and Biologist, Colorado State Water Commissioners and local landowners in attendance. The Refuge's intent of filing junior storage rights on all ponds without any storage rights was announced and discussed. There was little opposition to this action. There was also discussion on water management at MacFarlane Reservoir. The main issue discussed was concerns on using water out of MacFarlane for wildlife at Hebron, since most of MacFarlane water is irrigation water not wildlife water. The matter is being looked into and no answer to the problem has been resolved at year's end.

In May, Fiedler, Water Rights RO, installed a data logger in the Howard flume and instructed Rizor and Bilbeisi in how to use the newly acquired flow meter.

Rizor, Bilbeisi and Furlo assisted BLM biologist Chuck Cesar installing a Parshall flume in a ditch to measure return flows from Evans irrigation into the BLM's Hebrons Eighteen Island Pond.

5. Grasslands

a. Irrigated and Sub-irrigated Meadows

Arapaho NWR relies heavily upon irrigation water for habitat management purposes via 49 full or partially owned water rights involving 321 cfs of water. A total of 14,302 acre feet of water was diverted for irrigation and recharging of wetlands. The Illinois River is the primary Refuge water source, while Spring Creek, Potter Creek and Antelope Creek provide a combined total of less than 20 cfs of water. Fifteen major headgates located along the Illinois River divert water into more than 70 miles of primary irrigation ditches. Secondary and spreader ditches flood irrigate up to 9,066 acres of meadow to maintain and perpetuate quality migratory bird breeding and nesting habitat.

Efforts in the spring were made to manage irrigation waters more efficiently with several ditches only opened for two weeks and some not opened at all. These efforts were discontinued as the weather and wetland conditions started to deteriorate, most ditches dried up in late June/early July. There still is no good answer to the question of how the Refuge can decrease its depletions, but we are hopeful that ideas will be brought up in the near future and efforts on the ground can be soon be started to work towards this goal.

The primary objectives of meadow management are: provide shallow, well dispersed, open water areas as soon as possible in the spring to attract waterfowl and other migratory birds and provide high quality nesting and brood rearing habitat for waterfowl and other wildlife.

b. Uplands

The sagebrush uplands are managed primarily to provide a diversity of grasses, forbs and shrubs as habitat for various species of wildlife such as the Brewer's sparrow, sage grouse and pronghorn antelope. Various grazing and non-grazing schemes are utilized to manage and maintain the uplands in good condition for wildlife.

The Refuge in cooperation with the NPHPP committee mechanical harrowed 114 acres of uplands in field D5 with a Dixie harrow. The area is predominantly an arid bench

with variable densities and heights of sagebrush. Land use of the area has been exclusively livestock grazing (cattle) for most of the past century, with sheep use likely in the early and mid portions of the 1900's. Treatment consisted of a split between a once over treatment and a twice over treatment. The twice over treatment involved dragging the harrow over the same patch of ground a second time but in the opposite direction of the first time. In an effort to create a mosaic of treated and untreated areas the field was harrowed in a mixture of patches 1 -15 acres in size with random trails between each site. Objectives of the treatment were to decrease total sagebrush canopy, increase understory grasses and forbs for the benefit of sage grouse and elk, and to offer an area of fairly easy access as a demonstration site of the results of harrow use. Grazing will be deferred from the area for two growing seasons.



**00NR20** **8/00** **TS**  
**A section of riparian area where grazing is implemented.**



**00NR21** **8/00** **TS**  
**Another section, minus the willows. Notice the bank erosion.**

The Federally endangered North Park phacelia *Phacelia formosula* continues to do well according to a survey completed in July with 1867 flowering plants and 313 rosettes. This species was discovered in 1995 by an employee of the Colorado National Heritage Foundation on the Case tract near the Auto Tour Route. This plant is unusual in that it thrives on barren, wind blown hillsides with a west or southwest exposure and is known to exist no where else but Jackson County, CO.

## 7. Grazing

After several years of snow and wind, residual vegetation tends to mat down, inhibiting new plant growth and ultimately reducing the quality of cover for most wildlife species. Livestock grazing is the primary habitat manipulation tool used to restore plant vigor and enhance community diversity.

Generally, the uplands are grazed in the spring after there has been sufficient new plant growth. The cattle are then removed prior to the end of the growing season, allowing grazed plants to recover. Most of the meadows are not grazed until after August 1<sup>st</sup>, or after the majority of waterfowl and other migratory birds have completed their nesting activities. These areas are grazed under an every other year rotation system in which the areas are rested one year, grazed the next. Several meadow and upland areas are grazed as part of a high intensity, short duration grazing system, with this system the meadows and uplands may be grazed in the spring, summer or fall.

Refuge personnel determine the maximum number of AUM's to be grazed on each grazing unit. The permittee is then free to determine how he will utilize the AUM's allotted to him within the time frame specified on his grazing permit. We encourage the permittee to run larger herds and utilize the available AUM's as soon as possible. The only exception to this is the high intensity, short duration grazing system, Refuge personnel determine timing and length of each field rotation. The permittee is furnished fencing supplies by the Refuge and is responsible for conducting all minor fence repairs. Most permittees remove all of their cattle prior to, or during, the month of October as heavy snowstorms accompanied by strong winds may develop in North Park anytime after the middle of October.

The current grazing program utilizes several different types of treatments including complete rest for a year or more, high intensity/short duration grazing (HRM), and seasonal rotation at various grazing intensities (Table IV). Although the grazing program has basically provided the desired biological diversity over the years, improvement and changes in the program are ongoing. Due to the extremely dry summer and fall, many grazing schedules had to be changed due to lack of stock water in certain fields, also grazing time was shortened in some fields because of the lack of available feed.

Table IV.

**SUMMARY OF 2000 GENERAL GRAZING PROGRAM**

Unit	Upland Acres	Meadow Acres	Total Acres	AUM's	AUM's/ Acre	Permittee
Anderson HRM	78	538	616	639.03	1.04	Burr
Hampton HRM	1674	1212	2886	1147.40	0.40	Swift
A1	329	40	369	104.65	0.28	Swift
A2a/b	254	16	293	82.50	0.28	Swift
A2c	178	29	308	56.53	0.27	Swift
A2d	149	10	212	41.25	0.26	Swift
A5	111	316	427	564.85	1.32	Stephens
A8a	400	14	414	243.20	0.59	Hudspeth
A8b	420	3	423	139.00	0.33	Hudspeth
B17	3	105	108	157.03	1.45	Swift
B18a	61	35	96	42.00	0.44	Swift
B18b	92	20	112	47.08	0.42	Swift
B20	—	122	122	144.90	1.19	Swift
B21	107	40	147	64.00	0.44	Swift
C1	279	10	289	83.40	0.29	Hudspeth
C2	215	130	340	191.48	0.56	Stephens
C3	86	135	221	209.32	0.95	Stephens
C4	37	497	534	623.96	1.15	Burr
C5	61	35	96	48.85	0.51	Burr
C6/7	—	264	264	181.25	0.69	Willford
C8/10	233	19	252	36.25	0.14	Willford
C9	—	80	80	7.25	0.09	Willford
C11	167	206	373	108.69	0.29	Stephens
C12a/b	19	824	843	114.89	0.14	Burr
C19	121	—	121	7.00	0.06	Anderson
C20/21	54	9	63	3.50	0.06	Anderson
C22	640	—	640	27.80	0.04	Hudspeth
C23/24	640	—	640	41.70	0.07	Hudspeth
D3	230	200	430	281.21	0.65	Burr
D4 *	.5	—	.5	1.00	2.00	Anderson
D4	120	28	148	18.99	0.13	Stephens
D5	378	—	378	31.72	0.08	Burr
D6	148	127	275	192.60	0.70	Burr
D8	286	87	373	107.76	0.29	Burr
D9	99	24	123	33.28	0.27	Stephens
D10	104	46	150	72.65	0.48	Stephens
D11	105	29	134	54.49	0.41	Stephens
D12	66	20	86	36.32	0.42	Stephens
D13	—	89	89	135.10	1.52	Evans
D14	3	65	68	71.95	1.06	Stephens
D15	21	44	65	94.99	1.46	Evans
E1	101	321	422	80.15	0.19	Anderson
E2	120	480	600	582.14	0.97	Burr
S1	51	68	119	127.80	1.07	Evans
S2	194	78	272	106.50	0.39	Evans
S4/5/6/10a	371	59	430	98.56	0.23	Evans
S7a	9	57	66	143.84	2.18	Evans
S7b	—	65	65	124.67	1.92	Evans
S7c	—	65	65	129.36	1.99	Evans
S8	107	124	231	184.40	0.80	Evans
S9	125	31	156	64.32	0.41	Evans
S10b	270	34	304	67.76	0.22	Evans
S11	—	26	26	18.48	0.71	Evans
S12	10	37	47	89.64	1.91	Evans
Pole Mountain (Forest)		(forest land)	800	246.65	0.31	Evans
<b>Totals</b>	<b>9326.5</b>	<b>6913</b>	<b>17211.5</b>	<b>8355.09</b>	<b>0.52</b>	

Note: \* Field D4 was also utilized by sheep as part of the Pest Control effort - see section F10.

## 9. Fire Management

Due to the extremely dry conditions, much of Colorado and all of Jackson County was under a fire ban for most of the summer. This prevented any prescribed burning as well as campfires, fireworks, etc. Even though there had been no prescribed burning planned for the Refuge several other agencies had been planning burns which the Refuge staff had been asked to assist with.

In July, the staff assisted the Jackson County Fire Department and the USFS in fighting two sage brush fires on BLM land. Both fires were caused by lightning strikes. The first fire originally occurred on the 16<sup>th</sup>, one mile east of the Refuge, south of County Road 32, on the north side of Owl Ridge and burned approximately ½ acre. Despite pumping 4,000 gallons of water on it, it restarted on the 18<sup>th</sup> and burned roughly eight additional acres before being extinguished. The second fire burned about two acres on Peterson Ridge, just west of the Refuge boundary. This fire was more aggressively fought than the first one as no one wanted this one to restart!

This being one of the worst fire seasons for the Nation, our staff as all FWS staff was put on fire alert. In August, Varney and Furlo were the first to be called and were sent to Montana to complete their basic fire training and travel on to various locations. Furlo was pretty much on standby on an engine crew for his entire three week stint, doing odds and ends maintenance activities at CMR NWR, while Varney's engine crew actually was on one of the main fires outside of Missoula and Hamilton, Montana. Lanier and Stefanic were also called during this time by the Craig Fire Dispatch to the Meeker/Craig area. Stefanic worked on an engine crew putting out hot spots while Lanier was on standby at the Craig Dispatch for their stint. In September, R. Bilbeisi, Follett, and Furlo were called to assist with a fire north of Steamboat Springs. Their crew went in as the first response behind the smoke jumpers and spent three days building fire lines and lighting back fires until the hotshot crews and mop up crews arrived. This was a great opportunity for the staff to sharpen some of their fire skills and get some good experience alongside seasoned fire fighters!

## 10. Pest Control

Canada thistle *Cirsium arvense* is the primary noxious weed found on the Refuge, although yellow toadflax *Linaria vulgaris*, musk thistle *Carduus nutans* and whitetop *Cardaroa draba* have also been found in several small patches. Historically, efforts to control Canada thistle were limited to spraying 2,4-D herbicide. These efforts were minimally successful and in 1988, all chemical spraying was eliminated and biological control was undertaken.

The initial biological agent released was the stem mining weevil, *Ceutorhynchus litura* and later the Canada thistle stem gall fly, *Urophora cardui* and the Seed Head Weevil, *Larinus planus*. These agents have been distributed to ten different sights, with several of these areas having both agents. Photo points were established at each release site and over the years

general observation of the plants at most sites show signs of disease, poor seed head production and/or galls.

In 1998 an Integrated Three Year Exotic Weed Management Plan was developed. This plan was the Refuge's effort to participate with the local Multi-Agency Undesirable Plant Management Plan activities. There is a large concern in the County that a more aggressive approach needs to be taken to control noxious weeds. With this in mind the County hired a Weed Coordinator to oversee all weed control activities. In cooperation with this effort the Refuge agreed to allow minimal chemical application in specific areas within our boundary. In turn, the Weed Coordinator agreed to advise and assist with alternative biological and manual controls. The following is a brief synopsis of treatments applied:

Table V.

**2000 Integrated Pest Management Report**

<b>Type of Control</b>	<b>Habitat Type</b>	<b>Target Species</b>	<b>Acres Treated</b>	<b>Estimated Cost</b>
Chemical Tordon/2-4D	Upland	Yellow Toadflax	2.5	\$175
Mechanical Manually Pulled	Grassland	Whitetop	0.2	\$ 50
Mechanical Manually Pulled	Upland	Musk Thistle	0.3	\$ 35
Mechanical Mowed	Meadow/Upland	Canada Thistle	10.0	\$250
Biological Sheep	Upland	Yellow Toadflax	0.5	\$ 80
<b>Totals</b>			<b>13.5</b>	<b>590</b>

## G. WILDLIFE

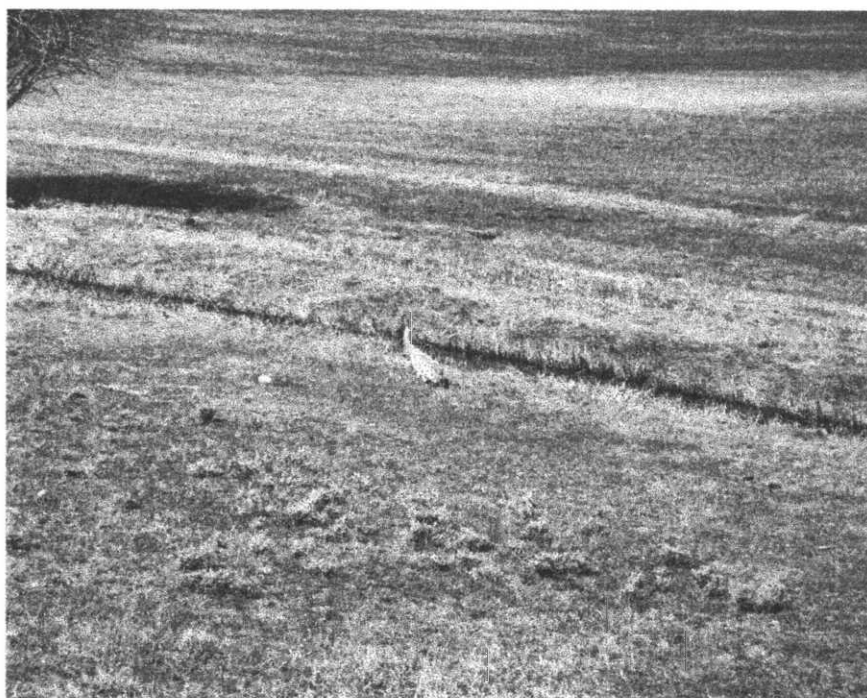
### 1. Wildlife Diversity

Although the Refuge's primary objective is the production of waterfowl, the protection, maintenance and perpetuation of all other indigenous wildlife and plant communities is also important. Most habitat management techniques such as prescribed burning, grazing, irrigation and wetland creation benefit all native plant and animal species.

### 2. Endangered and/or Threatened Species

Four bald eagle sightings were recorded on March 6<sup>th</sup>, July 7<sup>th</sup>, November 13<sup>th</sup>, and December 25<sup>th</sup>. Summer sightings have become more frequent over the last couple of years.

Greater sandhill cranes are listed as an endangered species by the State of Colorado. Unconfirmed reports indicate nesting in North Park (but not on the Refuge). Four sandhill cranes were observed in September and a flock of over 200 cranes were observed flying over the headquarters in October.



00NR22

5/00

E&NC

A lone crane was spotted on the Refuge late in the spring.

One river otter was sighted in May near the Interpretive Nature Trail on the Illinois River. River otters are listed as an endangered species by the State of Colorado. Even though we have observed several otters over the past several years we are still trying to achieve photo documentation.

3. Waterfowl

a. Ducks

Mallards made the first appearance of the year with six sighted on March 28<sup>th</sup>. By late April waterfowl numbers were approximately 4,000 reaching an estimated peak of 7,500 in August.

Spring brought the usual assortment of waterfowl including bufflehead and ring-necked ducks, our common spring migrants. Two canvasback were observed in the spring but no broods were found during the summer.



00NR23

5/00

E&NC

This pair of Cinnamon teal look as if they might be taking up residence.

The first duck brood of the year, six cinnamon teal were observed on June 19<sup>st</sup>, about the same time frame as last year.

This was the twelfth year nest dragging was used to calculate nest success/predation rates. Nest dragging began on June 20<sup>th</sup> on the Case tract with a total of 108 nests located in roughly 611 acres. Mayfield success was estimated to be 44 percent. Results are summarized in Table VI.

There are 16 elevated nest baskets along the Illinois River, which were installed to increase mallard production. The structures were not checked for use or success this year.

Based on our brood counts, duck production was estimated at 6055 (Table VII) up from last year but remaining consistent with the past eight years high and low cycles.



00NR25

7/00

E&NC

Stefanic candles an egg to determine incubation stage, while Rizor records.



00NR25

7/00

E&NC

One of the 108 duck nests found!

Table VI.

## ESTIMATED DUCK AND CANADA GOOSE PRODUCTION 1976-2000

Species	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
BW/Cinn Teal	402	507	421	376	82	174	193	996	696	1154	857	1551	719	570	389	606	361	483	1036	540	580	602	596	586	1015
Canvasback	0	0	7	23	0	0	0	5	30	0	0	0	0	0	0	0	0	0	7	0	0	12	0	6	0
Gadwall	483	446	856	476	291	663	1414	1536	2394	2863	2293	1695	2383	1127	758	1259	1190	1379	2321	1381	2616	1576	1007	1318	1503
GW Teal	354	352	500	219	13	247	737	713	507	302	455	450	588	577	138	173	248	313	291	306	322	227	246	203	292
Mallard	566	363	663	245	48	435	922	408	414	249	383	617	418	358	158	438	246	315	342	232	416	617	261	176	520
Pintail	661	275	400	373	63	430	1291	958	1626	733	782	782	738	389	214	516	213	130	351	234	247	332	128	376	167
Redhead	85	128	289	190	49	25	328	491	182	300	563	216	199	66	117	283	77	157	227	159	238	159	103	281	62
Ring-neck	0	0	0	8	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruddy	77	76	138	13	9	12	178	242	316	364	527	267	641	160	89	242	87	325	151	115	284	146	114	263	121
L. Scaup	635	156	510	474	291	77	748	1046	1174	1266	1638	1193	1194	707	331	1080	518	1169	1266	699	1118	1004	707	1131	874
N. Shoveler	113	210	515	80	187	233	859	1340	688	968	552	1393	1010	1044	355	868	750	740	678	385	756	613	376	542	569
Am. Wigeon	402	224	821	98	137	263	1045	1497	1012	1557	1423	1205	1528	1077	547	875	896	449	727	652	1047	659	696	685	908
Unidentified	0	0	0	0	0	0	7	0	7	0	0	0	14	0	78	29	5	0	0	0	0	45	31	31	23
Total Ducks	3778	2737	5120	2575	1170	2559	7729	9232	9053	9756	9473	9369	9432	6075	3174	6369	4591	5460	7397	4703	7624	5992	4265	5598	6054
Canada Goose	7	0	21	48	114	100	125	127	148	212	253	300	457	225	275	200	160	110	330	150	100	250	250	320	275
C. Merganser	8	8	13	0	0	0	40	0	0	10	30	30	0	0	25	0	0	0	0	0	0	0	0	0	0
Totals	3793	2745	5154	2623	1284	2659	7894	9359	9201	9978	9756	9699	9889	6300	3474	6569	4751	5570	7727	4853	7724	6242	4515	5918	6329

b. Geese

The first Canada goose was sighted on February 28<sup>th</sup>, one of the earliest sightings ever recorded. Waterfowl counts in late April revealed approximately 400 geese, the number peaked in mid-June with nearly 600 birds being observed. During fall migration, numbers again reached the 700 range with most birds gone by late October.

None of the 108 elevated nest structures were checked for success this year. The structures are filled with hay in March in time for April nesting. The first Canada goose brood was sighted on May 16<sup>th</sup>. Goose production for the year was estimated to be 275 goslings, (Table VII) a decrease from last year.

4. Marsh and Water Birds

The Refuge has one main black-crowned night heron colony on Smith Pond and two small colonies on Marsh and Reservoir #2. These colonies are surveyed once a summer for an estimate of use and population size. This year 30 active nests were found on Smith Pond with thirty two adults being observed. This number is low relative to the last three years and many nests were found to be inactive. The cause for this decline is unknown but water conditions were extremely dry during the summer and could have played a role in this slump. There were no active nests found on Marsh or Reservoir #2.

Eared and pied-billed grebes both nest on the Refuge. A survey of eared grebe nests produced three colonies with a total of 58 active nests. No pied-billed nests were found, but young were observed on various wetlands.

White-faced ibis were seen several times, two birds in April, seventeen in May, and nineteen and thirty in July. Four years ago the ibis were documented nesting on the Refuge, since that time no new nests have been observed.

Table VII.

**2000 NEST DRAGGING RESULTS**

611 ACRES SEARCHED BY ATV OR FOOT  
 .17 NEST PER ACRE  
 1 NEST PER 5.7 ACRES

SUCCESS	66
PREDATED	36
ABANDON	6
<b>TOTAL</b>	<b>108</b>

<b>SPECIES</b>	<b># NESTS</b>	<b>PERCENT</b>	<b># BROOD</b>	<b>PERCENT</b>
GADWALL	46	42.0%	182	32.0%
L. SCAUP	21	19.0%	115	20.0%
CINN/BWT	11	10.0%	60	11.0%
N. PINTAIL	4	4.0%	10	2.0%
MALLARD	12	11.0%	43	8.0%
N. SHOVELER	4	4.0%	33	6.0%
RUDDY	0	0.0%	17	3.0%
A. WIGEON	4	4.0%	70	12.0%
GWT	4	4.0%	21	4.0%
REDHEAD	2	2.0%	10	2.0%
UNKNOWN	0	0.0%	5	1.9%
<b>TOTAL</b>	<b>108</b>	<b>100.0%</b>	<b>566</b>	<b>100.0%</b>

<b>SPECIES</b>	<b>SUCCESS</b>	<b>PREDATED</b>	<b>ABANDON</b>	<b>TOTAL</b>	<b>APPARENT SUCCESS</b>	<b>MAYFIELD SUCCESS</b>
GADWALL	27	17	2	46	59%	42%
L. SCAUP	13	7	1	21	62%	49%
CINN/BWT	8	1	2	11	73%	57%
N. PINTAIL	1	2	1	4	25%	11%
MALLARD	11	1		12	92%	85%
N. SHOVELER	3	1		4	75%	61%
WIGEON	1	3		4	25%	8%
GWT	1	3		4	25%	1%
REDHEAD	1	1		2	50%	21%
<b>TOTAL</b>	<b>66</b>	<b>36</b>	<b>6</b>	<b>108</b>	<b>61%</b>	<b>44%</b>

Mayfield Success =  $(1 - Nu/E)$

Nu = 42      E=1768.5      h=34

Double-crested cormorant sightings were sporadic during the spring and summer. They nest on Walden Reservoir, which is just north of the Refuge, spending time here in feeding activities.

White pelicans continue to be a common sight, with the breeding colony on MacFarlane Reservoir.

Other marsh and water birds observed included sora and Virginia rails. Black-necked stilts were spotted in May and a pair took up residence on 76 Pond raising three young. This was the first time in over ten years that stilts were documented as nesting. In April, two long-billed curlews were seen near the Brocker overlook. One cattle egret was spotted on West Fish Hatchery Pond in May.

5. Shorebirds, Gulls, Terns and Allied Species

This was the fourth year that the Refuge participated in the International Shorebird Survey Program organized by Manomet Bird Observatory out of Massachusetts. These surveys were completed from April 1<sup>st</sup> through June 10<sup>th</sup> and again from July 11<sup>th</sup> through October 31<sup>st</sup> on ponds around the Auto Tour Loop. Species found through these surveys included: killdeer, American avocet, yellowlegs, willet, dowitcher, Wilson's phalarope, Western sandpiper and various other sandpiper species.



00NR26

7/00

E&NC

This young killdeer was spotted in the vegetation while mom kept a close eye nearby.

An unusual sighting was of four red-necked phalaropes on Elk Pond in early May. Two Franklin gulls were observed in April on Muskrat Pond.

6. Raptors

The three most common raptors, observed daily in the summer, are Northern harrier, Swainson's hawk and golden eagle. Other familiar raptors found are: American kestrel, short-eared owl, rough-legged hawk, sharp-shinned hawk and turkey vulture. Red-tailed hawks were found several times throughout the summer. There were also three observations of ferruginous hawks and one cooper hawk sighting.

Prairie falcons were sighted occasionally throughout the spring, summer and fall.

A pair of resident great horned owls live in the Case barn where disturbance is minimal. This year they produced two young, who were often visible in and near the barn. Great horned owls are seen frequently around the headquarters, especially in the early morning.

There were three separate fall sightings of burrowing owls but no nesting activities were detected during the spring.

7. Other Migratory Birds

Rosy finches, black capped chickadees, American tree sparrows and dark-eyed juncos again took advantage of our bird feeders during the winter months.

Numerous bluebird nesting boxes are placed strategically around the headquarters area with mountain bluebirds utilizing a small percent of them, and tree sparrows using the remainder.

Rufous and broad-tailed hummingbirds are common visitors and several were caught in mist net operations.

Rare sightings included: fox sparrow, pine siskin, Ruby-crowned kinglet, Bullock's oriole, Green-tailed towhee, boblink and Virginia's warbler.

8. Game Animals

During the winter, several small herds (40-500) of elk were present on Arapaho with approximately 1000 total animals. The resident herd, of approximately 80 elk, were seen mostly in August and September in the Illinois River bottoms south of the headquarters. With the opening of the big game seasons, the Refuge remained fairly quiet with only one herd of approximately 140 animals taking up residence.

Various numbers of moose were sighted throughout the year along the Illinois River. Moose are common during the summer and fall, attracting many public visitors. According to the CDOW, the North Park moose population is healthy and being maintained at the 500-600 desired population level.

Mule deer were found in the willows along the Illinois River throughout the year. There were several sightings of white-tailed deer ranging from 1 to 24 animals most commonly seen on the northern sections of the Refuge.

Pronghorn antelope continue to be year round residents with their numbers remaining stable over the past several years.

10. Other Resident Wildlife

Arapaho receives many visitors throughout the spring and summer in search of sage grouse. Sage grouse are most visible on their leks during the spring. The Refuge, thanks to a land exchange, now has one small lek named Peregrine. The Refuge volunteered to complete lek surveys on Peregrine for the CDOW and ended up taking on two other sites. High numbers for each lek are as follows Peregrine 9 males, 2 females, Railroad 40 males, 44 females and Spring Creek 64 males, 8 females. Peregrine lek will not be open to the public but we will continue to offer visitors any lek viewing information that the CDOW makes available to the public.



00NR27

7/00

E&NC

This sage grouse hen and brood were one of several spotted over the summer.

The North Park Sage Grouse Conservation Planning Committee completed a conservation plan for sage grouse in the spring. Comments were received from CDOW and USFWS during the summer and have yet to be addressed by the committee at the end of this year.

Adult sage grouse sightings remained consistent during the spring, summer and fall. More than ten broods were spotted with the first one of the year on June 16<sup>th</sup>, during nest dragging activities near the Auto Tour Route. Several big flocks (25+) were seen in the late fall.

Two ring-necked pheasants were sighted near Highway 125 and the Allard In-road in March. These birds are not residents of the area with most winters too severe for them to survive. It was concluded that the birds had been released on one of the local ranches for fall hunting and had survived the winter.

Although no beaver survey was conducted, beaver dam activity remained high this year, with the staff spending many hours removing dams from headgates, flumes and ditch structures. Future control options are being looked into, especially for areas where access is limited for heavy equipment.

We continued to run our predator census this year. It is our hope that the census will enable us to follow and better address predator population trends in future years.

The porcupine population continues to do well based on observations and willow use. Occasional observations of long-tailed and short-tailed weasel were reported along with several rare sightings of mink.

Other resident wildlife include: white-tailed jackrabbit, Nuttall's cottontail, white-tailed prairie dog, Richardson's ground squirrel, and other small rodents. The cottontail and jackrabbit populations are still at high levels, while the prairie dog and ground squirrel populations remain stable.

Leopard frogs, documented as a Refuge resident several years ago, were spotted three times this summer, twice on the Illinois River and once in Soap Creek.

11. Fishery Resource

The Illinois River is the only Refuge fisheries resource. Brown trout are the primary game fish although a few rainbow trout are also present. In low water years the northern section of the river dries up and is unable to sustain any game species. Thus the best game fishery is south of the Refuge headquarters area.

15. Animal Control

No animal control was conducted this year.

16. Marking and Banding

This was the sixth year effort in running a Monitoring Avian Productivity and Survivorship (MAPS) station. The station consists of mist nets, point counts and vegetation descriptions. Ten constant effort mist nets were run at eight different times during the breeding season. A total of 428 birds were captured: 304 banded; 115 recaptured; 9 released. Thirty four species were represented, the most common being yellow warbler, savannah sparrow and song sparrow. Fourteen point count stations were monitored two separate occasions during the spring in support of the MAPS data. A Habitat Structure Assessment was conducted in July determining the two main habitat types of the station.



00NR28

7/00

E&NC

This male American goldfinch was one of our favorite catches.



00NR29                      5/00                      E&NC  
This Bullock's oriole was a rare catch, on it's migrational trip North.



00NR30                      6/00                      E&NC  
Even though common snipe is fairly 'common', they never fail to amaze the banding crew!



00NR31

7/00

E&NC

The warbling vireo are always a pleasant surprise!



00NR32

8/00

E&NC

The banded common yellowthroat adds a bit of color in the early morning.

## H. PUBLIC USE

### 1. General

An estimated 7,000 wildlife enthusiasts visited the Refuge in 2000. The majority drive the auto tour route, but the traffic coming through the office for specific questions continues to increase. Visitors are able to obtain information from the three kiosks, as well as pamphlets picked up at the Chamber of Commerce and the Forest Service office.

### 4. Interpretive Foot Trails

Work continued, transforming the 0.5 mile nature trail from gravel to boardwalk. This job is so labor intensive that each year we have tried to set a goal to accomplish a set portion of the boardwalk. This summer we were able to complete a section on the east side of the Illinois bridge and connect it into the large section of boardwalk which extends to the oxbow bridge. Our goal now is to complete one more small section of boardwalk from the oxbow bridge to North Allard dike and put a turn around at that point. This would complete the part of the trail we have decided to boardwalk, all but a short length at the beginning of the trail.

### 5. Interpretive Tour Route

A six-mile, self-guided auto tour route is maintained on the west side of the Refuge. The best waterfowl and shorebird viewing areas are located on the tour route as are interpretive stops relating to white-tailed prairie dogs, pronghorn antelope, and other fauna and flora. New interpretive signs were received this spring and installed complementing the new Self-guided Auto Tour Pamphlets.

### 6. Interpretive Exhibits/Demonstrations

The three interpretive kiosks are a popular attraction to Refuge visitors. The kiosks have interpretive panels that describe activities from wildlife viewing opportunities to habitat management programs. There are also pamphlet dispensers at each kiosk in which all of our Refuge pamphlets are distributed.

### 7. Other Interpretive Programs

The following programs and/or tours were given during the year:

- April - Lanier, Rizer & Bilbeisi worked with the Girl Scouts and Boy Scouts constructing approximately 24 bluebird houses.
- May - Stephanie Jones, RO Non-game Migratory Bird Coordinator, Rizer, Stefanie and Lanier demonstrated mist netting activities to 80 Walden Elementary students and 6 adults.

Rizor and Stefanic gave a tour and wildlife talk to 21 Walden Elementary second graders and 9 adults.

- July - Rizor gave a tour to 14 seniors from Steamboat Parks and Recreation Center. Rizor also gave a tour to 25 Boulder Audubon Society members.
- August - Lanier gave a talk about the FWS and Arapaho to 40 Natural Resources Professionals from around the world.
- September - P and B Bilbeisi went with 22 Walden Elementary second graders to Big Creek Lake/Falls and gave a talk about Ospreys and other raptors.
- October - P Bilbeisi and Follett conducted a bat station at the 'Day In the Woods' for 66 fourth, fifth and sixth graders from Walden Elementary and 16 adults.

Six informational news releases were submitted to the local newspaper this year regarding YCC recruitment in March and Partners for Wildlife Program in June.

#### 8. Hunting

Although Arapaho is open to archery Pronghorn antelope hunting (opened August 15<sup>th</sup>), and mourning dove and snipe hunting (opened September 1<sup>st</sup>) recreational use involving these species is minimal. The first major hunting push comes with sage grouse season which began September 9<sup>th</sup>. Bag limits were two birds daily with total possession of four birds. Hunting pressure was much lower this year due to a significant change in the season structure. In previous years, the season has been open for 16 days to include 3 weekends - the past of which is typically the opening of pronghorn antelope season. This year, due to regional concerns about sage grouse numbers, their possible listing, and the influence hunting has on the population, the Colorado Division of Wildlife chose to shorten the season to one week - Saturday through Friday. Eliminating the weekend that includes pronghorn antelope hunting dropped hunter numbers, as many successful antelope applicants usually bring along friends that will look for grouse that weekend.

The following is a brief summary of the sage grouse bag checks:

Total hunters checked:	21.0
Total hours hunted:	53.0
Hours/hunter:	2.5
Total birds harvested:	3.0
Number of birds/hunter:	0.14
Number of birds/hour:	0.06

The rifle pronghorn antelope, and waterfowl seasons both opened on September 30<sup>th</sup>, with pronghorn antelope running for 7 days and the first split of waterfowl running until October 22nd. Law enforcement efforts were geared towards waterfowl in the morning of opening day,

and by the time officers got around looking for pronghorn antelope hunters, all the animals were on BLM and private lands, so no antelope hunters were checked. There were no reports of problems with pronghorn antelope hunters on the Refuge.

Of the 26 impoundments in the waterfowl hunt area, 10 were completely dry, another 5 were mostly dry and the remainder were 50% full at best. Many hunters had heard of the poor water conditions, had called ahead of time, and presumably had found other places to hunt, as hunter numbers at Arapaho were down. There were 43 vehicles in the hunt area opening day, 25 the next, and less than 10 the next weekend. Although water conditions slowly got better during the fall, duck numbers tended to be lower and hunter numbers stayed down. Officers spent opening morning in the field and so did not get a lot of bag check data, but even with the limited water and crowded conditions, most hunters were getting some shots.

In addition to the regular hunting season, Colorado has a Youth Hunting Day on September 23<sup>rd</sup>, and 24<sup>th</sup>. Three youth hunters were observed on the Refuge during this season.

#### 9. Fishing

The Illinois River is open to fishing year-round except June and July, when it is closed to minimize disturbance to nesting waterfowl. We estimate that we contact less than 10 percent of all anglers fishing on the Refuge.

With runoff in May, the water is generally too turbid to attract a lot of fishermen, and in 2000, when August 1<sup>st</sup> came, the river was completely dry from the headquarters north, and had very

little flow to the south. Despite these poor conditions, 3 anglers fished the Illinois River and filled out creel censuses with the following results:

Fish Caught	32.0	Artificial Lures	67%
Fish Released	28.0	Bait	33%
Hours Fished	9.5		
Fish/Angler	10.7	Brown Trout	100%
Fish/Hour	3.3		

Largest Brown Trout >16

#### 17. Law Enforcement

The bulk of our law enforcement efforts occur during the weekends of the various hunting seasons on Arapaho. Although the Refuge is not open to deer and elk hunting, the sight of elk, especially residing behind the posted boundary signs, is sometimes too much for hunters to bear. This causes considerable time to be spent ensuring closures are recognized and obeyed. The weather was a little more typical of Fall in North Park during the big game seasons, which seemed to increase hunter success over the last few years and to keep the hunters up in the timber a little more. Some elk did move down onto the Refuge, but there

were fewer problems and inquiries than in the past, and a much smaller band of "elk-sitters" waiting for the elk to move off of the Refuge and onto BLM lands.

The problem, noted in 1999, of hunters thinking they were in the Pacific instead of the Central Flyway was diminished this year but not eliminated. A few hunters were contacted that believed they were under the Pacific Flyway regulations, but due to low water and low duck numbers none had over bagged. A statement was added to the Arapaho Refuge section of the state proclamations telling hunters which Flyway the Refuge was in.

Lanier and Langer renewed their State of Colorado Law Enforcement credentials and tickets are written preferably under the State system. No citations were issued for illegal activities on the Refuge in 2000. Refuge Officers do assist Colorado Division of Wildlife (CDOW) Officers as needed throughout the year, but specifically during the hunting seasons on lands adjacent to or near the Refuge. On September 30, in the afternoon of the opening of pronghorn antelope season, Lanier was traveling from the headquarters to the Shawver tract when he observed several hunters on the County Road and on fenced but unposted private land. State Officer Tim Woodward was in the area and upon investigation, the officers found that a juvenile had shot a pronghorn antelope, which was on private land that he did not have permission to hunt, from the County Road. Since Lanier's state credentials had not been renewed at this time, Officer Woodward took the case.

We continued to have problems with vandalism at the Brocker Overlook. It appears that running into the guardrails surrounding the kiosk is an entertaining sport for someone in the community, as it was hit at least twice again this year.

Lanier and Langer assisted CDOW and Wyoming Game & Fish with the operation of a road block/hunter check station on October 25. The station was set up on the road between Walden and Laramie, WY just across the Wyoming state line and brought in hunters from throughout northern Colorado. Only one citation was issued on a Wyoming case, and several people received warnings from CDOW on evidence of sex and improper tagging violations.

## I. EQUIPMENT AND FACILITIES

### 1. New Construction



00NR33

7/00

E&amp;NC

A long three and half years comes to an end!

On October 27<sup>th</sup>, almost 10 months after the 6 month contract was supposed to be completed, and exactly 3-1/2 years after the fire that destroyed the old office, we took control of the new office building. There were still several items on the final punch list to be completed, but the major ones were being addressed, and we figured we could live with rest, let's just get into the building before the snow gets really deep. The feeling of openness and space in a 3700 square foot building is wonderful when compared to the tight quarters of the 2 bedroom, 845 square foot house that was used for the previous 3-1/2 years. But this did not come without a price. The 1-1/2 years of dealing with the contractor on this project was excruciating, and continues to be so, as he is currently pursuing litigation for liquidated damages.

### 2. Rehabilitation

Dike repairs were completed on West Hatchery and Hampton #2 Ponds in the fall. The culvert in Hampton #2 was rusted out and replaced. West Hatchery had been repaired in 1999, but required some touch up work. Rehab on Antelope Dike was completed to address problems found during a dam safety inspection.

The dike on Greasewood pond was built up again and a plastic water control structure installed. Weak spots were built up and repaired on the Case contour dikes. A blow out on Old Road was repaired and a new plastic water control structure was installed on Horseshoe. Elk Pond was cleaned out the silt removed to facilitate flows through the structures.

Three take-out structures and ditch checks were repaired on the Lateral C ditch of Soap Creek, and blowouts and other problems were repaired on the Caudle, Hubbard #4, Oklahoma #1, Everhard Baldwin and Home Ditches. Major rehabilitation was done on the Howard Ditch. The culverts were replaced on the Oklahoma #1 and Hubbard #2 headgates.

3. Major Maintenance

One stretch of boundary fence on the Soap Creek tract was replaced and significantly moved from its previous location after surveys showed it to be substantially off line. There is significantly more fencing work that needs to be done in this area, but the worst part was taken care of and we hope to get an MMS project in the near future to complete the remaining repairs.

4. Equipment Utilization and Replacement

A Case 850 dozer was transferred from Alamosa/Monte Vista NWR in February. It included a ripper, tilt blade, and backhoe attachment. At years end we were awaiting budget numbers, hoping for money to get this piece of equipment into working order so that we could put it to work!

Three new Arctic Cat 500 4x4 ATV's were purchased in April as an MMS funded project, replacing worn out/old ATV's. All three had a defective fan switch that caused them to overheat, but since that was fixed we have been very happy with their performance and durability. One older 1992 Honda 4x4 ATV (the best of the lot) was transferred to Boyer Chute NWR and the remaining two 1988 Honda's were used as trade-ins against the purchase of the new ATV's.

Throughout the summer months we received office furniture, chairs, conference tables, display boards, appliances (washer/dryer, refrigerator, stove, dishwasher, microwave), slide cabinet, safe, filing cabinets, display cases, television/vcr, calculators, office supplies, etc. for the new administrative building. All items were purchased with the insurance settlement money from the office fire, that the Department of Treasury allowed us to transfer to the FWS, a first ever settlement of this type for the FWS. Several constraints were put on the money, the first being that we could only replace like items with like items (eg six desks for six desks, 1 refrigerator for 1 refrigerator, six calculators with six calculators, pens/paper/pencils for pens/paper/pencils, etc.), they must be purchased from a GSA contract but the payment must be made directly from the insurance company to the vendor for the items purchased. We were also limited to the number of check payments that would be made. The insurance company truly made this task as difficult as they possibly could, but they never realized the tenacity of some FWS employees! One thing that does come to light in this process is that you can never have enough accuracy on property reporting. At year's end we were still awaiting some of the taxidermy mounts.

In June, using MMS funding, we received a new 2000 Chevrolet 4x4, 3/4 ton pickup, replacing a 1990 3/4 ton pickup that had blown an engine. It has added a much needed truck to our fleet and came in very handy pulling some of our heavier trailers in the field.

A new Caterpillar IT28G tool carrier with bucket, snowblower, post driver and angle blades and forks was received in August using MMS funds. It replaces an old military Allis Chalmers front-end loader that had plenty of problems and quirks including giving the operator hydraulic oil showers at random times, becoming inoperable by the previous fall and was sold in our lot sale in May. From the time of delivery, the new tool carrier had numerous problems starting. At year end, we still had not received the post driver, been able to test the snowblower, or even start the machine. It was hard starting when it was delivered, and Bilbeisi spent much of the fall and winter trying to diagnose the problem. Certain CAT staff were claiming that the lubricants needed to be different given our altitude and winter weather, while others were sure there was another explanation. It appears at a minimum there were some electrical deficiencies that have been alleviated. Luckily no payment had been made and we were in discussion with Caterpillar at year end on solving these mentioned problems.

In August, the Refuge received a new Motorola L99DX Astro Spectra digital radio system and a 100 foot tower. This purchase was part of the replacement from the insurance settlement from the office fire. Since we were only able to replace items lost, and at the time of the fire we only had eight mobile units in place, eight units and four portables were what we were able to purchase. This leaves us several mobile radios short that we will have to cover with cell phones until a time that our budget is flush enough to purchase extra units. At years end we were still waiting to have the last three mobile units installed in various trucks, but the tower, receiver and remaining radios were in working condition. We did have one major hurdle during the whole process which was encountered when the hole for the tower was dug. Evidently it did not meet OSHA standards and some anonymous helpful soul turned it in to OSHA. By the time OSHA made their appearance the hole had been filled in and work was progressing. OSHA completed their inspection and hefty fines were assessed to both Motorola and the subcontractor. See Section E6 to find Arapaho's punishment in lieu of a fine which one Federal Agency cannot access another Federal Agency.

A Loftness snowblower, Danhuser post hole digger, weedeater and a Delta table saw were all transferred to Benton Lake NWR in September after receiving a new Dewalt table saw in August.

A new clothes dryer was purchased in August for quarters 154, replacing the ancient model that was no longer drying clothes.

In October, a Honda generator, Briggs and Stratton trash pump and a Woodward electric hand truck were transferred to the Refuge by LE along with a Pronghorn antelope mount and a Ruger M77 220 Swift rifle w/Leopold scope.

We were also recipients a set of bull elk antlers, and a river otter and a bull moose (which we have already sent to a taxidermist) donated by the CDOW for or new visitor center. The elk antlers were seized in 1990 on a section of land that is now part of the Refuge.

## 5. Computer Systems



00NR34

6/00

E&NC

**Our new Trimble GPS units were delivered complete with training from the vendor. (Or were they really just looking for a fishing trip??)**

A maintenance/upgrade agreement was purchased in April on GSA contract with ESRI and the ARC GIS software.

The Refuge received two Trimble ProXRS GPS units with vehicle kits. This was another part of the replacement from the insurance settlement from the office fire.

In August, a new WebRamp 200i was received from the RO. It was installed and worked great for about two weeks, at which time it just quit working. After several phone calls to the RO and technical assistance from the company, it was determined that the WebRamp was the problem. Another WebRamp was sent from the RO in September and installed with no more problems.

In October, the Refuge received a Boxlight digital projector with travel case. This again, was part of the replacement from the insurance settlement from the office fire.

In November, the move to the new administrative building was accomplished with numerous headaches. This move included moving both telephone and computer systems which were all externally wired to the new building which was internally wired. After the office fire a

Meridian phone system was purchased, which at the time was a major overkill in a four room building, but after several trips and phone calls by the phone company we have a phone system that actually works utilizing all features. The computer move was also challenging to Follett, not only from the wiring aspect, but the fact that the nearest computer store is over 75 miles away and our local hardware store, which normally carries general computer supplies, burned down leaving us with no place to locally purchase computer cable and accessories. Again the phone company came through. Our local equipment technician for the phone company had the accessories needed and we had some extra cable, so with his assistance we were able to wire all of the computers, printers, plotter, WebRamp and modems. We only have one major problem with the laser printer which was purchased as an emergency purchase after the fire and is not wired for direct network connection. Hopefully, somewhere in the near future we will find the funding to replace this printer, until then it resides in an office using one of the computers as a dummy network terminal.

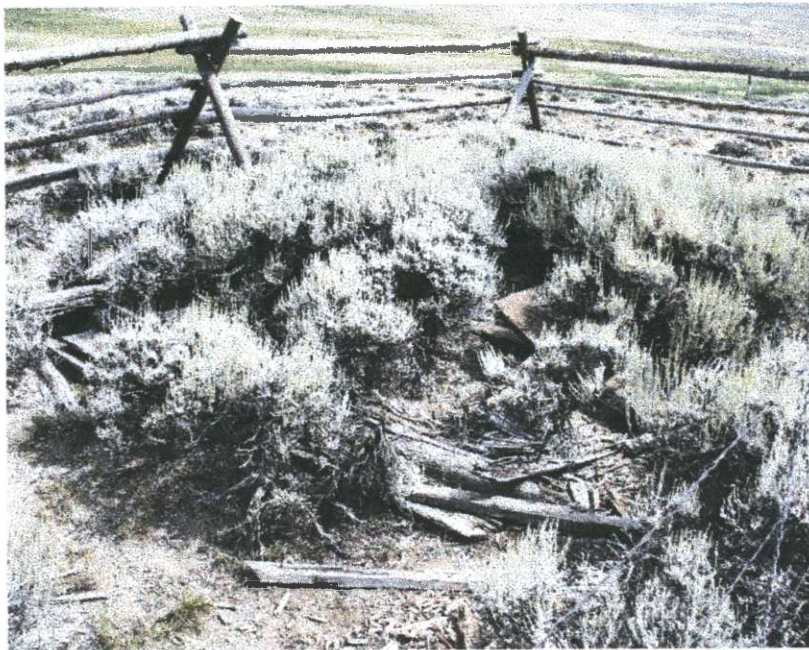
In November, the Refuge received and Olympus C3030 digital camera with zoom and 1.45 telephoto lens and travel case. This was also part of the replacement from the insurance settlement from the office fire.

6. Other

The Refuge transferred a 1972 GMC stake truck, that was no longer used, to the CDOW. There was concern that the truck posed a health threat due to the infestation of field mice, but after all the paperwork was signed and agreed upon as to the safety of the situation, the CDOW became the proud owners. It was a good trade, because until now, every time the CDOW needed something hauled they would have to come ask for the assistance of our truck and an operator. This trade benefits both agencies.

A major milestone was reached when we completed a GSA sealed bid sale in May of an assortment of equipment. We were able to sell the following: pickup truck, stock trailer, gooseneck trailer, transport trailer, utility trailer, jeep trailer, dozer, front end loader, scraper, chainsaws, military pressure washers, 2000 lb scale, forklift and a tractor. We had a great success with this sale, having bidders come from far and wide for an inspection. Unfortunately, the successful bidder on the tractor did not make an inspection prior to bidding and declined to pick up the tractor he bid on. GSA assessed him \$606.80, or 20% of the bid price, as a default charge of his bid. It definitely pays to check out items prior to bidding on them with GSA! The downside is that now we must re-list this tractor for sale with GSA.

A cleaning contract bid for the new administrative building was sent out and awarded. The successful contractor started the first of December. This has always been a job that the staff completed, as time allowed, so we think this is a wonderful thing!



00NR35

7/00

E&amp;NC

The remaining markers from an old grave site after many years of neglect.

The Administrative Assistant received a letter in July from a previous family of the old Soap Creek Ranch that was purchased several years ago by the Refuge. Mr. Graf wrote that he was dismayed to find an old family grave site badly disturbed upon a return visit to the old ranch. He believed the graves were siblings (two boys and a girl) of his mother's. He had been unaware the ranch had been once again sold and was surprised to find that the FWS was the landowner and questioned whether there was something the Refuge could do to preserve the area.

Through old records from the North Park Church History, State Registrar we recovered we were able to piece together the following on the children: Ruth Elizabeth Lewis died 8/17/1905 (no date of birth or cause of death was listed), daughter of George Lewis and Clara Seymour; John Marion Lewis born 12/27/1908, died 2/16/1920 of influenza, son of Bert Lewis and Hannah C. Grandstron; Lucille Ida Lewis born 3/24/1916, died 4/5/1917 of scalding by hot coffee, daughter of Bert Lewis and Hannah C. Grandston. It appears that the two girls were his mothers siblings but the boy was a cousin.

After contacting the RO Archeologist with the historic data we thought it best to fence the area but leave it unmarked, making it less obvious to the curious.



- C. **North Park Focus Group (Intermountain West Joint Venture)**  
Rizor served as the Committee Chairman, and along with Lanier attended numerous meetings during the year.
- D. **Multi-Agency Weed Management**  
Rizor, Lanier, and Langer met several times with Don Stinton, Jackson County Weed Coordinator, to discuss an Integrated Weed Management Proposal for the Refuge.
- E. **North Park Sage Grouse Conservation Planning Group**  
Rizor was an active member of the North Park Sage Grouse Working Group, attending monthly meetings.
- F. **Jackson County Lion's Club**  
The Jackson County Lion's Club Park is a Town park cooperatively being developed for Environmental Education. Jackson County Lion's Club, CDOW, USFWS, Natural Resource Conservation Service (NRCS) are cooperating to develop this facility. During 2000, the Refuge assisted in a one day clean up effort in the park.



00NR37

8/00

E&amp;NC

An overview of the Lion's Club Park. Refuge personnel help clear debris from the Lion's Club Park.

3. Items of Interest

Community Involvement

Lanier remained an active member of the Jackson County Lion's Club.

Lanier continued as the Cubmaster of the local den during 2000.

Lanier, Rizor and Bilbeisi assisted the Girl Scouts and Cub Scouts in constructing 24 bluebird boxes.

Rizor served as Co-leader of the Junior Girl Scouts.

Lanier was the Coach-Pitch Baseball Coach for the North Park Team.

Staff participated in the Colorado 'Adopt-A- Highway' Program. Once during the year, members of the staff picked up litter along a six mile stretch of Highway #125.

Personnel Training/Meetings Attended

January Langer and Rizor traveled to Fort Collins to attend a Wyoming Game and Fish coordination meeting with FWS ES regarding the proposal to make Mortenson Lake a brood stock fishery or open the lake to restricted public fishing.

February Langer and Lanier participated in the annual LE In-Service in Marana, AZ.

Langer attended an Eco-Team meeting at the Rocky Mountain Arsenal.

Langer participated in a Region 6 review of the Pard/Gard RO structure.

Langer attended IMPACT training at NCTC.

March Follett attended Advanced Computer Training for the Field at NCTC.

Langer and Rizor attended the Annual Wyoming Toad Recovery Team meeting in Laramie, WY.

Lanier gave a report of Refuge activities to the North Park Stock Growers Association.

- April Langer, Lanier and Rizor attended CCP Training at NCTC.
- Langer and Lanier attended a meeting in Denver concerning the establishment of grassland easements in Colorado.
- The Refuge staff had the CCP kickoff meeting with the RO CCP Team.
- May Stefanic attended "Fulfilling the Wildlife First Promise" the first ever national biologists workshop at NCTC.
- Langer and Lanier attended Ecology, Culture and Economic of Ranching in the West Workshop in Fort Collins, CO.
- Rizor attended a Colorado Duck Stamp Meeting to select projects for the year.
- June Bilbeisi conducted a Heavy Equipment Training Course on the Refuge for three Fisheries employees from Leadville NFH.
- Staff received GPS training.
- Langer, Lanier and Rizor attended the CCP kickoff meeting in Denver.
- July Rizor and Stefanic attended an Assessing Riparian Habitat Workshop in Steamboat Springs, CO.
- A CCP Workshop was held to introduce the 12 team member.
- Marcia McNiff, a GIS instructor from NCTC visited the refuge for a week to gain insight from the field to use in her classroom. While at Arapaho she assisted on wildlife and plant surveys, fence repair, and other daily activities, as well as attending workshops and conducting GIS demonstrations to the staff.
- Bilbeisi traveled to Seedskaadee NWR to give Heavy Equipment Training to staff.
- August Varney and Furlo attended Fire Training Courses S-130/190 in Great Falls, Montana.
- FWS Realty Chiefs toured and barbequed at the Refuge as part of their Annual Meeting.

Angie Braun, RO Fire Program Assistant gave a mandatory eight hour Fire Training Refresher Course to the staff.

September Rizor completed an Introduction to ArcView on-line course.

Follett, Rizor, Bilbeisi and Stefanic passed the pack test.

October Rizor, Follett, Stefanic, Furlo and Varney traveled to Saratoga NFH to assist with lake and brown trout spawning activities.

Langer attended a Mountain/Prairie Ecosystem Team meeting in Bismarck, ND.

Langer, Lanier and Rizor met with BRD to discuss goals and objectives for the CCP. They then met with State staffers to inform them of the CCP process.

November Langer, Lanier, Rizor, Stefanic met with BRD to lay out goals and objectives of Refuge riparian habitat for CCP.

Langer and Lanier attended the Project Leaders Meeting and Compatibility Training in Denver, CO.

December Langer attended a meeting with CDOW and BRD personnel to discuss Refuge objectives for the Illinois River.

Follett attended a 16 hr. Warrant Refresher Training in Denver, CO.

#### Awards

Lanier, Rizor, Follett, Bilbeisi and Stefanic all received awards for their extra efforts during the previous fire season.

Langer received an award for his efforts on the administrative building construction.

4. Credits

- Follett - Sections B, E1,3-8, F9, I4-6, J3-4, Editing, Word Processing, Captions, and Assembly.
- Rizor - Sections E2, F1-8 and 10, G, H1-16 and 18-19, Satellite Refuges, Editing and Assembly
- Lanier - Sections C, E6-7, F9, H17, I1-4 and 6, J1-2, Pathfinder, Editing.
- Langer - Sections D, K, Editing.
- Collin - Everett and Nancy Collin for all their beautiful photos.
- Ketola - Norb Ketola - Staff photo.



00NR38

7/00

E&amp;NC

**Another day comes to an end at Arapaho!**

**BAMFORTH NATIONAL WILDLIFE REFUGE  
WYOMING**

Administered by Arapaho NWR Complex  
PO Box 457, Walden, Colorado

Introduction

Bamforth National Wildlife Refuge, located in the southern part of Albany County, Wyoming is a small Refuge totaling 1,166 acres consisting of 960 acres of grassland and 206 acres of marsh and water areas. A maximum of 206 acres of marsh and water areas are present only if excellent runoff conditions exist during years when precipitation in the watershed is above normal.

The Refuge is separated into three unfenced, disconnected parcels of land, which makes boundary posting and maintenance costs high, enforcement of hunting regulations impractical, and effective resource management almost impossible.

Grazing by livestock is the principle habitat manipulation tool used on the Refuge. No development of the area has been conducted in the past, nor is any planned for the future, due to the lack of an adequate water supply.

Waterfowl use of Bamforth NWR is sporadic, with only limited production.

2000 Activities

One grazing permit for 99 AUM's at a rate of \$2.00/AUM is issued on an annual basis to Johnson Brothers Ranch with unfenced common pastures. In exchange for the reduced grazing fee, the permittee is responsible for irrigating lands when the water is available. Availability of water is very limited on Bamforth NWR.

A check in the amount of \$420.00 was presented to Albany County for the 1999 Revenue Sharing Funds for Bamforth NWR.

## HUTTON LAKE NATIONAL WILDLIFE REFUGE WYOMING

Administered by Arapaho NWR Complex  
PO Box 457, Walden, Colorado

### Introduction

Hutton Lake National Wildlife Refuge is located in Albany County, in southeastern Wyoming, 12 miles southwest of Laramie, Wyoming. The Refuge was established in 1932 primarily as a resting and breeding ground for migratory birds and to provide a haven for other indigenous wildlife.

Situated in the southern part of the Laramie Plains, a montane, park-like geographic entity surrounded by mountains, the Refuge is at an elevation of 7,150 feet. The area embraces 1,968 acres, consisting of 1,408 acres of upland and 560 acres of open water and marsh. The five small lakes (Hutton, Creighton, George, Rush and Hoge) are arranged in a half-moon and were developed from natural sumps by private, and later, wildlife interests.

Sand Creek, spawned in Colorado and a seasonal nourisher of Refuge lakes, snakes a northward course through the west portion. Meadowlands, with a wide variety of semiaquatic plants, are situated to the west and north, while native grass rangelands, interspersed with greasewood-dominated alkali flats and draws, lie to the east and south.

In 1991, efforts were started at Hutton Lake to save and enhance the endangered Wyoming toad (*Bufo hemiophrys baxteri*) population. Over the years captive breeding of toads in small cages at Lake George has been tried with limited success. Between 1992 and 1999 toadlets produced in the captive breeding program were released at Lake George in hopes of starting a new population in the wild (no toads were released in 1998). There is some question on if toads should continue to be released at Lake George due to concern about survivorship and classification. No one is sure where these toads are going, most surveys of the area reveal few toads, alive or dead. Since these toads are not a non-essential, experimental population, there could be large ramifications on the adjoining property owners if the toad were to move off the Refuge, since they would be fully covered by the Endangered Species Act.

### 2000 Activities

A Special Use Permit was issued to Kelli Trujillo, University of Wyoming, Department of Geology and Geophysics to conduct sampling of microfossil fossils. During the summer rock samples were collected from an area between Hutton and Hoge Lakes and prospected for vertebrate fossils. Only two fossils of note were found, first a partial ray tooth which is considered a contaminant from the overlying marine shale. The second fossil was an advanced mammalian molar which exhibits characteristics that are indicative of an Eocene age, it is thought to be a contaminant also. Both fossils are under study at this time. The area was also sampled for fossil spores and pollen. These

samples contained many types of gymnosperm pollen and fern spores and will be an integral part in supporting an Early Cretaceous age for the uppermost Morrison Formation in southeast Wyoming.

A special use permit was issued to Jill Walford with the University of Wyoming Lab School (4<sup>th</sup> through 9<sup>th</sup> graders) to collect samples of soil, plants, water, macroinvertebrates and scat from the Refuge. This fall the students explored several different aspects of the Refuge. The 4<sup>th</sup> and 5<sup>th</sup> grade classes gathered invertebrates and learned identification. The 6<sup>th</sup> and 7<sup>th</sup> grade classes used line transects and sampling grids to estimate the white-tailed prairie dog population. Water chemistry was tested and compared with macroinvertebrates by the 8<sup>th</sup> and 9<sup>th</sup> graders.

Sand Creek was opened in the beginning of February and remained open until the first part of April. Approximately 292 acre feet were diverted. A major effort was made to maintain Lake George water levels for the endangered Wyoming toad. Overflow from Lake George flows into Creighton Lake. Excess water from Rush Lake was diverted to Hoge Lake and overflow water from there flows into Hutton Lake. Water levels dropped significantly during the summer and fall in Creighton and Hutton Lakes, by late October Hutton was at 45% full and Creighton was approximately 20% full. George, Rush and Hoge all were around 65% full at the end of October. The North Forty Pond dried up in August.

One grazing permit was issued to Don Bath during 2000, allowing cattle grazing from June 18<sup>th</sup> through July 6<sup>th</sup>, using up to 296 AUM's at \$4.80/AUM. A permanent high tensile electric fence was installed to split the Refuge into north and south units excluding Rush Pond. This was done in an effort to improve upland cover and protect Rush Pond to enhance waterfowl nesting habitat. The permanent high tensile fence in general had less problems than the polywire the year before. We did have one act of vandalism on the fence, someone systematically cut the fence at every gate. Don Bath discovered the vandalism and Refuge staff made some quick repairs since the cattle were grazing at this time.

Wyoming toad activities on the Refuge were minimal this year. There was no breeding effort or tadpole rearing at Lake George. A spring count at Lake George revealed no toads. Approximately 1,542 tadpoles were released at Lake George in late June. A fall survey of Lake George found 3 yearlings and no adult toads.

Waterfowl censuses were conducted at various times throughout the year. Waterfowl numbers peaked in April with 1,000 ducks and 120 Canada geese, then stabilized during with summer with approximately 450 ducks and 100 Canada geese. Fall migration numbers ranged from 800 to 950 ducks and approximately 75 Canada geese. Based on July and August monthly waterfowl counts, duck production was calculated at 150 young.



00NR39

7/00

E&NC

Tadpole release at Lake George.



00NR40

7/00

E&NC

And then there is the paper release method!

Waterfowl censuses were conducted at various times throughout the year. Waterfowl numbers peaked in April with 1,000 ducks and 120 Canada geese, then stabilized during with summer with approximately 450 ducks and 100 Canada geese. Fall migration numbers ranged from 800 to 950 ducks and approximately 75 Canada geese. Based on July and August monthly waterfowl counts, duck production was calculated at 150 young.

White-faced ibis were observed in the spring but not seen during the summer and fall months. White pelican observations ranged from four to thirty-one birds being counted on monthly surveys. California gull numbers peaked in July with over 168 seen, this was about half as many as last year. Several unusual species observed include: Western grebe, yellowlegs sps. dowitcher sps., Caspian and Forester's terns, snow goose, snowy egret and Franklin's gull.



00NR41

9/00

PR

Three eager participants anxious to get the day started.

In September, Rizer gave three presentations to approximately 120 Wyoming Lab School students (4<sup>th</sup> - 9<sup>th</sup> graders) about the Refuge and potential environmental studies that they could do on the Refuge.

A check in the amount of \$789.00 was presented to Albany County in April for the 1999 Revenue Sharing Funds.

## MORTENSON LAKE NATIONAL WILDLIFE REFUGE WYOMING

Administered by Arapaho NWR Complex  
P.O. Box 457  
Walden Colorado 80480

### INTRODUCTION

Mortenson Lake National Wildlife Refuge, established in May 1993, contains 1,776 acres and is located approximately 15 miles southwest of Laramie Wyoming. The Refuge consists of four wetlands; Mortenson, Little Mortenson, Gibbs, and Soda Lakes. These wetlands are associated with many other "Laramie plains lakes", a series of high elevation lakes in a short grass prairie ecosystem.

Mortenson Lake is approximately 80 acres and has a well developed wetland complex of bulrush (*Scirpus acutus*) and Baltic rush (*Juncus balticus*). Little Mortenson Lake is approximately 20 acres and has an unstable water level that is alkaline. The fluctuating water level has limited wetland vegetation development to a narrow band of Baltic rush. Nebraska sedge (*Carex nebrascensis*) and saltgrass (*Distichlis stricta*) occur on seasonally flooded areas adjacent to both lakes. Gibbs Lake is approximately 20 acres surrounded by short grass prairie, with very little wetland vegetation. Soda Lake is approximately 70 acres with minimal wetland vegetation and was very alkaline. In recent years, irrigation practices have reduced salinity in both Soda and Gibbs Lakes. The previous land owner claims that sodium bicarbonate was historically mined from this lake.

Mortenson Lake NWR was established to protect the last known breeding population of Wyoming toads (*Bufo hemiophrys baxteri*). The Wyoming toad, confined to the Laramie plains in southeastern Wyoming is related to the Manitoba toad (*Bufo hemiophrys hemiophrys*) of north central North America. The Wyoming toad was first reported to occur in Wyoming in 1946, but by the mid to late 1970's, the population drastically declined and by 1980 was thought to be extinct. In 1984, the Wyoming toad was listed as a Federally endangered species and in 1987 a small population was discovered within the historical range at Mortenson Lake. In 1988, the Wyoming Toad Recovery Team was established hoping to prevent extinction of the small population by addressing toad habitat, reproduction and human impact.

The population steadily declined over the years with contributing factors thought to be a fungus disease, combined with red leg, a bacterial disease that has been documented to kill toads in the wild.

In 1990, a captive population of toads was initiated using young-of-the-year from Mortenson Lake. Initially, the captive population was sent to Sybille Research Center, north of Laramie, Wyoming. The population was later separated and sent to several different zoos to prevent a catastrophe from destroying the entire captive population and for experimental breeding programs. In 1993 all toads found in th wild at Mortenson Lake were removed and placed in captivity. Captive breeding efforts have continued over the years with success fluxuating from one egg mass to sixteen egg masses.

Toad releases at Mortenson have occurred since 1995 with numbers ranging from 500 to 6,600 individuals released. Annual surveys of the toads are conducted every spring and fall, and have produced up to 295 juveniles and 27 adults.

### 2000 Activities

A special use permit was issued to Bruce Foster, Central Park Wildlife Center to measure various water quality parameters at Wyoming toad breeding sites along the shoreline of Mortenson Lake. bla bla.

The Mortenson Lake Fishing Club was issued a special use permit to remove as many of the stocked non-native trout by ice fishing between January and March, and using nets following ice out until the first of May. A total of 69 fish were removed, 35 by pole and 34 with nets, ranging from 3 to 9 lbs. The fishing club also removed all their trailers, fencing, etc by May 1<sup>st</sup>. Wyoming Game & Fish netted the remaining fish.

Michelle VanVleet, Sybille Wildlife Research Center requested a special use permit to access Mortenson Lake for the purpose of conducting a study analyzing the impacts of implanting PIT tags in Wyoming Toads at the Refuge. The permit also will be valid for the mark and recapture study if the PIT tagging experiment is successful. Twenty captive Wyoming toads from Sybille Wildlife Research Center were used in the PIT tag study. Ten toads were designated as experimental and had PIT tags implanted, the other ten toads were used as the control. The toads were moved to Mortenson Lake and held in pens where the PIT tags were scanned and inspected every other day. Six of the ten control toads died and two of the experimental toads died. Necropsy results obtained indicated that the PIT tags were not responsible for the deaths. Movement of the PIT tags was observed but the tags did not migrate to areas that compromised toad health. The study was conducted for three weeks after which the remaining toads were taken back to Sybille. These results indicate that PIT tags do not increase mortality in Wyoming toads or have adverse effects on the toads health. Michelle recommends that the Wyoming Toad Program begin a mark and recapture study of the wild population of toads at Mortenson Lake during the summer of 2001.

The Sybille Wyoming Toad breeding season was fairly successful with 22 pairings producing 17 fertilized egg masses, with 8,950 tadpoles hatched. Saratoga NFH had two fertile egg masses with a total of 7,520 tadpoles produced. No wild egg masses were discovered in Mortenson Lake. The June survey located 138 yearlings, 14 adults and 4 large adults around Mortenson Lake. In late June, 6,536 captive bred tadpoles were released at Mortenson Lake, this number was twice as many as the year before. The fall Refuge survey resulted in 21 yearlings and 38 adults being discovered. Chytrid fungus has now been documented to be present at Mortenson Lake and is thought to have been the cause of most mortalities of the Wyoming Toad over the years instead of mycotic dermatitis by *Basidiobolus*. More research is being done on the fungus using samples from previous necropsies. Captive breeding in the Zoo's still tends to be a major hurdle for toad recovery, only the Toledo Zoo produced a viable egg mass, with 116 tadpoles surviving.



00NR42 7/00 E&NC  
Langer prepares to 'dip' tadpoles out of the holding tanks at Mortenson Lake.



00NR43 7/00 E&NC  
Lifting out a cooler full of tadpoles!



00NR44

7/00

E&NC

A 'closeup view'.



00NR45

8/00

E&NC

Searching for toads along Mortenson Lake.



**00NR46** **8/00** **E&NC**  
**Above the shoreline, the search continues.**



**00NR47** **8/00** **E&NC**  
**It takes sharp eyes to see these toads in their natural habitat!**



00NR48

8/00

E&NC

Another camouflaged toad.



00NR49

8/00

E&NC

A closeup of the endangered Wyoming toad.

Several waterfowl counts along with one brood count were conducted during the season. The grazing permittee used 418 AUM's on four pastures. Grazing is used to manipulate vegetation for the benefit of the toad population and other wildlife.

All water management activities were performed by the grazing permittee. The only water received this year was supplemental runoff water in the South Canal from an adjacent landowner. The South Canal was turned on May 15<sup>th</sup> and ran through August 15<sup>th</sup>. The Refuge received 184 acre feet of water, almost three hundred acre feet less than the previous year. The majority of the water was used to fill wetlands on the eastern section, near Soda and Gibbs Lakes.

Electric fence was installed around the outlet portion of the Mortenson Lake dike to protect prime toad habitat from cattle. Another section of fence was installed to split the area around the lake and force the cattle to concentrate more on the bulrush areas to create open breeding habitat for the toads.

Lanier, Langer, Rizor, Furlo and Varney hand placed rip-rap along the waters edge from the southern end of Mortenson Lake dike to approximately 20 feet past the water control structure.

Bilbeisi and Stefanic worked on Soda Lake, resetting the water control structure in the main dike and installing three small structures in the ditch on the side of the lake, to facilitate the filling of several wetlands northeast of Soda Lake. A rock ditch check was installed in the ditch going to Gibbs Lake. Two steel ditch checks were placed, one in a small ditch north of Soda Lake and the other in a ditch just off Gibbs Lake to control water going into it.

Langer and Rizor attended a Wyoming Game & Fish and ES-FWS coordination meeting in Ft. Collins. A proposal from WY Game & Fish to make Mortenson Lake a brood stock fishery or to open the lake to restricted public fishing was discussed. Neither option was supported by the Service in light of the continued decline in toad numbers and the need to improve toad habitat. The proposal refused to die during the year with WY Game & Fish pushing, but the discovery of Chytrid fungus at Mortenson Lake gave the Service even more fuel to refuse the proposal.

Rizor continued to be an active member of the Wyoming Toad Recovery Team. The decision was made to develop an official Recovery Team, letters were sent out to requesting designated people to sit on this new team. Langer will represent the Refuge on the official Recovery Team with P. Bilbeisi assisting in a support group.

Langer attended an Eco Team meeting in February and received \$3,300 in support of the Wyoming Toad. The money was used to pay for the easement on Whites property.

Langer meet with Charlie Swanson, current grazing permittee and Anderson, ES volunteer to discuss current management.

A check in the amount of \$1,091.00 was presented to Albany County in May for the 1999 Revenue Sharing Funds.



00NR50

8/00

E&NC

This Mormon cricket was spotted at Mortenson Lake NWR on one of our many visits.

## PATHFINDER NATIONAL WILDLIFE REFUGE WYOMING

Administered by Arapaho NWR Complex  
PO Box 457, Walden, Colorado

### Introduction

Pathfinder National Wildlife Refuge is an overlay on part of the Bureau of Reclamation's (BOR) Pathfinder Reservoir in south-central Wyoming. This isolated Refuge is 50 miles southwest of Casper and 20 miles from the small settlement of Alcova, Wyoming. Refuge headquarters for Pathfinder Refuge is at Arapaho NWR, about 200 miles to the south, making any management activities a difficult process. Because of the overlay status with the BOR, the BOR along with the Wyoming Game and Fish, Bureau of Land Management (BLM) and Natrona County Parks Department work jointly to help manage different aspects of the Refuge activities.

The Refuge was established on August 1, 1936, as an overlay on the entire reservoir, but it was reduced to its present four small units of 16,807 acres. This facilitates more intensive management by Public Land Order in 1965. The largest unit lies astraddle of what is known as the Sweetwater Arm of the reservoir. The three smaller units are to the south, at Goose Bay, DeWeese Creek and at the junction of Sage Creek and the North Platte River.

Pathfinder is an established feeding, resting and nesting ground for both ducks and Canada geese, providing for as many as 8,500 ducks and 500 geese on their annual migrations.

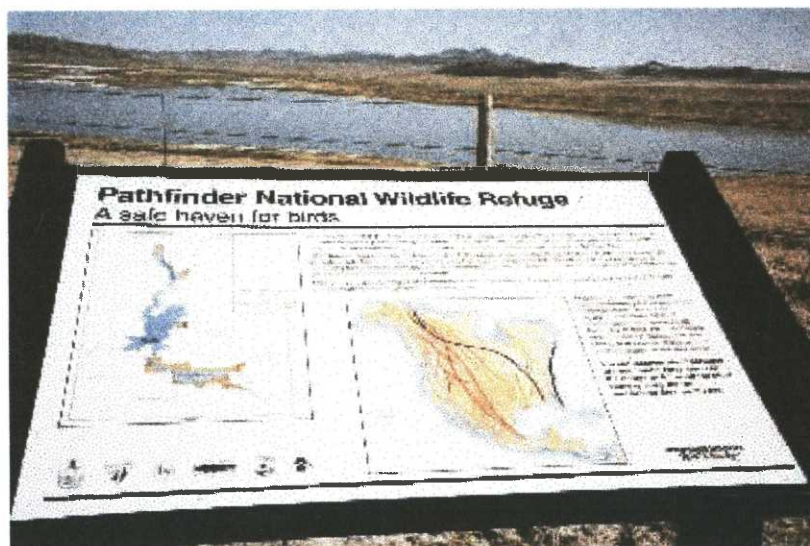
In addition to migratory birds, the Refuge provides habitat for hundreds of pronghorn antelope, cottontail rabbits, a few mule deer and sage grouse. It is typical of much of the semi-desert lands of Wyoming, except that the reservoir furnishes more water. Since the reservoir fluctuates as much as 50 feet per year, it is difficult to provide food and cover for waterfowl near the water line.

### 2000 Activities

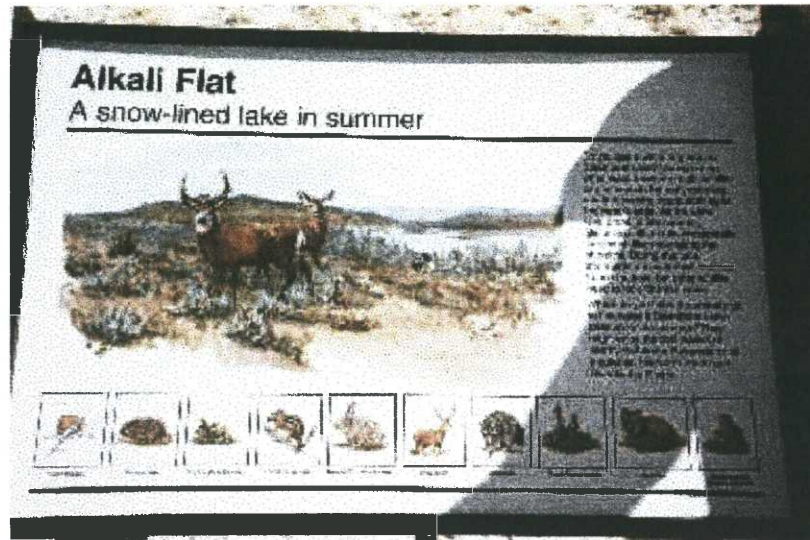
Lanier and Langer continued active participation in the Central Platte Action Group (CPAG). This is a Platte River Action Group Subcommittee of the Inter-Mountain West Joint Venture. The focus group has identified the Refuge as its priority area for work, and as such, has identified several potential projects, suggestions for improvements, and problems that need to be addressed. One of the primary problems has been inadequate records of Refuge boundaries. When the Refuge was originally established in the 30's it encompassed the entire Pathfinder Reservoir, but has been trimmed down on at least two occasions to its current acreage. Distance from the complex headquarters as far back as the 50's has meant minimal management of the station, and consequently, signs are still up in spots designating Refuge lands that are not actually Refuge any longer, and some



00NR51 9/15/00 KML  
Project Leader Langer speaks with the news media from Casper before the Overlook Dedication begins.

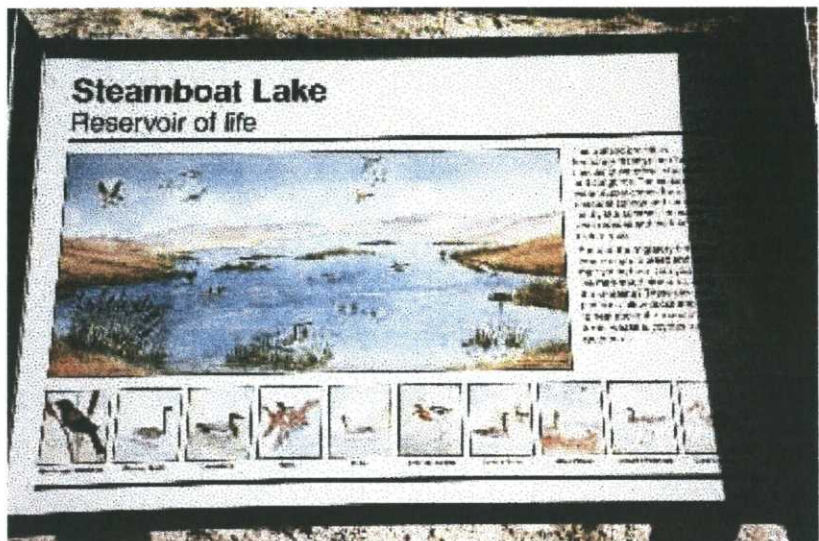


00NR52 9/15/01 KML  
Steamboat Lake provides a nice backdrop for the Interpretive Overlook.



00NR53&54                      9/15/00                      KML  
Audubon Wyoming developed the interpretive displays with assistance from FWS, BLM and Wyoming Game and Fish.



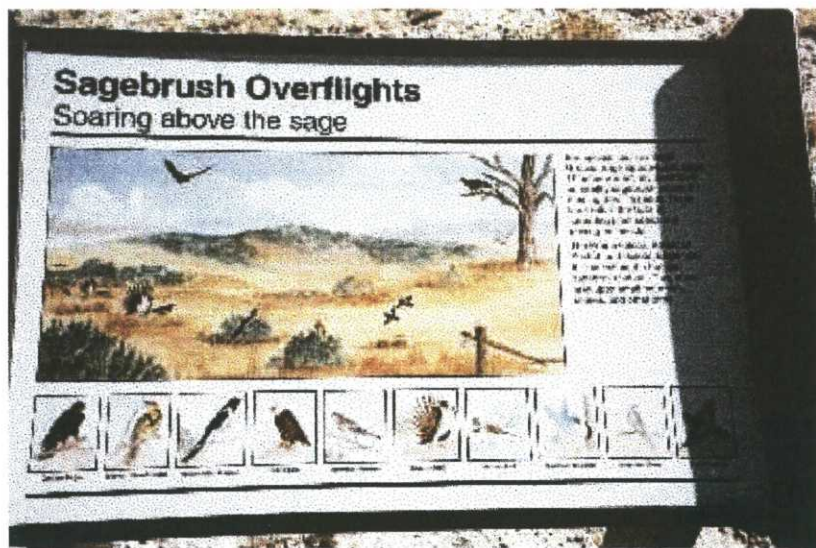


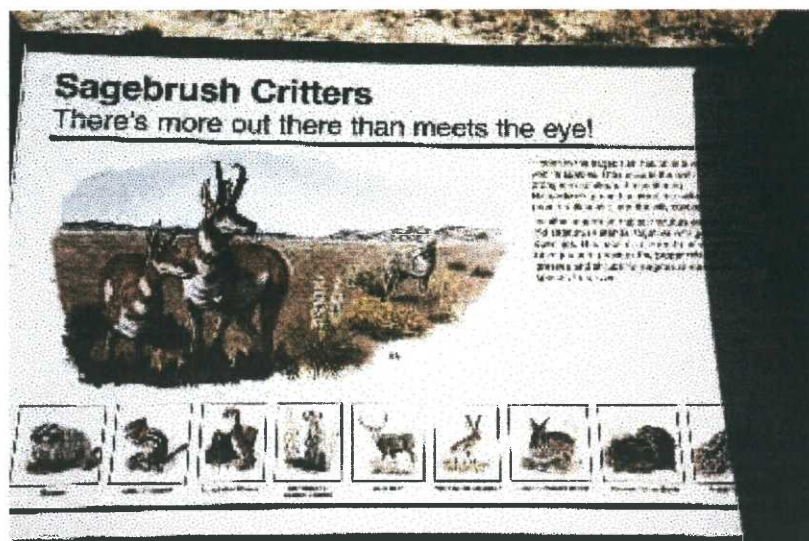
00NR55&56

9/15/00

KML

The various habitat types and representative wildlife species are discussed in the displays.





00NR57

9/15/00

KML

The location of the Overlook along a route to Yellowstone and Teton National Parks should provide a multitude of visitors with information about Pathfinder NWR.

signs designating today's boundaries have been removed or never installed. Combined with the fire that destroyed the Arapaho Complex office in 1997 and all records with it, left some big questions about where Pathfinder Refuge actually lies. Sifting through files in the Regional Office helped, but there are some significant discrepancies between those files, BLM files in Cheyenne and County plat maps. With this in mind, one of the 1<sup>st</sup> tasks tackled by CPAG was surveying. The BLM volunteered their surveying crew to do cadastral work on the Sweetwater Arm, Deweese Creek and Goose Bay units in 2000, and the Wyoming Game & Fish Survey crew spent two weeks finding existing monuments and noting fence placements and condition on the Sweetwater Arm. Cadastral work will continue by the BLM in 2001, with about 3 weeks planned for the east and north sides of the Sweetwater.

Wyoming Audubon is a member of CPAG that has taken a big interest in Pathfinder Refuge. They adopted the Refuge in 1999 and have raised money through grants to make improvements. One of the things they did with some of the grant money was to hire a legal assistant to research the history, agreements, and try and get a handle on boundary questions. The result was a good overview of the Refuge history, but did not clear up boundary issues. The major accomplishment Audubon completed was the development and construction of an interpretive overlook off of state highway 220 above the Steamboat Lake area of the Refuge. The overlook is actually on adjacent BLM lands, Audubon had to coordinate with them and the Highway Department for access. The site was dedicated on September 15 with over 50 interested people and representatives from BLM, Wyoming Audubon, Wyoming Game and Fish, the Bureau of Reclamation, and a TV crew from Casper on hand.

The Refuge staff is very appreciative of the interest the CPAG group has expressed in Pathfinder, and the resources that various groups have committed to the Refuge, but there have been some frustrations among some group members about a lack of more participation by Arapaho in these efforts. This manifested itself at the CPAG meeting in Casper on August 15 where Langer and Lanier found themselves on the "hotseat" in front of the Group, discussing the Arapaho complex, it's staff, resources, and how it set its priorities. After comparisons of the Refuges within the Complex were made, the group had a little better understanding of why we give more time to a Refuge that has over forty water rights, 70 miles of ditches, 80 impoundments, manageable riparian, upland, wetland and meadow habitat, and another Refuge that is the last known natural habitat for a species, and spend less time on a Refuge that is 200 miles away from headquarters, has no water rights, is subject to Reservoir fluctuations we have no control over, and has very few management options to properly affect. We did let the Group know that we had put in for MMS projects specific to Pathfinder, that we appreciated their efforts and looked forward to working with them in the future, but priorities for the Complex remained to the south.

No Refuge Revenue Sharing Funds were received for 2000.

Arapaho National Wildlife Refuge  
PO Box 457  
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970/723 8202  
970/723 8528 fax  
r6rw\_arp@fws.gov

U.S. Fish & Wildlife Service  
<http://www.fws.gov>

For Refuge Information  
1 800/344 WILD

July 2000



U.S. Fish & Wildlife Service

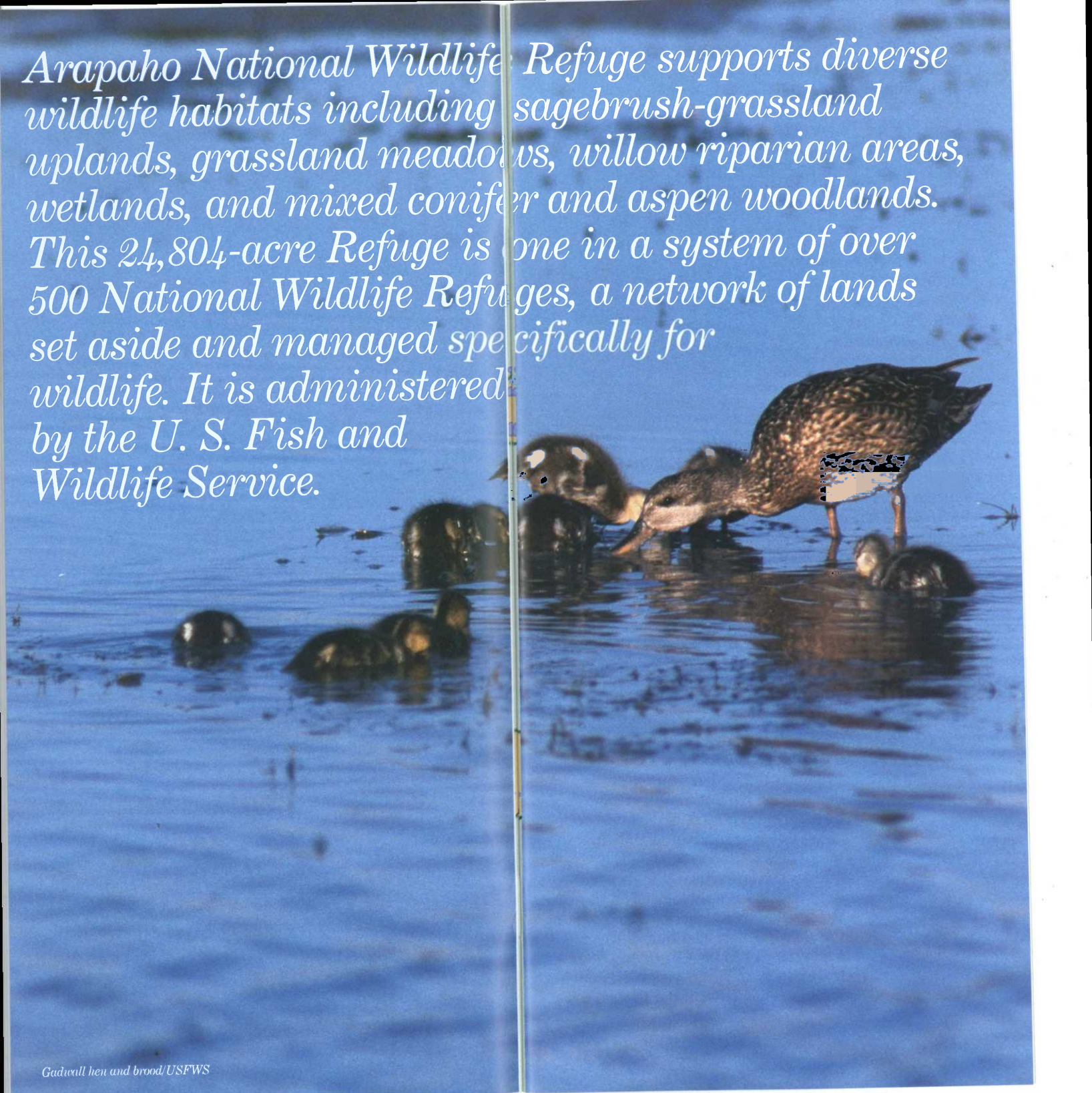
# Arapaho

*National Wildlife  
Refuge*



Cover photo: Virginia Heitman

*Arapaho National Wildlife Refuge supports diverse wildlife habitats including sagebrush-grassland uplands, grassland meadows, willow riparian areas, wetlands, and mixed conifer and aspen woodlands. This 24,804-acre Refuge is one in a system of over 500 National Wildlife Refuges, a network of lands set aside and managed specifically for wildlife. It is administered by the U. S. Fish and Wildlife Service.*



*Gadwall hen and brood/USFWS*

## Welcome to Arapaho National Wildlife Refuge

Arapaho National Wildlife Refuge (NWR), situated at an elevation of 8,200 feet, is located in an intermountain glacial basin in north central Colorado. The basin opens north into Wyoming and is rimmed on the west by the Park Range, on the south by the Rabbit Ears Range, and on the east by the Medicine Bow Range. The basin floor is locally known as North Park. Slow, meandering streams, which criss-cross the basin, flow toward the north central part of the basin to form the North Platte River. Most of the flood plain is irrigated meadow, while the adjacent low rises are characterized by sagebrush grasslands.

Historically, the Ute Indians traveled to this area during the summer months to hunt bison, abandoning the valley during the long, snowy, and icy winters. They referred to North Park as "Cow Lodge" and "Bull Pen." Their small numbers and nomadic lifestyle left but a small imprint on the land.

The Refuge was established in 1967 primarily to provide suitable nesting and rearing habitat for migratory birds. It was created, in part, to offset losses of nesting habitats in the prairie wetland region of the Midwest. Numerous wetlands have been developed or enhanced on the Refuge, fed by irrigation water from the Illinois River. The Illinois River, a tributary to the North Platte, traverses from south to north through the eastern portion of the Refuge.

## Managing for Wildlife

One of the main purposes of Arapaho NWR is to provide suitable nesting and brood rearing habitat for waterfowl and other migratory birds.

Several habitat management tools are used to maintain and enhance habitat for waterfowl, as well as other wildlife. These include a variety of grazing and non-grazing strategies, prescribed burning, noxious weed control, and the most important tool for refuge wetlands - water management.



USFWS Photo

*Gadwall nest*

Water is diverted from the Illinois River and directed through a complex system of ditches to irrigate meadows and fill waterfowl brood ponds. Water levels are manipulated in the shallow ponds to assure adequate aquatic vegetation for food and escape cover. These ponds also produce many insects and other invertebrates which are an important food source for female waterfowl for successful egg laying. These insects are also essential food to the growth of ducklings and goslings during the summer months.

## Diverse Wildlife Abounds Wetlands



Kent Olson/USFWS  
*American avocets*

## Irrigated Meadows

The Refuge provides habitat for a variety of wildlife species including 198 species of birds, 32 species of mammals, 6 species of reptiles and amphibians, and 9 species of fish. Refuge wetlands provide habitat for many migratory birds. Gadwall, lesser scaup, wigeon, mallard, cinnamon teal, Northern shoveler, and Canada geese are the primary waterfowl species that nest on the Refuge. Numerous shore and wading birds are also attracted to the Refuge wetlands. Look for Wilson's phalarope, American avocet, and willet along the shoreline and shallow edges of most ponds. Black-crowned night herons, great blue herons, white-faced ibis, and pied-billed and eared grebes also use the various Refuge wetlands for nesting and feeding.

Irrigated meadows provide primary nesting habitat for waterfowl and much more. Sora and Virginia rails, shy secretive birds, are numerous in the meadows, but seldom seen. Common snipe, northern harriers, and short-eared owls also find the irrigated meadows to be excellent nesting habitat. Grassland song birds, such as western meadowlark, Savannah sparrow, red-winged blackbird, and Brewer's sparrow are abundant in the meadows. These meadows are also home to a variety of mice, voles, and shrews which, in turn, are an abundant food source for coyotes, owls, and hawks.

## Riparian Areas

Riparian areas, such as those along the Illinois River, support a large diversity of wildlife species. Neotropical song birds, such as the yellow warbler, song sparrow, and Lincoln sparrow, abound here. Moose, a species once native to the area, were re-introduced in Jackson County in the late 1970's by the Colorado Division of Wildlife; they are again a common sight. Beaver, muskrat, and an occasional river otter may be spotted swimming silently through the water. Porcupine, weasel, mink, mule deer, and raccoon also make their home in these lush riparian areas.



USFWS Photo

## Uplands



John & Karen Hollingsworth

*Pronghorn antelope (above); displaying sage grouse (below)*

Uplands also play a large role in the wildlife diversity of the Refuge. These areas provide year-round critical habitat for pronghorn antelope and sage grouse. Pronghorn antelope herd up in the fall and sage grouse gather in large flocks during the winter. Golden eagles, Swainson's hawks, prairie falcons, and other raptors circle the skies above the uplands searching for food. Peregrine falcons (an endangered species) and bald eagles (a threatened species) are occasionally seen on the Refuge. Their prey includes Richardson's ground squirrels, white-tailed prairie dogs, and white-tailed jackrabbits. Other birds that frequent the uplands include vesper sparrow, sage thrasher, and horned lark. As many as 400 mule deer and up to 750 elk have wintered in the Refuge uplands.

## Enjoying Your Visit

Recreational activities such as fishing, hunting, wildlife observation, photography, and hiking can be enjoyed on the Refuge. Fishing for brown trout and an occasional rainbow or brook trout is permitted, except during the months of June and July, on the Illinois River. Fishing is challenging because of dense willow growth along the river banks. Antelope, upland game, and migratory bird hunting is allowed only in certain units during appropriate State seasons. Please see the Refuge hunting leaflet for more information.

*Wildlife  
Auto Tour*

A 6-mile self-guided wildlife auto tour route takes you through a variety of Refuge habitats, providing excellent viewing of waterfowl and other water birds, along with many opportunities for photography. A half-mile interpretive nature trail, which winds along the Illinois River, provides a great chance to view song birds and other riparian residents. Three informational kiosks offer Refuge leaflets and other general information. Two scenic overlooks provide visitors an opportunity to view large sections of the Refuge riparian and meadow habitats, along with great panoramic views of the surrounding mountains. Staff at the Refuge Headquarters/Visitor Center are available to answer questions or provide further information.

*Visitors are encouraged to enjoy the Refuge activities discussed in this leaflet. Any activities not mentioned in this leaflet are prohibited due to their incompatibility with the Refuge's wildlife conservation mission and goals.*

**Refuge  
Regulations**

Refuge visitors must abide by the following regulations to insure their safety, the safety of others, and the continued protection of Refuge natural resources.

*Motor Vehicles*

Motor vehicles are permitted only on existing Refuge roads unless posted as "Closed." Condition and closure of public roads are subject to seasonal or weather-related factors. Off-road travel is prohibited. Parking is permitted in designated parking areas and along the side of existing roads. Please do not park in a manner restricting the access of other visitors. ATV's may not be used on any portion of the Refuge. Please properly close gates that you open.

*Fishing*

Fishing is allowed only on the Illinois River in accordance with Colorado State fishing regulations. The Refuge is CLOSED to fishing from June 1 through July 31 each year to minimize disturbance to nesting waterfowl.

*Camping*

Overnight camping is not allowed.

*Amenities*

Motels, grocery stores, service stations, and camping facilities are located in and near Walden. Campground areas are also available on nearby U. S. Forest Service, Colorado State Parks and Recreation, and Colorado Division of Wildlife lands.

*Hunting*

Portions of the Refuge are open to public hunting of some game species during appropriate seasons. All hunters must possess a valid Colorado hunting license and all other necessary stamps and/or permits. For detailed information concerning Refuge hunting regulations, please refer to the Refuge hunting brochure.

*Firearms*

Firearms are strictly prohibited except during appropriate hunting seasons.

*Littering*

Leaving any refuse on the land or in the water is considered littering.

*Pets*

Pets must be leashed except retrievers used for hunting purposes during the appropriate hunting seasons.

*Personal  
Conduct*

Disorderly conduct is forbidden at all times. Anyone who is obviously intoxicated will not be allowed to remain on the Refuge. Possession of controlled substances is illegal and will not be permitted.

*Disturbance of  
Animal or Plant  
Life*

Molesting, injuring, disturbing, or destroying any animal or plant, except properly taken fish or game animals in season, is prohibited.

*Disturbance of  
Artifacts and  
Historic Items*











Artifacts and historic items are protected on Refuge lands by Federal law. It is unlawful to search for or remove these objects from Refuge lands.

## How to Find the Refuge

Arapaho National Wildlife Refuge is located south of Walden, Colorado, along State Highway 125. Office hours are 7:00 am to 4:30 pm, Monday through Friday.

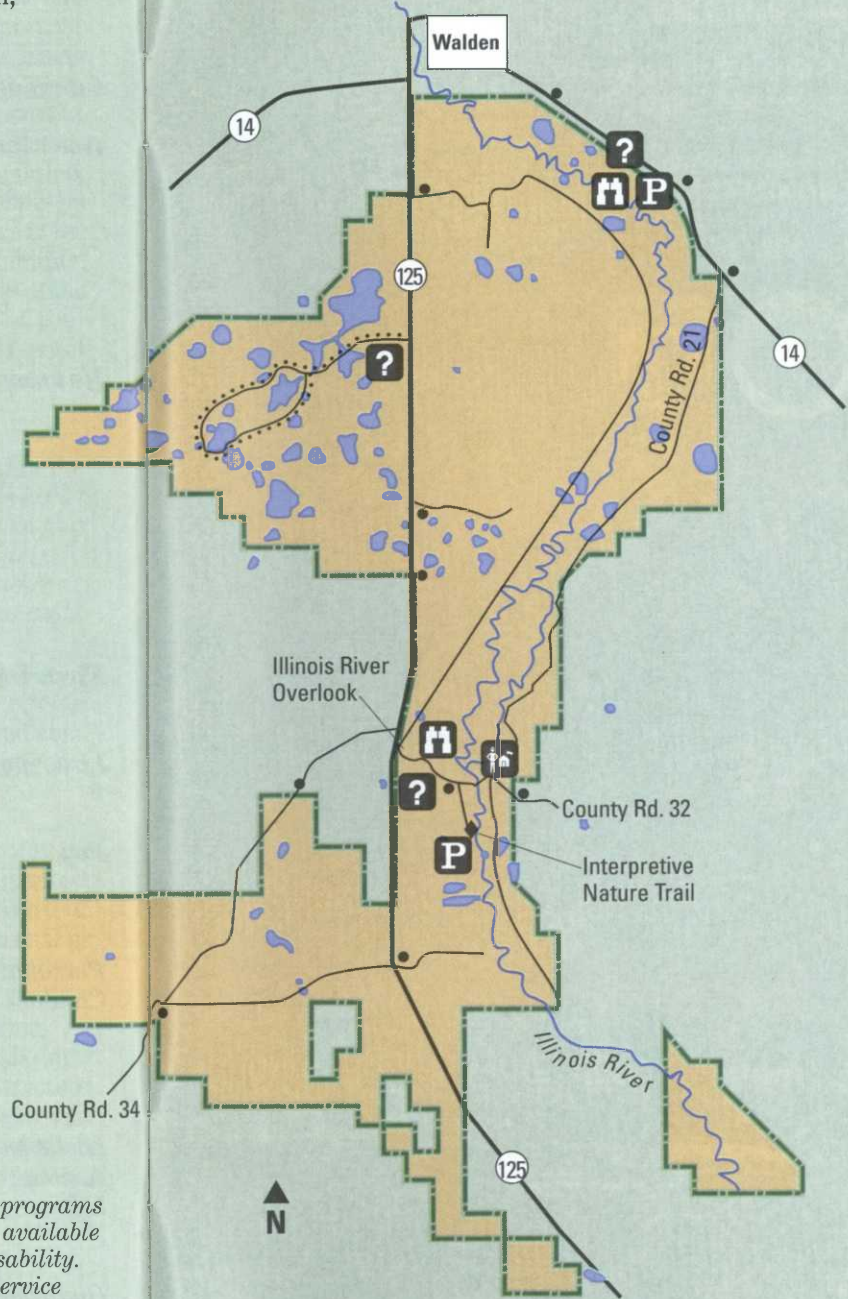
### Arapaho

#### National Wildlife Refuge

-  Refuge Boundary
-  Refuge Roads \*
-  Auto Tour Route
-  Nature Trail
-  Refuge Headquarters
-  Information kiosk
-  Parking
-  Overlooks
-  Access points
-  Ponds

0 miles 1.5  
0 kilometers 2.4

*\*All roads and trails are open to public travel during the spring, summer, and fall seasons. All are closed during the winter except the main road to Refuge Headquarters.*



*Equal opportunity to participate in and benefit from programs and activities of the U.S. Fish and Wildlife Service is available to all individuals regardless of physical or mental disability. For visitors using TTY, contact the Colorado Relay Service at 1 800 / 223 3131. For more information or to address accessibility needs, please contact Refuge staff at 970 / 723 8202 or the U.S. Department of the Interior, Office of Equal Opportunity, 1849 C Street, NW, Washington, D.C. 20240.*

U.S. Fish & Wildlife Service

# Arapaho

*National Wildlife  
Refuge*

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*Wildlife*



## A Home for Wildlife

Arapaho National Wildlife Refuge (NWR) is located in an intermountain glacial basin south of Walden, county seat of Jackson County, Colorado. It was established in 1967 to furnish migratory birds with a suitable place to nest and rear their young. The Refuge was created to offset, in part, losses of nesting habitat in the prairie wetland region of the Midwest.

The Refuge provides excellent habitat for a variety of wildlife. The irrigated meadows are ideal for nesting waterfowl and other species of birds. Riparian areas offer excellent habitat for moose, mule deer, and neotropical migratory birds. The sagebrush flats and knolls are utilized by upland game birds and pronghorn antelope.

May through October are the best months for observing birds on the Refuge and surrounding North Park area. Fall migration reaches its height in late September or early October when up to 8,000 waterfowl may be on the Refuge. Most mammals can be observed year round.

The first waterfowl arrive at Arapaho NWR when the ice vanishes in late March to mid-April. Peak migration occurs in late May when 5,000 or more ducks can be present. Canada geese, once scarce in the North Park area, have been reestablished and begin nesting on the Refuge during April. Duck nesting usually starts in early June and peaks later in the month. The Refuge produces about 8,000 ducklings and 300-400 goslings each year.

A self-guided auto tour route on the Refuge offers visitors great opportunities to observe wildlife. A corresponding auto tour route leaflet provides wildlife, habitat, and Refuge management information. More information about Arapaho NWR and recreational activities can be found in the general information and other leaflets found at the Refuge kiosks. Enjoy your visit!

## About this Checklist

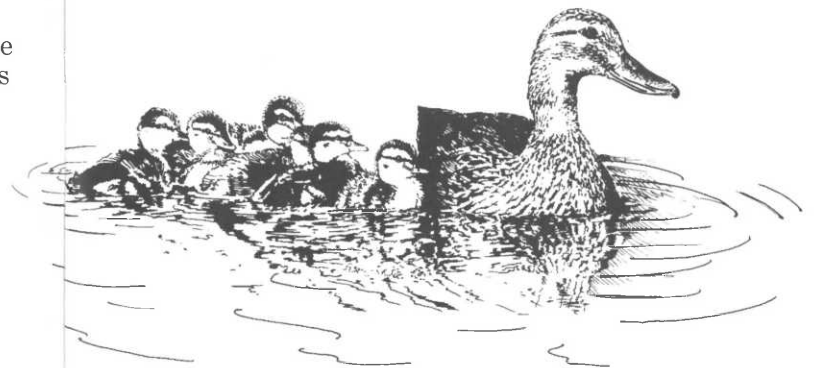
The following tabulation lists 198 species of birds, 33 mammals, and 15 other vertebrates which have been observed on the Refuge. Species of birds which have been known to nest on the Refuge are preceded by a bullet (•). Common names for mammals, fish, reptiles, and amphibians are followed by the scientific name and a specific abundance code. Since most birds are migratory, their seasonal occurrence and relative abundance is coded as follows:

### Seasons:

Sp Spring (March-May)  
Su Summer (June-August)  
F Fall (September-November)  
W Winter (December-February)

### Seasonal Abundance:

a abundant—occurring in large numbers  
c common—certain to be seen in suitable habitat  
u uncommon—present but not certain to be seen  
o occasional—seen only a few times during the season  
r rare—seen at intervals of 2 to 5 years  
x accidental—vagrant or out of normal range



	Sp	Su	F	W
<b>Grebes</b>				
__ •Pied-billed Grebe .....	u	u	u	
__ •Eared Grebe .....	u	c	u	
__ Western Grebe .....	o	o		
<b>Pelicans</b>				
__ American White Pelican .....	u	u	u	
<b>Cormorants</b>				
__ Double-crested Cormorant .....	o	o	o	
<b>Hérons</b>				
__ American Bittern .....	r	u	r	
__ •Great Blue Heron .....	u	u	u	
__ Snowy Egret .....	r	o	r	
__ Cattle Egret .....	o	o	o	
__ Green Heron .....		x		
__ •Black-crowned Night-Heron .....	u	c	u	
__ Yellow-crowned Night-Heron .....	r	r		
<b>Vultures</b>				
__ Turkey Vulture .....	r	c	o	r
<b>Ibises</b>				
__ •White Ibis .....	u	u	u	
<b>Swans</b>				
__ Tundra Swan .....			r	
__ Trumpeter Swan .....			r	
<b>Geese</b>				
__ Snow Goose .....			o	
__ •Canada Goose .....	c	c	c	
<b>Ducks</b>				
__ Wood Duck .....		x	x	
__ •Green-winged Teal .....	c	c	c	
__ •Mallard .....	a	a	a	
__ •Northern Pintail .....	c	c	c	
__ •Blue-winged Teal .....	e	c	e	
__ •Cinnamon Teal .....	c	c	c	
__ •Northern Shoveler .....	c	c	c	
__ •Gadwall .....	c	a	a	
__ •American Wigeon .....	e	a	a	
__ •Canvasback .....	u	u	u	
__ •Redhead .....	u	c	c	
__ •Ring-necked Duck .....	u	u	u	
__ •Lesser Scaup .....	c	a	a	
__ Common Goldeneye .....	r	r	r	
__ Bufflehead .....	o	r	o	
__ •Common Merganser .....	o	u	u	

	Sp	Su	F	W
__ •Ruddy Duck .....	o	c	c	
<b>Hawks, Kites, Eagles</b>				
__ Osprey .....			r	
__ Bald Eagle .....	r	r	r	
__ •Northern Harrier .....	u	c	e	r
__ Sharp-shinned Hawk .....	r	o	r	
__ Cooper's Hawk .....	o	r		
__ Northern Goshawk .....			o	
__ •Swainson's Hawk .....	u	c	e	
__ Red-tailed Hawk .....	o	o	o	
__ Rough-legged Hawk .....	o		o	o
__ Golden Eagle .....	c	c	e	c
<b>Falcons</b>				
__ •American Kestrel .....	u	c	u	
__ Merlin .....	r	o	o	
__ •Prairie Falcon .....	o	o	o	r
__ Peregrine Falcon .....	r	r	r	
<b>Gallinaceous Birds</b>				
__ •Sage Grouse .....	u	u	u	u
<b>Rails, Coots</b>				
__ •Virginia Rail .....	o	u	u	
__ •Sora .....	u	c	c	
__ •American Coot .....	c	c	c	
<b>Cranes</b>				
__ Sandhill Crane .....	o		o	
<b>Plovers</b>				
__ Black-bellied Plover .....	r			
__ •Killdeer .....	c	c	c	
<b>Stilts, Avocets</b>				
__ •Black-necked Stilt .....	r	r	r	
__ •American Avocet .....	u	c	c	
<b>Sandpipers</b>				
__ •Greater Yellowlegs .....		o	r	
__ •Lesser Yellowlegs .....		u	u	
__ Solitary Sandpiper .....		o		
__ •Willet .....	u	c	c	
__ •Spotted Sandpiper .....	o	u	o	
__ Upland Sandpiper .....		x		
__ Long-billed Curlew .....	r	o		
__ Marbled Godwit .....	r	o		
__ Western Sandpiper .....		u	o	
__ Least Sandpiper .....		u	o	
__ Baird's Sandpiper .....		u	o	

	Sp	Su	F	W
___ Long-billed Dowitcher.....	u	o	u	
___ •Common Snipe .....	c	c	u	
<b>Phalaropes</b>				
___ •Wilson's Phalarope .....	u	a	c	
<b>Gulls</b>				
___ Franklin's Gull .....	r		r	
___ Bonaparte's Gull.....	r			
___ Ring-billed Gull .....	r		r	
___ California Gull .....	u	u	u	
<b>Terns</b>				
___ •Forster's Tern.....	o	u	o	
___ •Black Tern.....	o	u	o	
<b>Doves</b>				
___ •Mourning Dove .....	c	c	c	
<b>Owls</b>				
___ Barn Owl .....		x		
___ •Great Horned Owl .....	u	c	u	u
___ •Burrowing Owl .....	r	r	r	
___ Long-eared Owl .....	o	u	o	
___ •Short-eared Owl.....	o	u	u	
___ Northern Saw-whet Owl.....	r	r	r	
<b>Goatsuckers</b>				
___ •Common Nighthawk .....	u	c	u	
<b>Hummingbirds</b>				
___ Calliope Hummingbird .....		r		
___ Broad-tailed Hummingbird .....	o	u	o	
___ Rufous Hummingbird .....	o	c	u	
<b>Kingfishers</b>				
___ •Belted Kingfisher.....	u	u	o	
<b>Woodpeckers</b>				
___ Lewis's Woodpecker .....			r	
___ Yellow-bellied Sapsucker.....		r	r	
___ Downy Woodpecker .....	o	o	u	u
___ Hairy Woodpecker .....	o	o	u	u
___ •Northern Flicker .....	o	c	o	
<b>Flycatchers</b>				
___ Olive-sided Flycatcher .....		r		
___ Western Wood Pewee.....		r		
___ •Willow Flycatcher .....	o	u	o	
___ Dusky Flycatcher.....		o	o	

	Sp	Su	F	W
___ Cordilleran (Western) Flycatcher .....		r		
___ Say's Phoebe.....	o	o	o	
___ Western Kingbird.....	u	u	o	
___ Eastern Kingbird.....		o	o	
<b>Larks</b>				
___ •Horned Lark.....	c	c	c	a
<b>Swallows</b>				
___ •Tree Swallow.....	o	c	o	
___ Violet-green Swallow .....	o	o	c	
___ Northern Rough-winged Swallow .....		o		
___ Bank Swallow .....	o	u	o	
___ •Cliff Swallow.....	u	c	u	
___ •Barn Swallow .....	o	u	o	
<b>Jays, Magpies, Crows</b>				
___ Steller's Jay .....	o	r	r	o
___ Pinyon Jay.....		x		
___ Clark's Nutcracker .....		r		
___ •Black-billed Magpie.....	c	c	c	c
___ •American Crow .....	c	c	c	c
___ •Common Raven .....	u	o	o	u
<b>Chickadees</b>				
___ •Black-capped Chickadee.....	u	u	o	u
___ Mountain Chickadee .....	u	o	o	u
<b>Nuthatches</b>				
___ Red-breasted Nuthatch.....		o		
<b>Wrens, Dippers</b>				
___ Rock Wren.....	r	u	r	
___ •House Wren .....	u	u	u	
___ Sedge Wren.....		x		
___ •Marsh Wren .....	u	u	u	
___ American Dipper .....	o	o	r	
<b>Kinglets</b>				
___ Ruby-crowned Kinglet .....		o		
<b>Thrushes, Bluebirds</b>				
___ Eastern Bluebird .....	r	o	r	
___ •Western Bluebird.....	o	o	o	
___ •Mountain Bluebird.....	c	c	u	
___ Veery .....	r	u	r	
___ Swainson's Thrush.....	r	r	r	
___ Hermit Thrush .....		r		
___ •American Robin .....	c	c	u	

	Sp	Su	F	W
<b>Mockingbirds, Thrashers</b>				
__ Gray Catbird.....	o	o	r	
__ Northern Mockingbird .....	o	o	r	
__ •Sage Thrasher .....	u	c	u	
__ Brown Thrasher .....	o	o	r	
<b>Pipits</b>				
__ American (Water) Pipit .....	r		r	
<b>Waxwings</b>				
__ Bohemian Waxwing .....	r	r	r	r
__ Cedar Waxwing .....	r	r	r	r
<b>Shrikes</b>				
__ Loggerhead Shrike .....	o	o	u	r
<b>Starlings</b>				
__ •European Starling .....	o	u	o	r
<b>Vireos</b>				
__ Warbling Vireo .....	r	r	r	
<b>Warblers</b>				
__ Orange-crowned Warbler .....	r	r	r	
__ Nashville Warbler .....		r		
__ Virginia's Warbler .....	r			
__ •Yellow Warbler .....	c	a	c	
__ Chestnut-sided Warbler .....		x		
__ Magnolia Warbler.....	r			
__ Yellow-rumped Warbler.....		o	o	
__ Townsend's Warbler.....	x	x		
__ American Redstart .....		r		
__ Northern Waterthrush .....		r		
__ MacGillivray's Warbler .....		o	u	
__ •Common Yellowthroat .....	o	u	o	
__ Wilson's Warbler .....	r	o	r	
<b>Tanagers</b>				
__ Western Tanager .....	r	r		
<b>Grosbeaks, Buntings</b>				
__ Rose-breasted Grosbeak.....	r			
__ Black-headed Grosbeak .....	r	r		
__ Blue Grosbeak .....	x	x		
__ Lazuli Bunting .....		o		
__ Indigo Bunting .....		x		
__ Dickcissel.....	x			

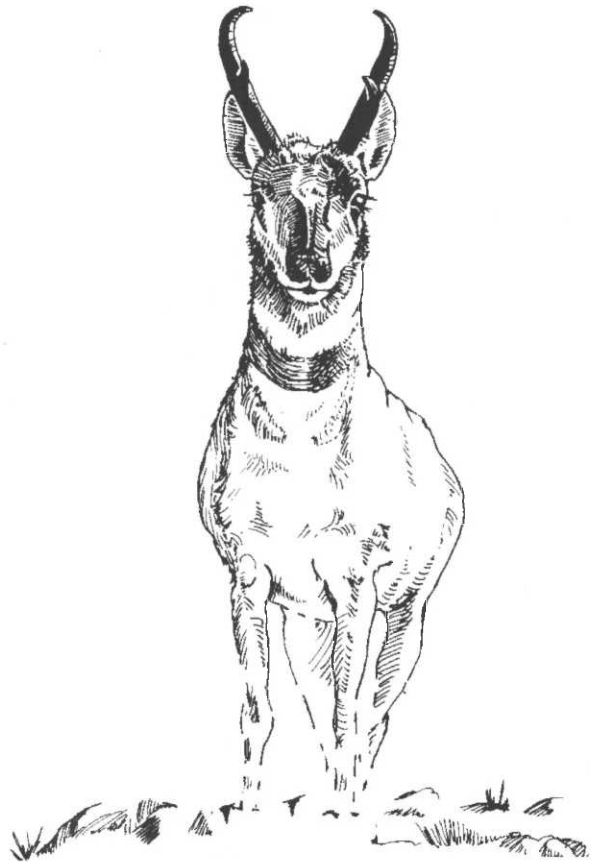
	Sp	Su	F	W
<b>Towhees, Sparrows</b>				
__ Eastern Towhee .....	r			
__ Green-tailed Towhee .....		u		
__ American Tree Sparrow .....	o		o	c
__ Chipping Sparrow .....		c	u	
__ •Brewer's Sparrow .....		c	c	r
__ •Vesper Sparrow .....	o	c	o	
__ •Lark Sparrow.....		u	u	
__ •Sage Sparrow .....	o	o	o	
__ •Lark Bunting "Colorado State Bird" .....	o	o	o	o
__ •Savannah Sparrow.....	u	a	u	
__ •Fox Sparrow .....	o	u	o	
__ •Song Sparrow.....		c	c	o
__ •Lincoln's Sparrow .....	o	u	o	
__ •White-crowned Sparrow (Mountain) .....	o	c	u	r
__ Harris Sparrow .....			x	
__ Dark-eyed Junco (ssp.) .....	o		o	o
__ McCown's Longspur .....			o	o
__ Lapland Longspur .....			o	o
__ Chestnut-collared Longspur .....		r	o	o
__ Snow Bunting .....			o	o
<b>Blackbirds, Orioles</b>				
__ Bobolink.....		r		
__ •Red-winged Blackbird.....	c	c	u	
__ •Western Meadowlark .....	u	c	u	
__ •Yellow-headed Blackbird.....	c	c	u	
__ •Brewer's Blackbird .....	u	c	u	
__ •Common Grackle .....	o	u	o	
__ •Brown-headed Cowbird .....	c	c	u	
__ Northern Oriole .....			r	
<b>Finches</b>				
__ Gray-crowned Rosy Finch .....	c	o	o	c
__ Black Rosy Finch.....	c	o	o	c
__ Brown-capped Rosy Finch .....	c	o	o	c
__ •House Finch .....	o	o	o	
__ Pine Siskin.....		o	o	
__ Lesser Goldfinch .....		x		
__ •American Goldfinch .....	o	u	r	r
__ Evening Grosbeak .....		o		
<b>Old World Sparrows</b>				
__ •House Sparrow.....	u	u	u	

## Mammals

— Masked Shrew ( <i>Sorex cinereus</i> ) .....	u
— Nuttall's Cottontail ( <i>Sylvilagus nuttallii</i> ) .....	u
— White-tailed Jackrabbitt ( <i>Lepus townsendii</i> ) .....	a
— Least Chipmunk ( <i>Eutamias minimus</i> ) .....	c
— Yellow-bellied Marmot ( <i>Marmota flaviventris</i> ) .....	o
— Richardson's Ground Squirrel ( <i>Spermophilus richardsonii</i> ) .....	a
— Thirteen-lined Ground Squirrel ( <i>Spermophilus tridecemlineatus</i> ) .....	o
— Golden-mantled Ground Squirrel ( <i>Spermophilus lateralis</i> ) .....	u
— White-tailed Prairie Dog ( <i>Cynomys leucurus</i> ) .....	a
— Beaver ( <i>Castor canadensis</i> ) .....	c
— Deer Mouse ( <i>Peromyscus maniculatus</i> ) .....	a
— House Mouse ( <i>Mus musculus</i> ) .....	c
— Northern Grasshopper Mouse ( <i>Onychomys leucogaster</i> ) .....	c
— Western Jumping Mouse ( <i>Zapus princeps</i> ) .....	c
— Montane Vole ( <i>Microtus montanus</i> ) .....	c
— Muskrat ( <i>Ondatra zibethicus</i> ) .....	c
— Porcupine ( <i>Erethizon dorsatum</i> ) .....	u
— Coyote ( <i>Canis latrans</i> ) .....	c
— Red Fox ( <i>Vulpes vulpes</i> ) .....	o
— Black Bear ( <i>Ursus americanus</i> ) .....	x
— Raccoon ( <i>Procyon lotor</i> ) .....	u
— Ermine ( <i>Mustela erminea</i> ) .....	u
— Long-tailed Weasel ( <i>Mustela frenata</i> ) .....	c
— Mink ( <i>Mustela vison</i> ) .....	u
— River Otter ( <i>Lutra canadensis</i> ) .....	r
— Badger ( <i>Taxidea taxus</i> ) .....	c
— Striped Skunk ( <i>Mephitis mephitis</i> ) .....	c
— Bobcat ( <i>Felis rufus</i> ) .....	x
— Rocky Mountain Elk ( <i>Cervus elaphus</i> ) .....	u
— Mule Deer ( <i>Odocoileus hemionus</i> ) .....	c
— White-tailed Deer ( <i>Odocoileus virginianus</i> ) .....	r
— Moose ( <i>Alces alces</i> ) .....	u
— Pronghorn Antelope ( <i>Antilocapra americana</i> ) .....	c

## Fish, Amphibians, Reptiles

— Rainbow Trout ( <i>Salmo gairdneri</i> ) .....	r
— Brown Trout ( <i>Salmo trutta</i> ) .....	c
— Brook Trout ( <i>Salvelinus fontinalis</i> ) .....	r
— Northern Redbelly Dace ( <i>Phoxinus eos</i> ) .....	c
— Fathead Minnow ( <i>Pimephales promelas</i> ) .....	c
— Creek Chub ( <i>Semotilus atromaculatus</i> ) .....	c
— Long-nosed Sucker ( <i>Catostomus catostomus</i> ) .....	c
— White Sucker ( <i>Catostomus commersoni</i> ) .....	c
— Johnny Darter ( <i>Etheostoma nigrum</i> ) .....	r
— Barred Tiger Salamander ( <i>Ambystoma tigrinum mavortium</i> ) .....	u
— Western Toad ( <i>Bufo boreas</i> ) .....	u
— Wood Frog ( <i>Rana sylvatica</i> ) .....	r
— Northern Leopard Frog ( <i>Rana pipiens</i> ) .....	o
— Striped Chorus Frog ( <i>Pseudacris nigrita maculata</i> ) .....	u
— Wandering Garter Snake ( <i>Thamnophis elegans vagrans</i> ) .....	r



Arapaho National Wildlife Refuge  
P.O. Box 457  
Walden, CO 80480  
970/723 8202  
970/723 8528 fax  
r6rw\_arp@fws.gov

U.S. Fish & Wildlife Service  
<http://www.fws.gov>

For Refuge Information  
1 800/344 WILD



U.S. Fish & Wildlife Service

# Arapaho

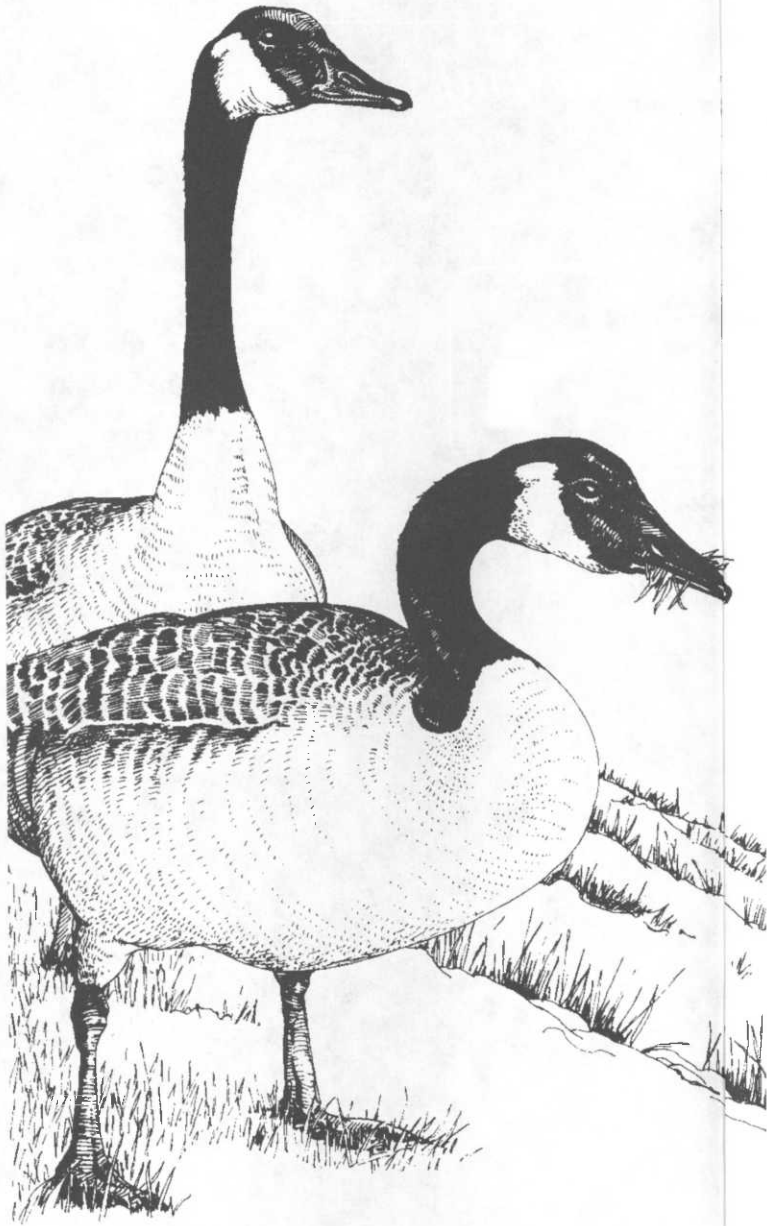
*National Wildlife  
Refuge*

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*Hunting*



## A Home for Wildlife



Arapaho National Wildlife Refuge (NWR) was established in 1967 as a place for waterfowl and other migratory birds to nest and rear their young. It was created in part to compensate for habitat that has been lost to development in the prairie wetland region of the Midwest. Most of Arapaho NWR was purchased with money derived from the sale of Duck Stamps.

The Refuge is one of more than 500 refuges in the National Wildlife Refuge System - a network of lands set aside specifically for wildlife. Managed by the U. S. Fish and Wildlife Service, the Refuge System is a living heritage, preserving wildlife and habitat for people today and for generations to come.

The Refuge provides prime habitat for a variety of wildlife. The irrigated meadows are ideal for nesting waterfowl and other species of birds. Riparian areas offer excellent habitat for moose, mule deer, and white-tailed deer. The sagebrush flats and knolls are used by upland game birds and pronghorn antelope.

Fall migration reaches its height in late September or early October when up to 8,000 waterfowl may be on the Refuge. Most mammals can be observed year round. More information about Arapaho NWR's wildlife, habitats, management, and recreational opportunities can be found in the general information and other leaflets displayed at Refuge headquarters and kiosks.

The intent of this hunting information brochure is to prevent violations rather than to prosecute violators, so please familiarize yourself with the Refuge regulations. Respect the privileges of other hunters who may be hunting in close proximity to you. Handle firearms carefully, for your own safety as well as your fellow hunters. Cooperation of all sportsmen is requested.

**Hunting Regulations**

	Unit A	Unit B	Unit C
<b>Small Game</b>			
Sage Grouse	Closed	State Season	State Season
Cottontail, Jackrabbit	Closed	State Season**	State Season**
<b>Migratory Birds</b>			
Duck, Coot, Merganser	Closed	State Season	Closed
Canada Goose	Closed	State Season	Closed
Snipe, Rail	Closed	State Season	Closed
Dove	Closed	State Season	Closed
<b>Big Game</b>			
Pronghorn Antelope	Closed	State Season	State Season
Deer, Elk, Moose	Closed	Closed	Closed

**Seasons**

\*\*All hunting is in accordance with State seasons and regulations established for this area except that the Refuge is closed to rabbit hunting following the closing of the State-wide waterfowl season in January.

**Boats and Blinds**

Portable blinds or temporary blinds of natural vegetation are permitted. Permanent blinds or pits are prohibited. Canoes and small, nonmotorized boats may be used for waterfowl hunting. Blinds and decoy setups are not permitted prior to the opening of the waterfowl season.

**Firearms**

Only legal shotguns, muzzleloaders, rifles, and hand-held bows meeting State regulations are permitted.

**Littering**

Littering is prohibited. Pack your trash (including shotgun shell casings) out with you so that the area will remain clean, natural, and enjoyable.

**Access**

Vehicle travel is limited to established roads. Vehicles must be parked off the roads so that access to others is not hindered. Hunting is prohibited within 100 yards of the Refuge Headquarters and residence areas. ATV'S may not be used on any portion of the Refuge.

**Non-toxic shot is required in all shotguns when hunting in Units B & C.**

**Camping**

Overnight camping and open fires are prohibited.

**Possession of lead shot is prohibited while in the field.**

**Retrieving**









Retrieving game from areas closed to hunting is prohibited. Regulate your shooting so that game does not fall into "Closed to Hunting Zones" of the Refuge.

**The Refuge is closed to elk, deer, and moose hunting.**

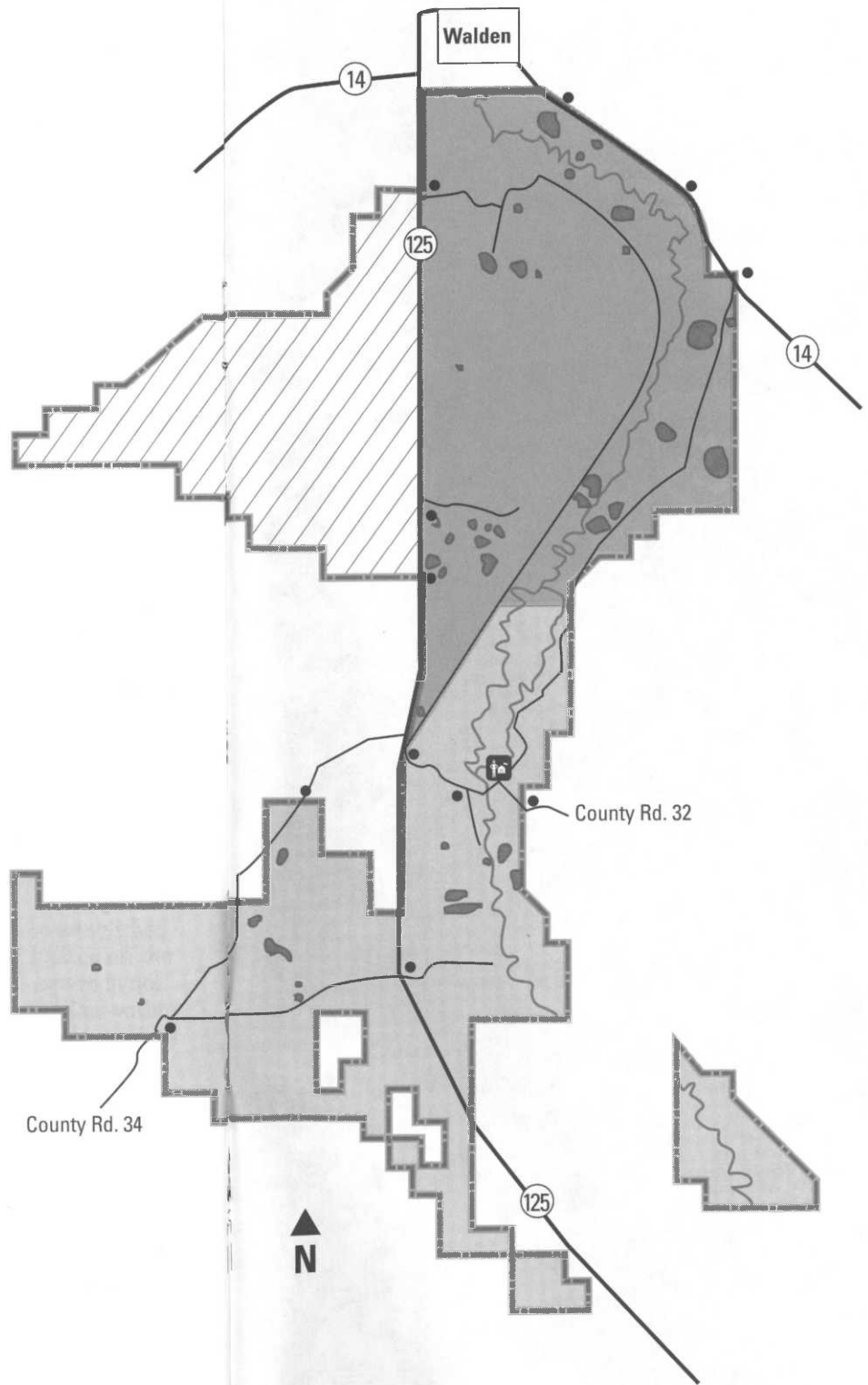
**When in doubt as to any regulation, contact a Refuge Officer.**

# Arapaho

## National Wildlife Refuge

-  Unit A - **CLOSED TO HUNTING**
-  Unit B - open to migratory birds, sage grouse, rabbits, pronghorn antelope
-  Unit C - open only for sage grouse, rabbits, pronghorn antelope
-  Hunter Access Points
-  Refuge Headquarters
-  Refuge Roads
-  Illinois River
-  Ponds

(map not to scale)



Arapaho National Wildlife Refuge  
P.O. Box 457  
Walden, CO 80480  
970/723 8202  
970/723 8528 fax  
r6rw\_arp@fws.gov

U.S. Fish & Wildlife Service  
<http://www.fws.gov>

For Refuge Information  
1 800/344 WILD

September 2000



U.S. Fish & Wildlife Service

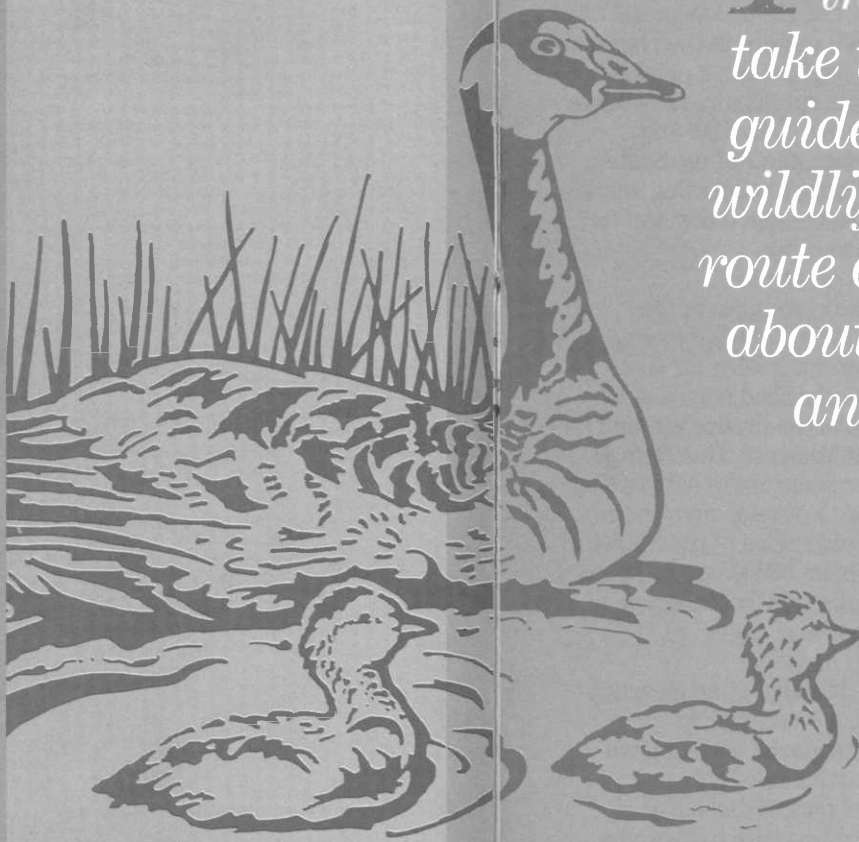
# Arapaho

*National Wildlife  
Refuge*

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*Self-guided Auto  
Tour*





*You are invited to take the self-guided, 6-mile wildlife auto tour route and learn about the wildlife and habitats here at*

*Arapaho National Wildlife Refuge.*

*Look for pronghorns, prairie dogs, ducks, geese, shorebirds, sage grouse, and a variety of other wildlife.*

## About the Refuge

Arapaho National Wildlife Refuge (NWR) was established in 1967 as a place for waterfowl and other migratory birds to nest and rear their young. The Refuge is one of more than 500 refuges in the National Wildlife Refuge System, a network of lands set aside specifically for wildlife. Managed by the U. S. Fish and Wildlife Service, the Refuge System is a living heritage, preserving wildlife and habitat for people today and for generations to come.

Like many other refuges in the National Wildlife Refuge System, this Refuge compensates for some of the habitat that had been lost to development in the prairie wetland region of the Midwest. This Refuge makes up for some of the habitat that has been lost to development in the prairie wetland region of the Midwest. Most of Arapaho NWR was purchased with money derived from the sale of Duck Stamps.

The Refuge, situated at an elevation of 8,200 feet, is located in an intermountain glacial basin known locally as North Park. In the north-central part of the valley, streams come together to form the North Platte River. Water from the Illinois River, one of the tributaries to the North Platte, is used to irrigate Refuge meadows and maintain waterfowl brood ponds. Dry grassland, sagebrush, and greasewood characterize the higher rises on the Refuge.

## Using the Wildlife Auto Tour Route

Watch for the numbered signs along the shoulder of the road. They are keyed to the following numbered paragraphs.

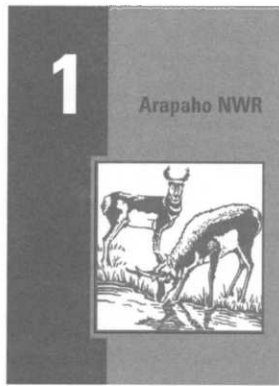
Use your vehicle as a blind. You may actually see more wildlife by remaining in it. Drive slowly and be patient.

Do not disturb the wildlife. Animals are very sensitive and will flee if approached. This causes a number of problems for the animal including: using up valuable energy at a time when they may need it for nesting; abandoning eggs or young that need to be kept warm or protected from predators; or injuring themselves while fleeing. Also, remember those who follow you want to see wildlife, too.

Please do not litter.

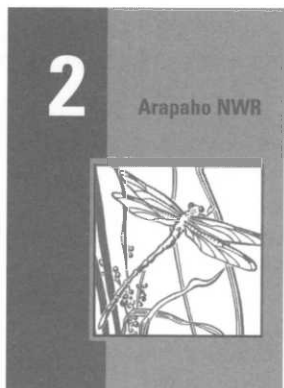
Viewing wildlife is best in the early morning or late afternoon hours when they are feeding.

### 1. Sagebrush Flats



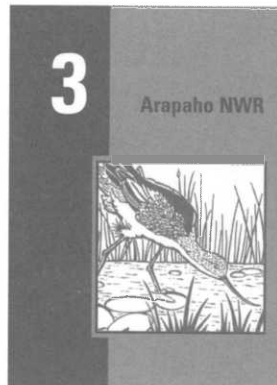
These sagebrush flats and knolls do not appear to offer much for wildlife, but actually they are very valuable. Sagebrush is essential nesting habitat for sage grouse, the largest American grouse. Pronghorn antelope feed year-round on sagebrush and other plants. With the coming of winter, up to 700 elk and 200 mule deer may descend from the surrounding mountains and spend part or all of the winter on Refuge uplands.

### 2. Water Impoundments



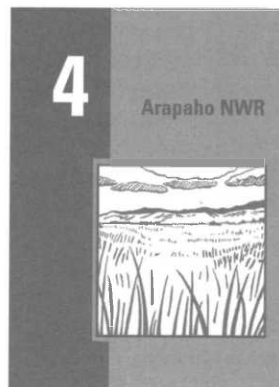
Refuge managers have created and enhanced many types of wetlands like this one for waterfowl and other water birds. Small, shallow ponds are the first to warm up in the spring, producing many insects and other invertebrates, an important food source needed by most female waterfowl for successful egg laying. During the summer months, these insects and other invertebrates serve as an essential protein source for growing ducklings and goslings. Pond water levels are periodically manipulated up and down to improve overall pond productivity.

### 3. Shore and Wading Birds



Refuge water impoundments provide breeding, nesting, feeding, and resting habitat for a variety of shore and wading birds. Common species found here include: Wilson's phalarope, American avocet, killdeer, willet, black-crowned night heron, white-faced ibis, and common snipe. These birds use a variety of methods to locate and feed on the aquatic invertebrates found in the mud flats and shallow edges of the Refuge wetlands. These areas also provide resting grounds for spring and fall migrants such as dowitchers, yellowlegs, and western, least, and Baird's sandpipers.

### 4. Habitat Management

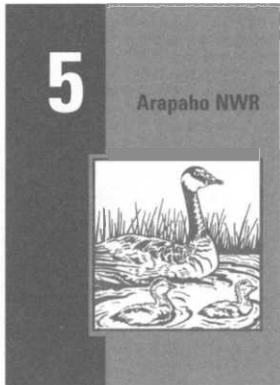


A series of small diversion ditches are used to irrigate these grassy meadows. Although ducks will nest in sagebrush and greasewood, they prefer the tall, dense grasses in the irrigated meadows. Prior to European settlement, bison and other grazing animals, along with periodic wild fires, maintained the meadows and uplands. Today, the Refuge uses a variety of management tools that imitate these natural processes. Various grazing strategies and prescribed burning, coupled with long- and short-term rest, are the management tools that are used to various degrees on the Refuge. They help maintain and promote vigorous stands of grasses and other desirable habitat for wildlife.

## Stops Along Auto Tour Route

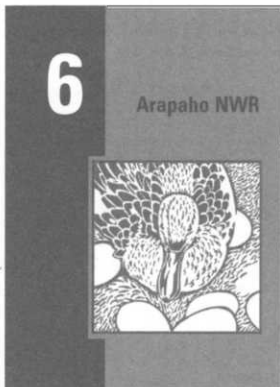
### 5. *Successful Nesting*

Canada geese also nest on Arapaho Refuge. Over-the-water nesting platforms and nesting islands, constructed of dirt and rock provide safety from raccoons, skunks, and most other predators that have an appetite for eggs. About 300 to 400 goslings are produced on the Refuge each year.



### 6. *Waterfowl Production*

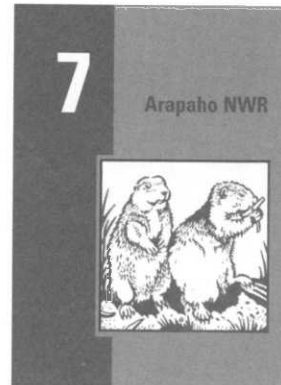
Waterfowl are usually visible from here unless the pond is frozen. Arapaho Refuge produces an average of 8,000 ducklings every year and hosts up to 8,000 waterfowl during the peak of the fall migration. Waterfowl production is the primary purpose of Arapaho Refuge. Gadwall, lesser scaup, and American wigeon are the most common species.



## Stops Along Auto Tour Route

### 7. *Prairie Dog Town*

The ground disturbance you see is due to the burrowing of white-tailed prairie dogs. White-tails live in much smaller towns than their slightly larger, black-tailed cousins who live at lower elevations. Prairie dogs get their name from their barking at real or imaginary enemies in steady yap-yap-yaps. Prairie dogs hibernate, usually coming out as soon as the snow melts in the spring. In May,












litters of four to eight white-tailed prairie dogs are born. The young white-tails usually do not come out of the burrow until early to mid-June. In North Park, prairie dog towns are also inhabited by Richardson's ground squirrels. They look very similar to the white-tails, but are only about half as large.

This is the last stop on the wildlife tour. You may want to visit the Illinois River Overlook and the Interpretive Nature Trail. To reach these facilities, return to Highway 125 and go 4 miles south (to the right). Then turn east (left) on the gravel road by the large Refuge entrance sign. The overlook is at the top of the first hill and the trail access road is 1/4-mile further east and then south (to the right).

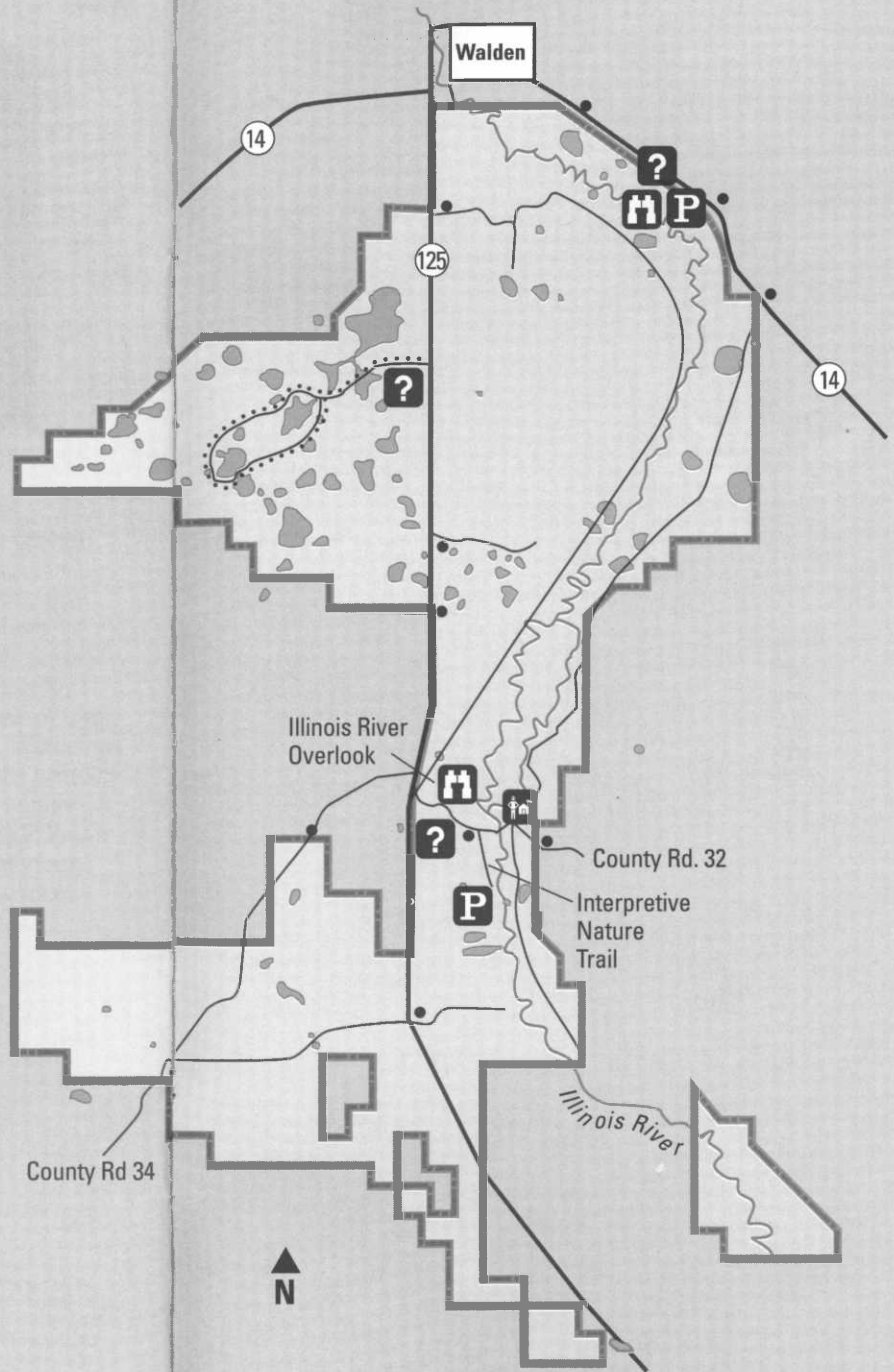
# Arapaho National Wildlife Refuge

## Self-Guided Auto Tour Map

-  Refuge Boundary
-  Refuge Roads \*
-  Auto Tour Route
-  Refuge Headquarters
-  Information kiosk
-  Parking
-  Overlooks
-  Access points
-  Ponds



*\*All roads and trails are open to public travel during the spring, summer, and fall seasons. All are closed during the winter except the main road to Refuge Headquarters.*



Arapaho National Wildlife Refuge  
P.O. Box 457  
Walden, CO 80480  
970/723 8202  
970/723 8528 fax  
r6rw\_arp@fws.gov

U.S. Fish & Wildlife Service  
<http://www.fws.gov>

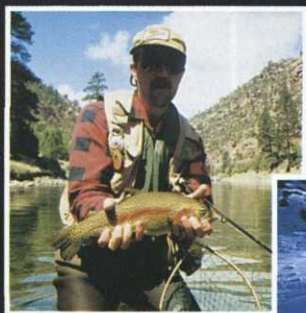
For Refuge Information  
1 800/344 WILD

October 1998



A Guide And Map To  
**North Park, Colorado**

**RECREATION  
FOR ALL SEASONS**



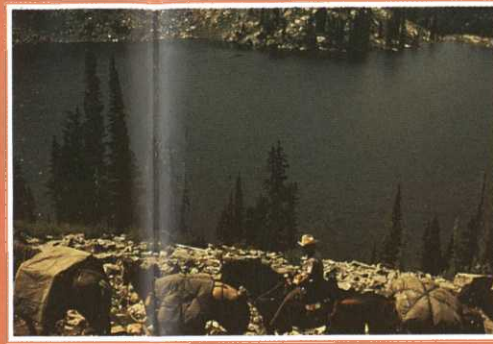
**NORTH PARK LOVES COMPANY!**

# ➔ North Park, Colorado Recreation For All Seasons

## DIVERSE YEAR-ROUND OUTDOOR RECREATION



K. CROWDER



S. PORTER

Located in the scenic north central portion of Colorado, North Park and Jackson County offer a wide range of outdoor recreation opportunities in spectacular mountain settings. Terrain varies from 12,000 feet glacier carved peaks to lush river valleys, even sand dunes. Be it summer, fall or winter you'll find that North Park has a unique natural beauty and a down-home western atmosphere. If you are looking for an undiscovered alpine recreation area to spend a few hours or a week, North Park is the place for you. Modestly priced accommodations and tourist services are open all year.

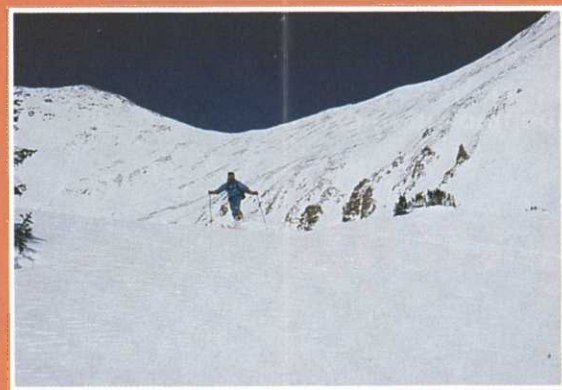
## ABUNDANT SNOW AND WINTER ACTIVITIES

North Park's mountain peaks and valleys receive some of the greatest snowfalls in Colorado. Many locations average over 300 inches per year! Plowed state and federal highways provide easy access to North Park's miles of maintained snowmobile and cross-country skiing trails. Backcountry enthusiasts find a trackless deep powder wilderness. Special events, like the Gould Snowmobile Poker Run, North Park Ice Fishing Contest or the Gould Ski Scramble provide plenty of things to do and see all winter.

COLORADO STATE FOREST



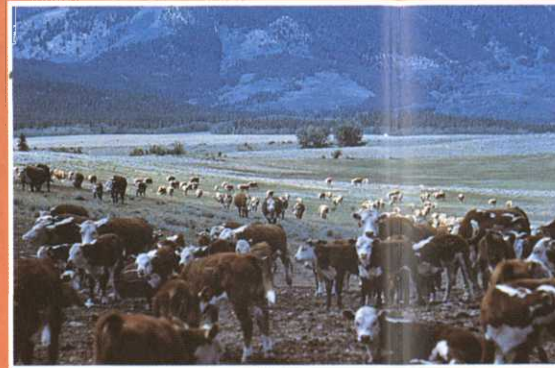
K. CROWDER



D. NIES

## THE OLD WEST LIVES ON!

Ranch barns, irrigated hay fields and cowboys herding cattle still dominate the valley landscapes of North Park. Looking for a taste of the old west, try visiting a dude ranch, the historic silver mining ghost town of Teller, pioneer treasures at the North Park Museum or experience western action at the Never Summer Rodeo.



M. STEPHEN



C. FLINIAU



C. FLINIAU

## NORTH PARK

### OFFERS YOU

- Majestic Mountains;
- Hundreds of lakes and streams;
- Abundant public lands in National and State Forests, Parks, BLM and Wildlife Refuges;
- Miles of maintained snowmobile, cross-country ski, off highway vehicle, mountain bike and hiking trails;
- Unique historic and cultural sites;
- Plentiful wildlife, like moose, elk, eagles, sagegrouse;
- Complete tourist services-facilities.

## EASY AND SAFE HIGHWAY ACCESS

North Park is within easy driving distance of Rocky Mountain National Park, Denver, Fort Collins, and Steamboat Springs, Colorado as well as Cheyenne and Laramie, Wyoming. All weather paved highways provide safe year-round access.



## UNDISCOVERED AND UNSPOILED

Leave the crowds behind and enjoy the pristine mountains, forests, lakes and streams of North Park. Over half of Jackson County is national and state forests, national parks or federal and state wildlife refuges. These extensive public lands mean you'll be recreating in an unspoiled alpine playground.



J. GRESHAM



S. PORTER



## SPECIAL EVENTS

### WINTER:

- Gould Snowmobile Snowbowl** — a one day event featuring a poker run on snowmachines, concessions. Fun for all ages.
- North Park Ice Fishing Contest** — cash prizes for those catching the 9 largest fish from Lake John and Delaney Buttes Lake. All ages welcome. Try your luck!!!
- Gould Ski Scramble** — Family oriented cross-country ski races in the Colorado State Forest. All levels skiers welcome.

### SPRING:

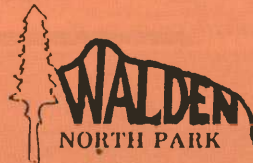
- Sage Grouse tours** — an opportunity to view Sage Grouse on their communal display grounds for the annual mating ritual.

### SUMMER:

- North Park Old Timers Reunion** — a fun family gathering of past and present North Park residents.
- Never Summer Rodeo** — exciting amateur rodeo competition. Two days of wild and wooly action, barbeques and dances. You all come!
- A Ride in the Park** — Amateur Car Rally treasure hunt. Offers a unique way to see North Park and to have fun. Everyone welcome to participate
- North Park Day** — an annual street fair with crafts, food, games, sidewalk sales and great entertainment. Everyone invited.
- Motorcycle Enduro** exciting motorcycle racing over mountain courses and mountain terrain. Riders and spectators welcome.

### FALL:

- North Park Fair** — three days of competitive livestock shows, crafts, and gardening exhibitions, including a barbeque and 4-H livestock sale.
- Ranch Rodeo** — one day event featuring cowboys from working ranches in team penning, branding, steer doctoring, cattle loading events. A great family entertainment.
- Western Soiree** — pot luck dinner, square dancing, family oriented fun. Everyone welcome.
- Harvest Craft Festival** — indoor art and craft sale. Come and see.



This brochure produced by the  
North Park Chamber of Commerce.

Brochure design — Patrick Tierney and the Type Exchange  
Funding provided by paid advertisers and listed agencies.

## NORTH PARK BUSINESSES

- **CHEDSEY MOTEL** — 1-970-723-8201.  
537 Main, Walden 80480.  
14 units/open all year/cable TV/MC V AE  
Diners Disc/located downtown Walden.
- **HOOVER ROUNDUP MOTEL** — 1-970-723-4680.  
361 Main, Walden 80480. 21 units/open all year/  
kitchens/phones /cable TV/pets OK/MC V AE Dis  
Diners/located downtown Walden.
- **VILLAGE INN HOTEL** — 1-970-723-4378.  
409 Main, Walden 80480.  
11 units/open all year/cable TV/phones/MC V.
- **WESTSIDE MOTEL** — 1-970-723-8589.  
441 Lafever, Walden 80480.  
Clean/quiet rooms/reasonable rates/located 1 block  
west of Main St./equipped kitchens/TV/MC V.
- **CORKLE'S MINI MART/GIFT SHOP** 1-970-723-4733.  
597 Main Hwy. 14/125, Walden 80480.  
Gas/snacks/gifts/ souvenirs/sporting goods/licenses.
- **KLONDIKE LIQUORS** — 1-970-723-8275.  
444 Main, Walden 80480.  
Full line of beverages/pop of all kinds.
- **NORTH PARK CLEANERS & LAUNDRY** — 1-970-723-4773.  
577 Main, Walden 80480.  
Full-line dry cleaning and laundry.
- **NORTH PARK STATE BANK** — 1-970-723-8221.  
461 Main, Walden 80480.  
Member of FDIC/federal housing lender.  
Accepts most deposits/serving the financial needs of  
North Park since 1955.
- **COLDWELL BANKER SILVER OAK, LTD**  
**Jennifer Weddle**, Broker Associate — 1-970-723-4043.  
"Your North Park Real Estate Specialist."
- **UNITED COUNTRY HOLSINGER & CO.** — 1-970-723-4587.  
North Park Real Estate, P.O. Box 37, Walden 80480.  
Keith Holsinger, Broker / Kent Holsinger, Broker  
Associate / Debbie Holsinger, Sales Associate.
- **PARK MARKET** — 1-970-723-8613.  
Grocery/Health Foods.
- **NORTH PARK SUPERS** — 1-970-723-8211.  
1 mile N. of Walden.  
Areas largest Super Market/video games/sporting  
goods/licenses/processing/clothing/toys.

● **SPORTSMAN SUPPLY**

**WALDEN WOODWORKS** — 1-970-723-4343.

466 Main, Walden 80480.

[www.sportsman supply.XT com.com](http://www.sportsman supply.XT com.com)

● **CO STATE FOREST STATE PARK CABINS** — 1-970-723-8366

or 1-800-678-2267, 2746 JCR 41, Walden 80480.

6 rustic cabins at N. Michigan Res/open all year/wood burning stoves/outhouses/no running water.

● **NORTH PARK KOA** — 1-970-723-4310.

53337 Hwy 14, Walden 80480.

Kampground/kabins/tipis/showers/playground/  
store/gasoline/LP gas/open May 15 - November 15.

● **WHISTLING ELK RANCH** — 1-970-723-8311.

Box 2, Rand 80473.

Open all year/3 modern cabins/horseback riding/mtn. biking/Cross country ski trails/trophy private fly fishing/  
hunting/license. #828. [www.whistling elk.com](http://www.whistling elk.com)

● **SHAMROCK RANCH** — 1-970-723-8413.

4363 JCR 11, Coalmont 80430.

Exclusive mountain lodge featuring outstanding meals/fishing nearby.

● **LAKE JOHN RESORT** — 1-970-723-3226.

Cabins/store/RV park/ boat rentals/restaurant.

(Spring '99).

● **WALDEN COIN-OP LAUNDRY** — 468 Main, Walden 80480.

**NORTH PARK**

**FOR ADDITIONAL  
INFORMATION**

North Park Chamber of Commerce — 1-970-723-4600.

P.O. Box 68, Walden, CO 80480. [www.northpark coc.com](http://www.northpark coc.com).

Town of Walden Tourism Information Center — 1-970-723-4344.

P.O. Box 489, Walden, CO 80480.

Routt Nat'l. Forest, North Park Ranger Dist. — 1-970-723-8204.

P.O. Box 158, Walden, CO 80480.

Colorado State Forest Service — 1-970-723-4505.

SR Box 116, 59228 Hwy. 14, Walden, CO 80480.

Colorado State Forest State Park — 1-970-723-8366.

2746 JCR 41, Walden, CO 80480.

Arapaho National Wildlife Refuge — 1-970-723-8202.

P.O. Box 457, Walden, CO 80480.

Colorado Division of Wildlife — 1-970-723-4625 or 723-4296.

Walden Work Center, Walden, CO 80480.

U.S. Bureau of Land Management, Kremmling Resource Area —

1-970-724-3437. P.O. Box 68, Kremmling, CO 80459.