

ALAMOSA NATIONAL WILDLIFE REFUGE  
ALAMOSA, COLORADO

ANNUAL NARRATIVE REPORT  
CALENDAR YEAR 1992

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

REVIEW AND APPROVALS

ALAMOSA NATIONAL WILDLIFE REFUGE

Alamosa, Colorado

ANNUAL NARRATIVE REPORT

Calendar Year 1992

 Refuge Manager	 Date	 Associate Manager Review	 Date
 Regional Office Approval		 Date	

## INTRODUCTION

Alamosa National Wildlife Refuge is located approximately three miles southeast of Alamosa, Colorado. The bulk of the refuge is located in Alamosa County. A small portion (141 acres) is located in Costilla County. The 11,169 acre refuge was established in 1962. The refuge lies primarily in the Rio Grande River floodplain. Elevations range from 7,505 feet near the river to 7,576 feet on bluffs along the eastern border of the refuge.

The refuge is located in the San Luis Valley, a high mountain valley located in south-central Colorado. The valley consists of a broad depression between mountain ranges converging to the north and is the first of a series of basins along the Rio Grande River. The mountain ranges to the east reach altitudes over 14,000 feet and those to the west between 13,000 and 14,000 feet. The length of the valley from north to south is over 80 miles, and its greatest width is about 50 miles. Due to the high elevation, abundant cropland, and artesian well flows, the San Luis Valley is an important waterbird production area in spite of its southern location.

The climate of the San Luis Valley is marked by cold winters and moderate summers, light precipitation, and much sunshine. The growing season in the vicinity of Alamosa NWR averages about 90 days. July and August are usually the only frost-free months. The highest temperature so far recorded was 96 degrees, and the coldest ever recorded was 50 degrees below zero. Winds are light during the coldest weather, but are strong with occasional blowing dust during the spring and early summer months.

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## K. FEEDBACK

A. HIGHLIGHTS

- New Auto Tour Route and Walking/Bicycling Trail established (see page 43).
- New waterfowl hunting area established (see page 47).
- Rio Grande River Walking Trail closed from November 1 to March 1 (see page 43).
- Stage 4 of Bureau of Reclamation Closed Basin Project completed (see page 6).
- American Water Development Inc. loses at District Water Court level but appeals to Colorado Supreme Court (see page 24).
- San Luis Valley Private Lands Program continues to grow (see page 54).

## B. CLIMATIC CONDITIONS

The month of January was a cold, foggy month with an average temperature of 1.4 degrees; 14.6 degrees below normal!. Ten to 18 inches of snow still remained on the Valley floor.

The average temperature in February was 14.5 degrees which is 8.3 degrees below normal, but the days started warming up. The warm days melted approximately 4 inches of snow from the valley floor during February leaving everything a muddy, mucky mess. Approximately 5 to 12 inches of snow remained.

The average temperature in March was 29.6 degrees which is still below normal. A total of 16.2 inches of snow fell during March, with the largest snowfall of 12 inches recorded on the 4th. The warm days melted most of the snow from the valley floor leaving mud and rising water levels. Some local flooding was occurring by the end of the month.



Lots of snow on the valley floor produced excellent  
wetland water throughout the SLV

4/12/92

SPB

April was unusually windy and cool with only occasional spring snowfalls. A few new record high temperatures were set this month. The high was 78 degrees on April 28, 29, and 30, and the low for the month was 20 degrees on the 19th. Temperatures for the month of May were generally above normal and precipitation was also above normal.



Alamosa NWR contained excellent early water  
4/12/92 SSB

July was a cool month with below-normal temperatures. Three new record low's were set and one record low was tied. The high for the month was 89 degrees and the low was 34. A total of 1.21 inches of precipitation was received which is down only .02 from normal. August was a cool month and September was about average.

We only received .01 inches of precipitation for the month of October which is .67 inches below normal.

The high for the month of November was 54 degrees and the low was -14. The weather for the month was colder and wetter than normal.



TABLE 1  
TEMPERATURE AND PRECIPITATION FOR 1992

Month	Maximum Temperature (Fahrenheit)	Minimum Temperature (Fahrenheit)	Precip.	Normal Precip.	Inches Snowfall
January	33	-27	.08	.27	.9
February	40	-17	.08	.26	1.7
March	54	1	1.62	.36	16.2
April	78	20	.04	.50	.3
May	78	27	1.13	.70	1.0
June	84	34	1.23	.55	-0-
July	89	34	1.21	1.23	-0-
August	86	32	1.97	1.13	-0-
September	80	23	.50	.74	-0-
October	75	11	.01	.68	-0-
November	54	-14	.48	.35	7.2
December	43	-27	.75	.36	10.1
TOTALS			9.10	7.13	37.4

### C. LAND ACQUISITION

#### 1. Fee Title

Nothing to report.

#### 2. Easements

Nothing to report.

#### 3. Other

A recently completed private appraisal of the McIntire Springs property was sent to the R.O. with hopes of our agency acquiring the property. However, the R.O. decided not to pursue this purchase.

The FmHA Metsker Inventory Farm was inspected on July 1 with Vic Crane, FmHA's State Office FSA person. Vic agreed to submit our proposal to have the farm transferred to the USFWS in fee title to FmHA's Washington Office. On 7/21 we presented the transfer to the Saguache County Commission and received unanimous support and approval of the transfer. Congressman Campbell, and the CDOW have also supported the transfer.

We participated in a joint venture involving the SLV Water Conservancy District, the Rio Grande Water Users Association, Colorado Division of Water Resources, Bureau of Land Management, Bureau of Reclamation, Colorado Division of Wildlife, Ducks Unlimited and TNC. The goal of the venture was to purchase the former Cook Farms Property (now owned by Travelers Insurance Company consisting of 36 quarters of land, 34 of which are center pivot irrigated via pumped wells) and retire the majority of well water rights and use on this property. This would greatly benefit wetland resources in the San Luis Valley.

However, the joint venture effort to purchase the Cook Farms property failed when on July 28th Myron Smith, an Iowa farmer and SLV landowner acquired the property from Travelers Insurance. Our entire group is extremely disappointed; however, most members feel the farm will be for sale again in a few years.

Harvey Wittmier was on-site on 10/6/92 to look at Mishak Lakes and the Cook Farm properties for possible refuge acquisition. We will start submitting the paperwork for the Cook Farms Property in the near future.

#### D. PLANNING

##### 1. Master Plan.

Nothing to report.

##### 2. Management Plan

A refuge staff meeting was conducted on January 13 to plan the complex's water, moist soil, and predator management programs for 1992.

On February 26 at a meeting at the R.O. it was decided that our R-6 prototype planning effort was satisfactory as presented. The plan will be called a "Concept Management Plan" which will be signed by the Regional Director. This plan will provide the basis for more detailed plans (approximately 3) to be developed. In December, a draft plan was submitted to the R.O. to go out for public comment.

We have involved the Colorado Division of Wildlife in an overall planning effort to define definite actions to be taken in the SLV to achieve the goals of CDOW's recently developed SLV Waterbird Plan. To quote Jerry Apker, CDOW Area Manager, "I see us being a model for interagency management few could rival."

On September 9, 1992, refuge personnel participated in a FWE meeting with BLM, BOR, CDOW, and the Rio Grande Water Conservation District to discuss the final mitigation requirement for the Closed Basin Project. BOR has acquired 800 acres of land adjacent to BLM's Blanca Wildlife Area and the group will be working together to acquire or provide water for the 800 acres. When the water is provided, mitigation for Closed Basin will be complete.

##### 3. Public Participation

A SLV Wetland Group meeting on January 8 focused on the Ilene Kerr property and her running an artesian well in non-compliance with State water law. The Kerr property via a Wildlife Extension Agreement would be very valuable to waterfowl if her water rights issue could be resolved.

A Rio Grande Water Conservation District meeting was attended on 4/23/92. Our presentation focused on our Wildlife Extension Area Center Pivot Irrigation Corners Program and our planned use of Closed Basin Water.

On May 13, a presentation was given to the Alamosa County Commissioners laying out public use changes and additions for Alamosa NWR. The Commissioners were in total agreement with our effort.

Hobie Dixon, Adams State College (ASC) Biology Professor, was given a copy of FWS course curriculum required for refuge manager and biologist positions. ASC is working on getting into our Coop Program. A FWS/Adams State College Agreement allowing ASC to participate in the FWS Cooperative Education Program was submitted to the R.O. for signature.

On July 14 we attended the quarterly Rio Grande Conservation District meeting with the Cook Farms joint venture as the major topic of discussion.

On September 29 and 30, we participated in a meeting with CDOW, FWS Coop Unit, R.O. personnel, and Gene Knoder of the Audubon Society to discuss management on Monte Vista and Alamosa NWR's. Our goal was to explain what we are doing and why so that everyone would understand our management programs. Refuge personnel spent one day explaining goals/objectives, water management, land management, population management, and monitoring and evaluation. The major issue of concern was the tool of livestock grazing and while no agreement was reached at least open discussion resulted.

4. Compliance with Environmental and Cultural Resource Mandates

Rhoda Lewis, Regional Archaeologist was on site April 14-16 to inspect the Bluff Overlook area before our new auto tour route could be constructed.

5. Research and Investigations

A Special Use Permit was issued to Natasha Kotlier with NERC to conduct a study on Alamosa NWR regarding non-game birds and their habitat requirements. Some Wildlife Extension Areas were also studied.

6. Other

A meeting was held on February 20 with Larry Wright, CDOW Commissioner to discuss private lands and refuge management plans for 1992 as well as elk depredations occurring in the San Luis Valley this year.

Larry Wright, was replaced by Arnold Salazar (Director of Mental Health in Alamosa, CO), as CDOW Wildlife Commissioner.

Frank Bryce and Rhoda Lewis were on site 4/14 and 4/15 to assist in planning public use developments on both refuges as well as assess both refuges as to public use minimum requirements.

Five Grant Proposals were sent to the World Wildlife Fund (WWF) by the SLV Wetlands group. Three of the proposals dealt with our Private Lands Program. However, the WWF did not elect to fund any of the proposals.

Funding Opportunity Grant Proposals were submitted to Mitch King with our major emphasis on our Private Lands Program.

Four Challenge Grant Proposals were submitted to the R.O. for a total of \$134,400 FWS dollars. The most important proposal was for \$60,000 to match CDOW Duck Stamp dollars in support of our Wildlife Extension Program.

## E. ADMINISTRATION

### 1. Personnel

A revised position description for the complex's refuge manager position was sent to the R.O. The manager's position was converted to a GM-13.

Anne Morkill, our biologist was selected for a wildlife biologist position with BLM in Fairbanks, Alaska. Anne's last day was 3/22/92.

David Lucero, Jr., working under a Coop Agreement completed his first course with the SLV Area Vocational School on 2/21/92. He received all A's on this Arc Welding course.

Schnaderbeck, McEwen, Wartman, and Lucero attended a Retirement Planning seminar in Denver on March 4 and 5.

Bonifacio Romero (Temp. Intermittent) started work 4/6/92. Gilbert Lucero and Adolfo Amaya (both Temp. full-time) started work 4/20/92. Raymond Bouma (Temp. full-time) started work 4/27/92. We finally got people but to make up for lost time in the Spring was impossible!

Judyann Goulet (Adams State College Student) started work on May 11 as our Biological Aid for the summer. Judy ended employment on 8/21. She did an excellent job acting as the complex's wildlife biologist and was given an \$82 on-the-spot award for her work.

Nancy Beckman (CSU Intern Program ) started work on May 18 and assisted Judy. Nancy ended employment on August 7, and helped Judy run the complex's biological programs during the summer and did an excellent job. Nancy was paid \$15/day.

The certificate for our Wildlife Biologist position was sent to the R.O. A total of 21 applicants were eligible for the job. Ron Garcia was selected and started work on August 10, 1992. Ron transferred to the complex from Ouray NWR where he was the assistant manager.

On July 6, Jerry Sierra was hired for 6 weeks as a laborer to assist in mowing and hand chopping noxious weeds on Monte Vista NWR.

Refuge employees Brock, Jones, Romero and Amaya were all presented with on-the-spot awards for their excellent work on various projects.

Raymond (Bud) Bouma, Gilbert Lucero, and Adolfo Amaya ended this summer's employment on 9/25/92.

Bonifacio Romero ended temporary employment on 11/27/92.

Schnaderbeck attended annual meeting of the Colorado Riparian Association where he received an award for his innovative work for enhancing and creating wetlands in the San Luis Valley.





Back Row (left to right) Standing - 18, 1, 11, 13, 2, 4, 14

Middle Row (left to right) Standing - 9, 12, 15, 3, 21

Front Row (left to right) Kneeling - 17, 20, 7, 19, 16, 10

7/6/92

Photo by Nancy Berlinger

1.	Stephen S. Berlinger	Refuge Manager	GM-0485-13	PFT
2.	Steven P. Brock	S. Refuge Oper. Spec.	GS-0485-11	PFT
3.	Jackie G. Jones	Refuge Assistant	GS-0303-6	PFT
4.	Richard W. Schnaderbeck	Refuge Oper. Spec.	GS-0485-9	PFT
5.	Anne E. Morkill	Wildlife Biologist	GS-0486-7	PFT
	Transferred to BLM - Alaska, 3/92			
6.	Ronald J. Garcia	Wildlife Biologist	GS-0486-09	PFT
7.	Lloyd D. McEwen	Engineering Equip. Oper.	WG-5916-10	PFT
8.	William O. McDermith	Engineering Equip. Oper.	WG-5916-10	PFT
	On OWCP 4/92			
9.	Thomas E. Wartman	Tractor Operator	WG-5705-6	PFT
10.	David R. Lucero, Jr.	Student Trainee (Maint.)	WG-4701-4	CC
11.	Gilbert E. Lucero	Tractor Operator	WG-5705-6	04/20/92-09/26/92
12.	Adolfo Amaya	Tractor Operator	WG-5705-6	04/20/92-09/26/92
13.	Raymond O. Bouma	Laborer	WG-3502-2	04/27/92-09/26/92
14.	Bonifacio Romero	Laborer	WG-3502-2	04/06/92-11/28/92
15.	Judyann M. Goulet	Biological Aid	GS-0404-3	05/12/92-08/22/92
16.	Nancy Beckman	CSU Intern		05/18/92-08/07/92
17.	Jerry Sierra	Laborer	WG-3502-2	07/06/92-08/07/92
18.	Craig Kelso	Social Svc Aid	GS-0186-4	06/08/92-07/31/92
19.	Ryan Brock	YCC Enrollee		06/08/92-07/31/92
20.	Eric Martinez	YCC Enrollee		06/08/92-07/31/92
21.	Patty Brink	Green Thumb Enrollee		05/26/92-08/28/92
22.	Ted Pacheco (not pictured)	Green Thumb Enrollee		03/15/92-present

## 2. Youth Programs

Ann Miller informed the refuge that we will receive about \$5,200 for this year's YCC Program. Our three YCC employees started work on 6/8/92. Their major project involved removing about ten miles of barbed/woven wire fence on Monte Vista NWR and 3 miles on Alamosa NWR.

Our YCC program ended on 7/31/92. Craig Kelso (work leader) and Ryan Brock and Eric Martinez (enrollees) did a fantastic job in removing barbed/woven wire fence on both refuges.

## 3. Other Manpower Programs

On 4/28/92, Ted Pacheco was hired under the State's Green Thumb Program. The State pays Ted's salary (4.24/hr) and he worked 20 hours per week to start, then his schedule was increased to 30 hours per week.

Patty Brink, under the Green Thumb Program, started work on May 26 and assisted our Refuge Assistant at the Alamosa Office.

## 4. Volunteer Program

Six volunteers assisted with setting up rocket nets and attempting to capture ducks to obtain a mid-winter body condition.

Refuge Volunteer Leslie Tribble became actively involved in the San Luis Valley Environmental Conservation Education Council. Her background in biology, education, U.S. Park Service, and director of a nature center in the Denver area will be a great help to this organization. Leslie is also in the process of developing three to five teacher packets which will be distributed by the refuge to enable teachers to better prepare for field trips to the refuges. She also drafted an article in cooperation with the refuge on SLV bald eagles which will be printed in the winter issue of the Natural Resource Quarterly Newsletter distributed by the SLV Environmental Conservation Education Council. Leslie provided approximately 12 hours developing a teacher activity guide to prepare students for visits to the refuges, and spent 2 hours conducting a refuge tour and Monte Vista NWR for a classroom of 2nd graders from Alamosa.

On February 29, six Sargent High School students in an environmental club (S.A.V.E. - Student Advocacy for our Valley Environment) volunteered 4-1/2 hours each to assist with stuffing goose nest baskets with hay. About 50 nests were stuffed on Monte Vista NWR.

On September 30, Donna Kingery, refuge volunteer, presented a crane program to the Alamosa Open Schools (8 students). She then gave a crane program that evening to the Del Norte Rotary Club. On October 8, Donna presented a crane program to 300 3rd grade students at Alamosa's Boyd Elementary and on October 21, presented a crane program to the Del Norte Dalalto Sorority Ladies Club.



Alamosa 4-H group installing wire to protect  
trees from beaver damage.

5/92

SPB

#### 5. Funding

1261 Funding	\$374,900
1261 Challenge Grant Funding	\$ 45,000
1262 Funding	\$145,000
1262 MMS (Flex Money) Funding	\$140,000
6860 Funding	\$ 15,000
8610 Quarters Funding	\$ 18,500
1120 FWE Funding	\$ 79,400
Duck Stamp/DU Funding	<u>\$ 40,000</u>
TOTAL	\$857,800

#### 6. Safety

Radon monitoring test results were received on January 24. Three of our four quarters for the complex exceeded 4.p Pci/L. Alamosa's quarters was 4.8.

Dave Lucero and Anne Morkill-attended a 4 hour Defensive Drivers Training Course on January 29.

YCC employees all under went Lyme Disease baseline testing.

All L.E. agencies in the San Luis Valley were sent a letter informing them of possible raptor poisonings and how to handle dead raptors plus to contact the refuge.

On April 23, 1992, Bill McDermith (our Engineering Equipment Operator) injured his back while walking on snow on Monte Vista NWR. Bill was on 45 days Continuation of Pay and is presently being paid by Worker's Compensation. Bill is eligible to retire but we don't know what he plans to do yet.

All buildings on both Alamosa/Monte Vista were checked for asbestos by Duane Huber, results are pending.

#### 7. Technical Assistance

A meeting was held with local CDOW Biologists Navo and Kenvin to begin developing a valley-wide wildlife inventory database to coordinate and standardize wetland/wildlife inventories conducted by various state and federal agencies in the San Luis Valley.

Two meetings have been held with CDOW and BLM regarding strategies to achieve the goals of the SLV Waterbird Plan. Both refuges will be included in CDOW's aerial breeding waterfowl surveys this year.

Berlinger participated on a panel with Terri Skadeland (SCS Wildlife Biologist) and Gary Skiba (CDOW Biologist) regarding tree plantings in the SLV. The panel was part of a three-day windbreak workshop.

- See Section J.1. - Private Lands/Wildlife Extension Program.

#### 8. Other

Berlinger, Garcia, Brock and Schnaderbeck attended the project leaders meeting in Estes Park on 8/23-27. Our 1st formal introduction to Dale Henry and staff went well.

On May 13, Rick Schnaderbeck attended a one-day training course in Colorado Springs on "How to Manage Priorities and Meet Deadlines".

Heavy Equipment Training was completed by 8 of our employees on 6/18. Duane Huber, Rainwater Basin, did a good job in the training.

Hearing tests were completed by all employees on 6/4/92.

Berlinger attended a Workforce Diversity Training Session in Valentine, NE on 4/7 and 4/8.

Biologist Morkill attended the Colorado Chapter of the Wildlife Society Annual Meeting in Grand Junction, January 23-24. Morkill was elected by chapter members to the Executive Board as the SW Regional Representative.

Jones, McEwen, and Berlinger attended a 4 hour credit card training course on February 3 at the Sheraton Inn. Jones also attended a Budget Tracking System course on February 3 and 4 at the Regional Office.

Revenue sharing checks totalling \$45,458 were delivered to our three counties.



## F. HABITAT MANAGEMENT

### 1. General

Upland habitat management now employs Holistic Resource Management (HRM) planned grazing to maintain grassland and wet meadow vegetation in healthy and vigorous stands. Emphasis was placed on redesigning and construction of the new Lillpop grazing cell. This was the second year of management of water under the philosophy of allowing about 50% of the refuge to dry during parts of the summer to help prevent further encroachment of cattails and phragmites and to improve health and plant diversity of wet meadow.

### 2. Wetlands

The Rio Grande River watershed in the San Juan Mountains received good snowfalls throughout the winter of 1991-92. By late spring the snowpack was very near normal. Run-off in the Rio Grande River was very near normal for the third consecutive year.

A heavy wet local snowpack of about 14 inches on Alamosa Refuge provided excellent wetland conditions on the refuge as it melted in early March.



Snowfall on the valley floor provided early water  
3/24/92 SSB

The ditch turn-on date for the Rio Grande River diversions were a little bit later than normal due to saturated ground conditions from snow melt. The Chicago Ditch turned on April 17. This canal provided a major source of water to the refuge and ran all season until November 1.

Spring run-off of the Rio Grande River did not result in any flooding. This is the fifth consecutive year with no flooding. The peak river flows at the Alamosa gauging station occurred on June 16 with 417 CFS. This compares to 804 CFS in 1991, 1,250 CFS in 1990, and 5,130 CFS in 1987. Flows through the gauging station at Del Norte, on which canal allotments are based, peaked at 3,150 CFS on May 28. This compares with 4,650 CFS in 1991, 5,560 CFS in 1990, 3,540 CFS in 1989 and 2,750 CFS in 1988.

The Mumm Well ran from March 1 through June 30 and provided a total 1,294 acre feet of water. This was the second year that this well was turned on one month earlier and shut off one month earlier than the decreed dates of April 1 through July 31. This was done through a verbal agreement with the Colorado Division of Water Resources District Engineer. The March 1 turn on date allowed flows to provide early waterfowl pair habitat, crane migration habitat, and good wetland conditions for public viewing during the high public use period of mid-March.

As described in the 1992 Water Management Plan, the Alamosa Refuge initiated a new philosophy of water management in 1991. Regardless of water availability, about 50 percent of the refuge was allowed to dry through the spring and summer months. The remaining half of the refuge was kept optimally wet. This drying was accomplished as planned. Continuing this process through the years should allow some opening of the cattail/phragmites encroached wetlands for improved wildlife habitat. This practice is aimed at preventing encroachment of cattails and improve health and plant diversity of wet meadow and rangeland sites. Unlike 1991 with 50/50 wet and dry, 1992 was planned to have some of the areas to be kept moderately wet throughout the season. These "moderate" areas were filled in spring and then allowed to dry, except for some availability of brood water. All refuge wetlands would then be filled in September for migrational habitat. Water management of wet/dry was followed as planned (see attached 1992 plan map).

Refuge wetlands which were planned to be kept wet were maintained in excellent condition throughout the season. This was accomplished with good river/ditch flows and an additional 1,130 acre feet of Closed Basin water over the 1991 year. By October the entire refuge was wet and in excellent wetland condition.

The Closed Basin Project provided 3,112 acre feet of water to this refuge in 1992. This was divided between 610 acre feet through the pumping plant and 2,500 acre feet through the Chicago and Mumm Lateral turn-outs. The 2,500 acre feet was delivered in August through October for fall migrational habitat.

The Alamosa Refuge received a total of 12,231 acre feet of diverted river water, 1,294 acre feet of Mumm Well water, and 3,113 acre feet of Closed Basin Water. This totals 16,638 acre feet of water used in 1992 and compares to 15,250 acre feet in 1991, and 15,611 acre feet in 1990.



Bureau of Reclamation constructed emergency spillway  
near the end of the Closed Basin Channel.

10/28/92

SSB



Vegetated moist soil unit managed with  
Closed Basin water

7/24/92

SSB

ALAMOSA NATIONAL WILDLIFE REFUGE  
WATER USAGE AND SOURCES 1992 (ACRE FEET)

MONTH	NEW DITCH	CHICAGO DITCH	COSTILLA DITCH	SHEPARD DITCH	SAN LUIS DITCH	MUMM WELL	<u>CLOSED</u> MUMM DITCH	<u>BASIN</u> CHICAGO DITCH	<u>DELIVERY</u> PUMP STATION	TOTAL
JAN										0
FEB										0
MAR						329			42	371
APR		422	8	8	8	318			21	785
MAY	57	1637	207	54	46	329			19	2349
JUN	157	1584	297	60	48	318			30	2494
JUL	*189	1211	169	52					30	1651
AUG	696	1535	91	128			152	152	15	2769
SEP	432	1212		180			592	592	11	3019
OCT		1451		186			506	506	281	2930
NOV		106							164	270
DEC										0
1992 TOTAL	1531	9158	772	668	102	1294	1250	1250	613	16638
1991 TOTAL	381	10842	429	108	214	1294	895	879	208	15250

\* Colorado Division of Wildlife provided 168 acre feet of trans-continental diversion water to New Ditch between July 7-13.

WATER DELIVERY RECORD 1967 - 1992 ALAMOSA NWR  
(ACRE FEET)

YEAR	NEW DITCH	CHICAGO DITCH			SHEPARD DITCH	COSTILLA DITCH	SAN LUIS DITCH	MUMM WELL	CLOSED BASIN WATER DEL.	TOTAL
		STEWART	MUMM	ANDREWS						
1967	4,632	1,996	468	284		1,638	30	1,577		10,625
1968	3,104	2,010	562	238		990	100	2,090		9,094
1969	2,538	1,714	875	152		1,070	170	2,286		8,805
1970	4,904	2,526	830	220	96	1,096	216	1,210		11,098
1971	3,628	2,488	1,144	410	54	418	20	2,130		10,292
1972	2,582	3,560	1,116	298	132	966	24	2,455		11,133
1973	1,816	2,388	2,290	966	126	774	318	2,640		11,317
1974	3,906	6,616	932	1,010	248	392	36	2,580		15,720
1975	492	4,421	864	151	116	1,049	190	2,175		9,458
1976	4,686	6,726	914	150	224	896	174	2,500		16,270
1977	2,664	3,020	100	104	40	192		2,072		8,822
1978	512	3,238	174	594	62	74	19	2,900		7,573
1979	3,514	5,612	1,116	376	120	1,032	253	2,100		14,123
1980	3,716	2,068	1,922	670	13	775	244	3,434		12,842
1981	1,504	7,800	248	812	16	353	54	3,395		14,182
1982	415	6,521	3,056	460	4	511	106	3,190		14,263
1983	3,027	4,316	566	328	12	1,559	186	3,242		13,236
1984	645	6,864	428	508	794	1,042	266	3,540		15,061
1985	4,206	4,189	806	978	150	1,125	185	3,550		15,189
1986	2,334	7,892	1,032	419	210	1,772	219	3,310	2,847	20,035
1987	4,582	4,724				1,654	2,240	2,065	5,320	20,585
1988	6,092	5,430	3,346	460	254	744	28	1,390	3,654	21,498
1989	238	7,180	2,380	832		420	194	1,389	1,948	14,581
1990	1,081	8,910	1,226	646	50	289	84	1,379	1,946	15,611
1991	381	9,042	1,800		108	429	214	1,294	1,982	15,250
1992	1,531	7,264	1,822	72	668	772	102	1,294	3,113	16,638



3. Forests

Nothing to report.

4. Croplands

Nothing to report.

5. Grasslands

Nothing to report.

6. Other Habitats

Nothing to report.

7. Grazing

Our grazing program is used to maintain healthy, vigorous plant communities. The entire refuge is now under HRM planned grazing from May 1 - September 30.

The goal of this HRM planned grazing is to provide high quality vegetative cover which will be attractive to wildlife and in particular nesting waterfowl while tending toward plant diversity, stability, and overall health.



Grazed (left) vs. Rested (right) showing tall whitetop vs. the dominant forb (noxious weed) in the rested area  
8/14/92 SSB

A new philosophy of allowing about 50 percent of the refuge to become dry during the mid-summer growing season has allowed better access by cattle to some of the wetlands heavily infested with cattail. Cattle did graze and open up much of these wetlands which will result in improved waterfowl pairing habitat in 1992.



Grazed (left) vs. Rested (right)  
7/24/92 SSB

Grazing schemes were again modified on all three grazing cells in an effort to improve nesting habitat and still reach the goal of healthier vegetative stands. Each cell had 1 to 2 paddocks totally rested the entire season. These same paddocks will not be grazed in 1993 until July 1. This provides two full nesting seasons of undisturbed habitat. These rested areas totalled 1,455 acres. The Lillpop unit had one paddock of 110 acres which was deferred from grazing until after July 1, as this area was rested the previous season. Lillpop and Soward grazing cells had one paddock which was intensively grazed during the month of September, to provide habitat to those wildlife species requiring low vegetative cover such as migrating cranes and geese in the following spring, and pairing ducks.



Utilization and impact by cattle on extensive stands of  
Canada thistle in September (Lillpop Cell)

9/92

SPB

Electric fencing of the riparian habitat along the Rio Grande River was completed in 1992. The corridor will be managed to encourage willow, cottonwood, and grass to stabilize stream banks. In 1991 six miles along this corridor was fenced, the remaining two miles was completed this year.

The Lillpop grazing cell was totally redesigned and new electric fencing installed. This new cell will greatly improve efficiency of cattle moves. About 11 miles of high tensile, single strand electric fence was constructed this year.

The grazing program continues to be monitored with photo points, one exclosure, and two monitoring transects. Waterfowl production monitoring was completed with nest dragging. See details in G.3.

The refuge sponsored an electric fencing workshop on January 15 for refuge permittees, neighbors, and two BLM employees. George Whitten, the local Snell/Galagher dealer and his distributor from New Mexico demonstrated proper fencing methods and maintenance. About 20 people attended this.

The grazing fee charged was \$7.50 per AUM. This was a \$.10 per AUM increase over 1991 and was based on the 1991 fall beef prices.



# Alamosa NWR Grazing, 1992

PERMITTEE	AUMS	ACRES	TIME PERIOD	FEE
Lillpop	1076	1670	May 1 - Sept. 30	\$ 8,071.50
Bagwell/Sowards	1367	3550	May 1 - Sept. 30	\$10,252.50
Mestas	<u>1591</u>	<u>2322</u>	May 1 - Sept. 30	<u>\$11,932.50</u>
TOTALS	4034	7542		\$30,256.50

See Figures 1 and 2 for AUM and Acres Grazed Trends.

Figure 1. AUM Trends

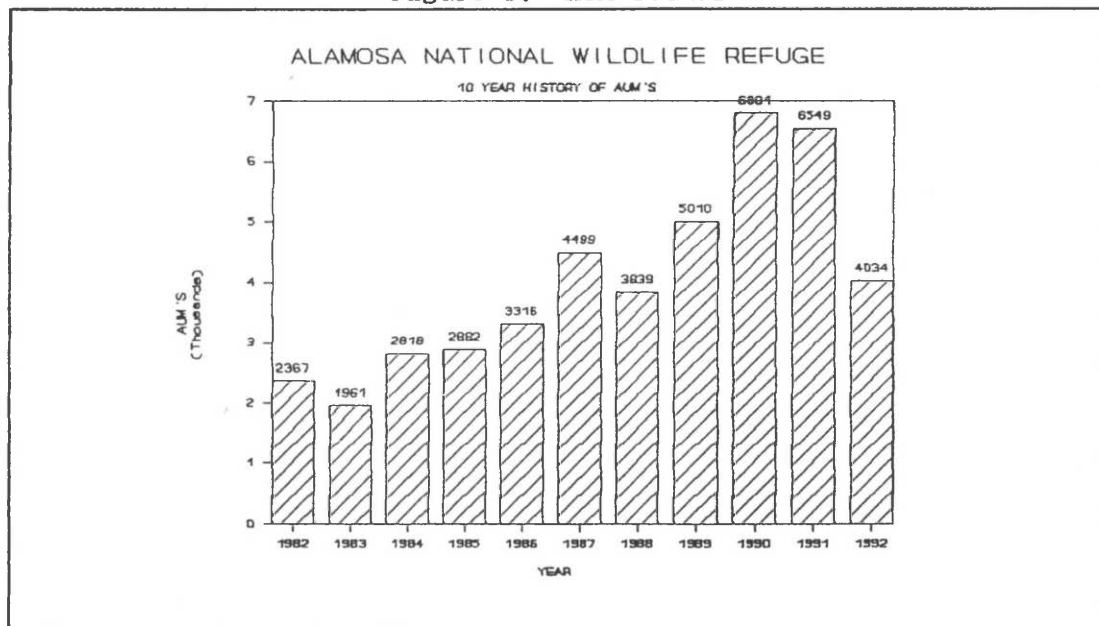
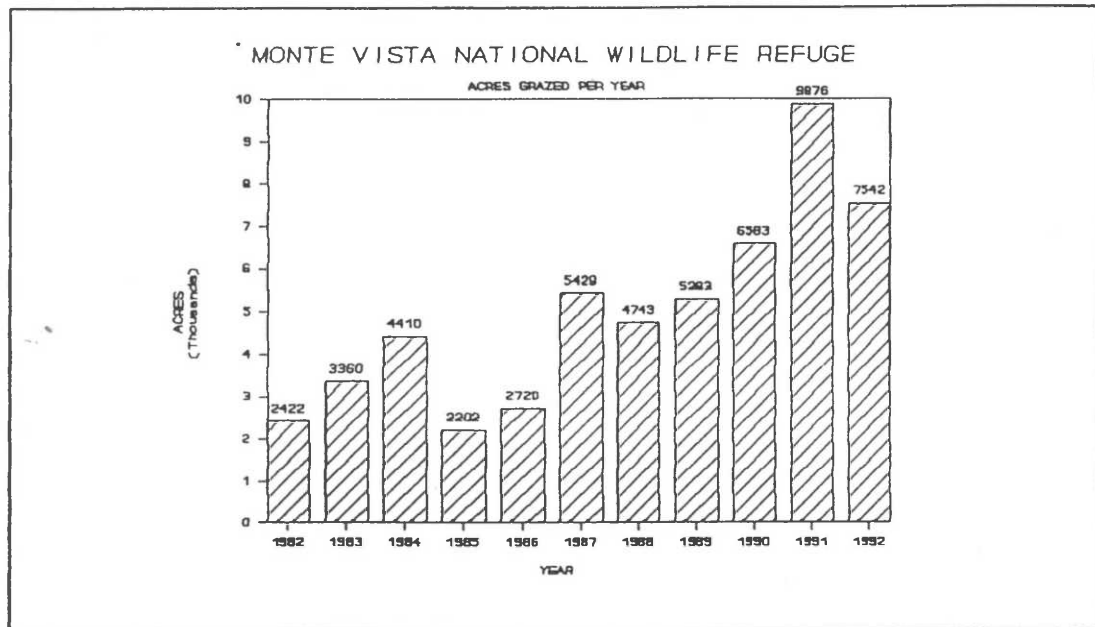


Figure 2. Acres Grazed Trends



8. Haying

Nothing to report.

9. Fire Management

Nothing to report.

10. Pest Control

This was the third consecutive year that no herbicide has been applied to this refuge. The refuge has implemented a variety of management techniques to curtail the use of herbicides. These include grazing and biological controls. The most promising alternative appears to be a Holistic Resource Management approach aimed at improving plant community health and vigor.

Biological control of Canada thistle was initiated in 1990 with the introduction of 1,000 stem boring weevils (*Ceutorhynchus litura*) which were released on 10 separate sites throughout the refuge. In 1991 the refuge released 100 Canada thistle gall flies (*Urophora cardui*) on the refuge. Hopefully, these two bugs will increase in population enough to help control thistle.

11. Water Rights

The big story over the last few years in the San Luis Valley has been the application by American Water Development Incorporated, (AWDI) for 60,000 acre feet of water to be pumped from an area north and east of Alamosa. This water

was to be piped to Colorado front range cities (or the highest market, i.e. Los Angeles). Following a lengthy trial in Alamosa Division III Water Court, Judge Robert Ogburn ruled on November 22, 1991 against AWDI's claim. In March, 1992 AWDI appealed their case to the Colorado Supreme Court.

A very unique cooperative venture took place in early June. We were asked to be a part of a joint effort to acquire the Cook Farm property located 1 mile south of Saguache, in the north end of the valley. Other participants included the SLV Water Conservancy District, the Rio Grande Water Users Association, Colorado Division of Water Resources, Bureau of Land Management, and Bureau of Reclamation. This property includes 34 quarters; all in center pivot irrigation. The property is about 9 square miles and has water rights for approximately 4,700 acre feet of water. Most of this water (70%) is pumped from the confined aquifer. The remaining 30% is pumped from the shallow aquifer. Cook Farms also has surface water rights but no longer use them. The 34 quarters have been leveled with drain ditches and arroyos filled. Traveler's Insurance wanted to sell for \$1.6 million.

A cooperative acquisition package was put together with all mentioned parties providing funds. The benefits would be the following:

- Retire the majority of water rights back into the ground which should benefit the aquifers and local artesian well flows.
- Four quarters would remain farmed for wildlife food via the FWS.
- The remaining farm lands would be retired and seeded back to native rangeland.
- Sell all un-needed pivot sprinklers (\$10,000 each) and numerous grain bins.
- Re-sell all un-needed land and encumber the title to require these lands remain in native rangeland.
- Saguache Creek would likely start running again in this area as water table rises. This could benefit flows toward Mishak Lakes and Closed Basin Project.
- The BLM will transfer water rights to their illegal wells on Blanca Wildlife Habitat Unit.
- The FWS will use this water as augmentation for wintering program.
- The BOR will use this to provide 800 acres near Russell Lakes.
- Has to result in net gain for SLV water in confined aquifer.

This was a very fast developing cooperative venture which resulted over a matter of a few days. It was very unique to have these groups come together on a project which could favor all entities. Unfortunately, this property was sold to another interest before full funding could be organized. This property is expected to come on the market again. This office will prepare an acquisition package in FY 93. This project would be a real plus for all water interest in the SLV and will continue to be pursued in the future.

A request to get a decreed plan of augmentation for the Mumm Well was sent to Regional Water Rights Specialist Cheryl Williss in early 1992. The plan would allow considerable flexibility in our overall water management. At present, the Mumm Well can only be allowed to artesian flow from April 1 to July 31.

Cheryl Williss was also requested to inquire with the Solicitor's Office as to the possibility of providing BLM some of the Alamosa Refuge's Closed Basin mitigation water. Two responses were received - one positive and one negative.



The Closed Basin project provided 3,112 acre feet of water to this refuge in 1992. This was divided between 610 acre feet through the pumping plant and 2,500 acre feet through the Chicago and Mumm Lateral turn-outs. The 2,500 acre feet was delivered in August through October for fall migrational habitat.

The Alamosa Refuge received a total 12,231 acre feet of diverted river water, 1,294 acre feet of Mumm Well water, and 3,113 acre feet of Closed Basin water. This totals 16,638 acre feet of water used in 1992 and compares to 15,250 acre feet in 1991, and 15,611 acre feet in 1990.

12. Wilderness and Special Areas

Nothing to report.

13. WPA Easement Monitoring

Nothing to report.

## G. WILDLIFE

### 1. Wildlife Diversity

Current refuge management programs are designed to create diverse habitats in various successional stages that benefit the variety of wildlife species existing on the refuge at one time or another. There are over 200 species of birds and over 55 species of mammals that have been documented on the refuge complex. The Alamosa-Monte Vista NWR-Wildlife Extension Areas Comprehensive Management Plan which addresses the importance of biological diversity is currently under draft and when completed will provide overall guidance designed to benefit the diverse variety of wildlife species that occur on the refuge, as well as a prototype to be used in Region 6 planning efforts.

### 2. Endangered and/or Threatened Species

There are three federally listed endangered species that occur on the refuge. These are the bald eagle, peregrine falcon, and the whooping crane. In addition, two Federal candidate species, the white-faced ibis and the ferruginous hawk, also utilize the refuge. The greater sandhill crane, a species of management concern, is also a seasonally common visitor to the refuge.

#### Bald eagle

Bald eagles normally occur on the refuge between the period from mid-November to early April. The annual Mid-winter bald eagle survey was carried out on January 10 and revealed 1 bald eagle using the refuge. In March of 1992 as in years past bald eagles, in high numbers, appeared on the refuge. This annual appearance, which coincides with the thawing of refuge wetlands, is an opportunity for the migrating birds to feast on winter-killed fish exposed by the thaw. Although the thaw occurred approximately two weeks later than normal this year and many of the eagles passed the refuge by, there was still a peak population of 45 bald eagles documented using the refuge on the 27th of March. This is considerably lower than the 88 bald eagles documented on the refuge in 1991. In November the bald eagles showed up on the refuge again. There were three that used the refuge on a regular basis throughout the rest of the year.

Bald eagles were sighted regularly on the Wildlife Extension Areas throughout the Valley. In many cases during the winter months if a person were to follow a bald eagle in the air it would lead you right passed the green U.S. Fish and Wildlife Service signs of our Private Lands Extension Wintering Areas. Bald eagles served as a guide to locating many of the small wintering populations of mallards throughout the valley. Usually a sighting of two or more eagles in one area meant that there was either an open water area or grain field full of ducks, or that a flock of sheep was nearby. In some of the Wildlife Extension Areas it was not uncommon to see up to 13 bald eagles using the area.

### Peregrine falcon

Although peregrine falcons are normally sighted sporadically throughout the refuge on any given year, there were no confirmed sightings in 1992. The falcons can occasionally be spotted perched on one of the power poles along the entrance road to the refuge, or occasionally hunting for waterfowl usually during the spring and fall migrations when there is an abundance of waterfowl on the refuge.

### Whooping crane

1992 was an interesting but rather unfortunate year as far as The Rocky Mountain Population (RMP) of whooping cranes are concerned. During the Spring of the year 10 of the 12 whooping cranes in the RMP population were documented in the Valley. One of these birds utilized the refuge for approximately 5 days. Because of the heavy snow cover that remained on the ground at traditional spring feeding areas the cranes congregated on and around the Monte Vista NWR (MVNWR) where additional feed via dumping stored grain was made available. Six of the ten whoopers documented in the Valley during the spring were sighted on the MVNWR.

During the summer drought conditions in the summering grounds in southeastern Idaho were the worst seen in this century. So severe, that some of the whoopers normally summering in the area did not return after the previous winter. It is reported that by late August, at the traditional summering area of Gray's Lake NWR there were only 500-600 acres of surface water left in the 22,000 acre marsh. As a result of the poor conditions and the lack of returning birds, three of the whoopers were never accounted for.

The first fall migrating whooping crane was observed in the Valley on September 9th, the last was sighted on November 4th. There were 10 whoopers documented in the San Luis Valley during the Fall, including one that had not been located in almost a year. This bird was later found very ill, and was eventually captured on the MVNWR and transported to the Rio Grande Zoological medical facilities in Albuquerque, New Mexico. The bird was diagnosed as having contracted Avian Tuberculosis. It is thought that the ill whooper may have spent the entire summer somewhere in or near the San Luis Valley. After consultation with biologists, treating veterinarians decided to begin an experimental treatment on the whooper. The treatment is one that has been administered to other avian species and has actually recovered the birds from the otherwise terminal disease. The whooper even if recovered from the disease will remain in captivity for fear that it may remain a carrier of the disease. Although this is an unfortunate event, the information and knowledge that has/will be gained from it will be very valuable.



Sandhill/Whooping Crane Hybrid (Sandwhoops??) with its whooper parent shortly after being discovered in October 10/92  
RWS

In October refuge volunteer crane observer Earl Markley of Monte Vista discovered what turned out to be a whooping crane-sandhill crane hybrid chick. This hybrid chick which soon moved on to the wintering grounds in New Mexico is the first evidence of a whooping crane-sandhill crane cross in the wild. There has been, however, four hybrids produced in captivity by artificial insemination. This cross species pairing is thought to be the result of improper sexual imprinting associated with using sandhill cranes as foster parents to rear whooping cranes.

### 3. Waterfowl

#### Population Surveys

The year began with the refuge wetlands and the river almost entirely frozen and very few if any waterfowl using the area. Migrants began appearing in late February and by early March there were approximately 3,000 ducks on the Mumm well pond which was still the only open water on the refuge.

Fall migrants began arriving in sizeable numbers during September and populations peaked during October at between 6,000-10,000 birds. Goose numbers peaked at approximately 600 birds during the fall migration.

### Nesting Studies

Again in 1992 as in past recent years nest dragging was used in conjunction with brood counts to determine duck production on the refuge. Using this method a chain approximately 110 feet long is dragged between two ATV's for the purpose of flushing nesting hens from their nests. Nests are then located and recorded and are flagged for subsequent visits, at which time the fate of the nests are determined. Nest parameters that are recorded are species, egg incubation stage, vegetation at nest site, distance to nearest standing water, an estimate of aerial cover, and nest fate.

A total of 302 acres were searched in June. A total of 52 nests found resulting in an overall nesting density of 17/100 acres. The overall apparent nest success was 35% which compared to 28% in 1991 and 58% in 1990. There was an estimated 4,239 ducks produced to flight stage on the refuge in 1992. This is 2.15 times (115%) greater than the 1,972 produced in 1991 and 1.33 times (33%) greater than the 1965-1990 average of 3,184 ducks.

In 1992 as in 1991 over 60% of the nests with known fate were destroyed by predators. Predator control efforts were minimal in 1992 as compared to the moderate efforts expended in 1991 and 1990.

Unlike the previous three years we were not able to make a fair assessment on the nesting densities in areas under some sort of grazing treatment vs. those areas left untreated during the nesting season. This could not be done because there were major differences in the water management strategies being applied on the areas sampled. The amount of water in potential nesting areas is an important element in nest site selection as is the amount of cover available.

Species composition of nesting ducks on the Alamosa NWR in 1992 consisted of 42% blue-winged teal, 17% shoveler, and 13% each of mallard, gadwall, and pintail. Preferred vegetative cover consisted of 94% baltic rush, and 6% grass species.

Seventy-two goose structures throughout the refuge were monitored for use and success during the year. There were an estimated 134 geese produced to the fledgling stage on the refuge in 1992. This, although up 23% from 1991, is still only 75% of the 1981-1991 average of 180 birds produced.

#### 4. Marsh and Waterbirds

##### Colonial Nesting Birds

A search of the refuges colonial waterbird nesting rookery on July 1st revealed that it remained inactive during 1992. The colony was first documented in 1989 when approximately 725 nests consisting of white-faced ibis, black-crowned night heron, snowy egret, and cattle egret, were found. The rookery which was active but eventually abandoned in 1990 was inactive in 1991 as well. It is thought that the birds utilizing this rookery are the same that nest at the Adams Lake rookery which is approximately 4 miles west of the refuge, and that the birds will nest in the rookery exhibiting the most favorable habitat conditions during the nesting season. The refuge rookery was established during a year that Adams Lake was dry, and seems to be used as a backup nesting site.



Refuge staff assisted by Professor Dr. Ron Ryder (retired) of Colorado State University in banding colonial nesting birds throughout the Valley. Birds were banded at the Russell Lakes State Wildlife Area. The birds at the Adams Lake Colony were too young to band and a second visit to the area was not attempted for fear that two visits may cause too much disturbance to the nesting birds.



One of the many ibis nests encountered in the San Luis Valley during the summer.

JMG

#### Sandhill Cranes

Sandhill cranes began to appear in the Valley early in February. Near month's end there were approximately 100 using the refuge meadows and the old farm fields. Crane populations during the spring months peaked in March at approximately 500 birds including one whooping crane.

MBMO Flyway Biologist Doug Benning conducted the annual Rocky Mountain Population (RMP) Spring Migration Survey in the San Luis Valley on March 11-15. This survey is carried out each year in the San Luis Valley during the period of March 5-15 when virtually the entire population of RMP cranes is located in the Valley. The survey which is normally done aerially was accomplished via ground counts this year due to the heavy snow cover still remaining on the Valley floor. Because of the persisting winter conditions in the Valley crane feed was sparse and therefore was augmented by feeding at the MVNWR. This caused the cranes to congregate in areas on and around the MVNWR making the ground count somewhat easier. A total of 23,100 sandhill cranes, of which approximately 3,000 were lesser sandhills, were counted.



Table 1. Premigration staging area counts of the Rocky Mountain Population of greater sandhill cranes, September 1992.

Location	No. Cranes	Date	Method	Source
<b>UTAH</b>				
Weber Co.	46	9/14	Ground	S. Manes
Summit Co.	135	9/16	Air	S. Manes
Rich Co.	599	9/16	Air	S. Manes
Cache Co.	1,067	9/17	Air	S. Manes
Box Elder Co.	222	9/17	Air	S. Manes
Morgan Co.	31	9/18	Ground	S. Manes
Davis Co.	16	9/18	Ground	S. Manes
Utah Co.	62	9/16	Ground	M. Odle
Uinta Co.	632	9/15	Ground	J. Husner
<b>SUBTOTAL</b>	<b>2,810</b>	<b>9/14-9/18</b>		
<b>WYOMING</b>				
Baggs, Carbon Co.	60	9/16	Ground	T. Britt
Bear River	526	9/16	Air	S. Manes
Big Piney, Sublette Co.	0	9/16	Air	T. Britt
Cora, Sublette Co.	2	9/16	Air	T. Britt
Eden/Farson, Sweetwater Co.	388	9/16	Air	T. Britt
Graybull River, Bighorn Co.	208	9/18	Ground	T. Britt
Hams' Fork, Lincoln Co.	73	9/18	Ground	T. Britt
Hidden Valley, Fremont Co.	9	9/13	Air	T. Britt
Jackson Hole, Teton Co.	0	9/15	Ground	T. Britt
Ocean Lake, Fremont Co.	8	9/13	Air	T. Britt
Powell, Park Co.	429	9/17	Ground	T. Britt
Salt River, Lincoln Co.	477	9/16	Air	T. Britt
Seedskadee MWR, Sweetwater Co.	0	9/15	Ground	T. Britt
Upper No. Platt Valley, Carbon Co.	43	9/18	Ground	T. Britt
Yellowstone Park	25	9/16	Air	K. Neithamer
<b>SUBTOTAL</b>	<b>2,248</b>	<b>9/13-9/18</b>		
<b>IDAHO</b>				
American Falls Rs.	0	9/16	Air	R. Drewien (WRI)
Ashton	446	9/15	Air	R. Drewien
Bear Lake	594	9/16	Ground	G. Sjostrom (USFWS)
Blackfoot Res.	310	9/16	Air	R. Drewien
Camas MWR	131	9/16	Ground	M. Johnson (USFWS)
Camas Prairie	0	9/15	Ground	G. Will & T. Gregory (IDFG)
Chesterfield Res.	(Dry)0	9/16	Air	R. Drewien
Grays Lake	343	9/16	Air	R. Drewien
Henry's Lake Flats	(Dry)0	9/16	Air	R. Shea (IDFG/USFWS)
Kilgore	2	9/15	Air	R. Drewien
Market Lake WMA	13	9/17	Ground	D. Kemner (IDFG)
Mud Lake WMA	257	9/18	Ground	D. Kemner
Oxford Slough	(Dry)0	9/16	Air	R. Drewien
St. Anthony	452	9/15	Air	R. Drewien
Silver Creek-Carey Lake Area	264	9/15	Ground	C. Kvale (IDFG)
Teton Basin	2,989	9/16	Air	R. Drewien
<b>SUBTOTAL</b>	<b>5,801</b>	<b>9/15-18</b>		
<b>MONTANA</b>				
Dillon - Twin Br.	2,568	9/14	Air	J. Herbert
Whitehall - S*	142	9/18	Air	J. Herbert
Warm Springs WMA	287	9/11	Air	J. Herbert
Toston - W	234	9/10	Air	J. Herbert
Lake Helena	125	9/18	Air	J. Herbert
Helmville - N	343	9/18	Air	J. Herbert
White Sulphur - W	309	9/16	Air	J. Herbert
Belgrade - N&W	200	9/15	Air	J. Herbert
Ennis - S*	239	9/9	Air	J. Herbert
Melville - E	257	9/18	Air	J. Herbert
Harlowtown - W*	440	9/18	Air	J. Herbert
Deadman Basin*	80	9/22	Air	J. Herbert
Hudson Valley	5	9/16	Air	K. Neithamer
Centennial Valley	35	9/16	Air	K. Neithamer
<b>SUBTOTAL</b>	<b>5,264</b>	<b>9/9-22</b>		
<b>COLORADO</b>				
Hayden	412	9/16	Ground	M. Szymczak
San Luis Valley	2,769	9/16	Air	M. Szymczak
Fruitgrowers Res.	0	9/16	Air	M. Szymczak
<b>SUBTOTAL</b>	<b>3,181</b>	<b>9/16-17</b>		
<b>GRAND TOTAL</b>	<b>19,304</b>	<b>9/9-22</b>	<b>Ground/Air</b>	<b>ALL</b>



A typical SLV crane roost  
RJG

The first fall migrating cranes into the Valley were documented on August 20th. Cranes showed up on the Alamosa refuge right at mid-month in September and the population there peaked at approximately 1,500 in early November. Cranes were last documented using the refuge on November 16.

The RMP Fall Staging Survey was carried out on September 16. This survey is designed to be carried out on pre-migration staging areas once every five years. The purpose is to obtain an estimate of peak local populations prior to fall migration. Pre-migration staging areas are areas associated with production areas that serve as gathering locations prior to fall migration. Refuge Biologist Garcia along with CDOW Biologists carried out an aerial survey of the Valley to determine how many cranes were already migrating. According to officials at Gray's Lake NWR, the birds that summered there staged early for migration probably because of the unsuitable conditions that existed there. As a result the staging survey revealed a count of 2,769 cranes already in the San Luis Valley.

A Mid- October San Luis Valley Crane Survey was conducted on October 16. This survey carried out by refuge staff and volunteers was designed to obtain an estimate of peak fall crane numbers in the San Luis Valley and to determine how the numbers were divided among the major areas of concentration within the Valley. The count revealed approximately 24,285 sandhill cranes were in the Valley, of which approximately 4,000 were lesser sandhills.

During a two week period from November 1-15 the crane population in the Valley was reduced from well over 10,000 to less than 500. The last cranes in the valley (with the exception of a few diehards) were spotted near the end of November.

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

Throughout the spring, summer, and fall months shorebirds on the refuge were commonly observed feeding and loafing in exposed mudflats and wet meadows as well as in some of the shallow wetlands. Common Snipe and Sora rails were abundant during the fall months and remained active on the refuge until freeze-up near mid-November.

#### 6. Raptors

Raptor use on the refuge appeared to be normal again this year. During the summer months northern harriers, and Swainson's and red-tailed hawks were commonly seen. During the winter months Rough-legged hawks, northern harriers, red-tailed hawks and both bald and golden eagles could be seen on a regular basis. There were also merlins and prairie falcons observed regularly near the end of the year.

During the year all injured raptors found in the Valley were transported to the Frisco Creek Wildlife Rehabilitation Center near the town of Del Norte. The center, which is operated by Herman and Susan Dieterich, also took in a variety of other animals which were found injured or orphaned. There were 38 raptors transported to, and treated at Frisco Creek in 1992, of which 3 were treated for electrocution and 6 were treated for gunshot wounds. Following is a list of raptors treated at Frisco Creek in 1992:

<u>Species</u>	<u>Number</u>	<u>Status</u>
Golden eagle	4	1 died, 2 released, 1 ongoing treatment.
Rough-legged hawk	1	1 released.
Swainson's hawk	5	1 died, 3 released, 1 ongoing treatment.
Red-tailed hawk	4	3 released, 1 ongoing treatment.
Northern harrier	2	1 died, 1 to be placed in captivity.
Ferruginous hawk	1	1 treatment ongoing.
Prairie falcon	1	1 treatment ongoing.
American kestrel	5	5 released.
Short-eared owl	1	1 released
Barn owl	3	2 died, 1 released.
Great-horned owl	11	3 died, 4 released, 3 euthanized, 1 ongoing treatment.



Susan Dieterich of the Frisco Creek Wildlife Rehab.  
Center working with a newly admitted patient.

AEM



An almost typical SLV sight. This raven was  
electrocuted while attempting to scavenge a  
previously electrocuted great horned owl.

RJG

In 1992 greater efforts were made to document raptor electrocutions throughout Valley. Refuge personnel called upon field persons from both the CDOW and the Bureau of Reclamation's Closed Basin Project to assist in documenting cases and isolating areas of increased occurrences. Raptor electrocutions seem to be more prevalent during the winter months when the Valley's eagle population is higher. In 1992 there were 7 electrocuted raptors documented of which 5 were eagles. Also during 1992 there were 7 raptors found suffering from or killed by gunshot, including 2 eagles. There were 11 eagle mortality reports filed during the year.

#### 7. Other Migratory Birds

Two FWS Breeding Bird Surveys (BBS) were carried out in June in the San Luis Valley. Bio. Aid Goulet carried out the Moffat Route BBS, where 31 species were recorded. Nancy Beckman a CSU intern carried out the Alamosa Route BBS and documented 38 species there.

#### 8. Game Mammals

A deer population of an estimated 110 animals exists on the refuge. The animals which can be regularly seen throughout the refuge seem to spend the majority of their time in the northern portions of the refuge near the old farm fields and some in the tall phragmites stands. This year the Rio Grande River Walking Trail on the refuge was closed from November 1 to the end of the year. The trail will now be closed from November 1 until March 1 each winter, in an effort to encourage the mule deer to utilize the browse and cover in the riparian areas of the refuge during the winter months. Typically the deer spend the winter months on the northern boundary of the refuge where they are usually disturbed and sometimes pushed off the refuge by increased human activity in the area. The closure of the trail should also eliminate the winter poaching problem that has been documented, in this area, in past years.

During the year there were at least three elk sightings on the refuge, which lies in the center of the Valley. In recent years, unlike in the past, it is not uncommon to observe elk down on the valley floor at any time during the year.

#### 9. Marine Mammals

Nothing to report.

#### 10. Other Resident Wildlife

The pheasant population of the refuge remained at the low level. The majority of the birds used the riparian areas of the refuge. The major factor that explains in part the decline in the refuges pheasant population is the elimination of the refuges farming program. Due to the lack of a Refuge Biologist during the spring months, a pheasant crow count was not carried out on this refuge in 1992. This was unfortunate, as this information is used to monitor pheasant population trends on the refuge.

Coyote numbers on the refuge seemed to be high during the year, possibly due to the fact that no intensive control on this species has been carried out on the refuge since 1988. Skunk and raccoon numbers did not seem to be at very high levels although they were present on the refuge. This may be due to the seemingly increased coyote population.



11. Fisheries Resources

Nothing to Report.

12. Wildlife Propagation and Stocking

Nothing to Report.

13. Surplus Animal Disposal

Nothing to Report.

14. Scientific Collection

Fish samples were taken from the Rio Grande River for the fourth consecutive year in 1992. The sampling, which was carried out by FWE Contaminant Specialist R. Kreuger, is done as part of cooperative study with the Bureau of Reclamation to monitor heavy metal levels in the Rio Grande River and San Luis Lake. Fish samples are taken from the Rio Grande between the refuge and the village of Las Sauces approximately five miles downstream from the refuge. Samples collected from the refuge included 3 carp, 3 white suckers, and 3 northern pike. The study was initiated as a means of monitoring the quality of the water being diverted into the river from the closed basin via The Closed Basin Project conveyance channel.

15. Animal Control

Only minimal efforts were expended on predator control on the refuge during 1992. Predator control is carried out for the purpose of reducing predation of waterfowl nests, in an effort to increase waterfowl production on the refuge. Refuge personnel carried out the 1992 efforts. The following table shows the results of the 1992 efforts as well as those of the previous five years.

Predator Control Summary 1987-1992

<u>Species</u>	<u>1992</u>	<u>1991</u>	<u>1990</u>	<u>1989</u>	<u>1988</u>	<u>1987</u>
Raven	4	3	0	1	5	11
Magpie	2	3	23	14	76	88
Skunk	5	57	50	85	123	209
Raccoon	3	14	35	31	14	18
Coyote	0	7	12	13	31	24
Feral cat	0	1	1	5	3	6
TOTAL	14	85	121	149	252	356

In August a Large snapping turtle was found on the refuge just off the river in a side channel. The turtle which is not native to the area had a series of slides on the channel, similar to those of beaver. After further investigation we learned that a college student from Alamosa supposedly released some young snapping turtles in the area back in the 1980's. The turtle was not captured. However, if it is encountered again it will be.





Large snapping turtle (not native to the Valley)  
found on the Alamosa NWR

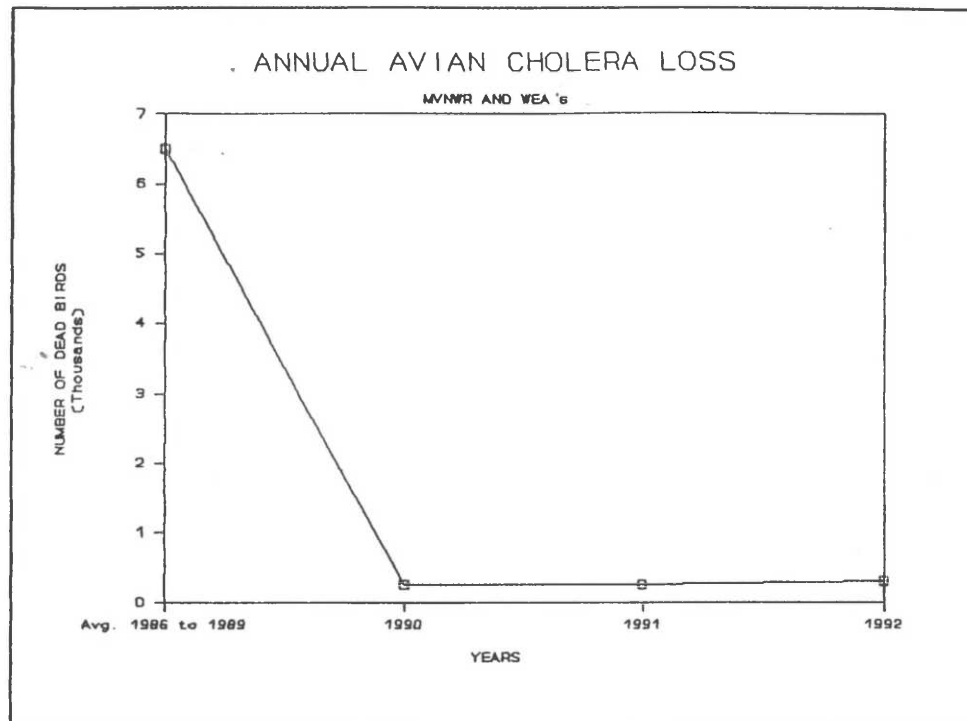
RJG

16. Marking and Banding

Nothing to Report.

17. Disease Prevention and Control

Efforts continued in 1992, to disperse waterfowl throughout the San Luis Valley. In past years Approximately 87% of the San Luis Valley's wintering waterfowl population wintered on the Monte Vista National Wildlife Refuge. The dispersal effort was initiated in 1990 after a four year average of having lost 6,500 birds annually to Avian Cholera. As part of the efforts Assistant Refuge Manager Schnaderbeck was called upon to implement a Private Lands/Wildlife Extension Program (see section J.) in which winter feed and open water are secured on private lands through cooperative agreements between the USFWS and private landowners. As a result waterfowl losses to cholera have been greatly reduced. The estimated loss to cholera in 1992 was 300 birds for the Monte Vista NWR and Wildlife Extension Areas in the San Luis Valley.



In 1992 Refuge personnel set out to determine the body condition of wintering mallards in the San Luis Valley (SLV). This is done to evaluate the effects of the winter dispersal efforts initiated by the refuge and carried out annually since 1990. The procedure consists of collecting a sample of the population and recording the wing length and body weight for each bird. This data is then used to calculate a condition index for each bird. The calculations are based on those (J. Ringleman, and M. Szymczak. 1985. A Physiological Condition Index For Wintering Mallards. J. Wildl. Manage. 49(3):1985) used during a research project conducted on the Monte Vista NWR from 1986-89 (C. Jeske. 1991 Winter survival and reproductive success of female mallards. Ph.D. Thesis, Colo. State Univ.). The results of this study (86-89) showed that the average condition of the SLV's wintering mallards, of which over 87% were on the Monte Vista NWR, was poor. In 1992 a sample of 23 birds (3 females, 20 males) were trapped on and near the refuge during the period of early to mid-February. Ducks were caught using a cannon net and walk-in traps. Average body weight was  $\pm 1,035$  for females and  $\pm 1,256$  for males, with mean condition indices of  $\pm 22.81$  in females and  $\pm 23.98$  in males. Based on criteria from Jeske's research, 100% of females and males sampled were in good or better condition.

(\* It should be noted that no correction factor was used to compensate for the amount of feed in the crops of the birds or for the fact that many were wet when weighed.)



Walk-in traps were used to capture mallards in  
January to determine winter body condition.  
1/92 SPB



Biologist Morkill and Volunteer Markley weighing  
Mallards to determine winter body condition.  
1/92 SPB



Wing length on mallards was used along with body  
weight to determine winter body condition.  
1/92 SPB



## H. PUBLIC USE

### 1. General

In 1992, approximately 729 people visited Alamosa National Wildlife Refuge. Most visitors stopped in the visitor center and took advantage of the Rio Grande River Walking Trail or the new auto tour route and walking/bicycling trail at the Bluff Overlook area.

The San Luis Valley Environmental Conservation Education Council continued this year. New happenings for the year included an environmental education camp for sixth graders, the completion of the teacher's conservation directory, and a half-day training for government agency personnel to improve communication skills with students.

The Monte Vista Crane Festival Committee and local wildlife artist Jocelyn Lillpop presented the refuge with a framed wildlife print of whooping and sandhill cranes flying with Mt. Blanca in the background. The print was given to the refuge for our assistance with the Monte Vista Crane Festival and is on display in the Refuge Office/Visitor Center.

Complete resigning of the public use areas was completed this year for the Rio Grande River Walking Trail, the Auto Tour Route, and the Walking/Bicycling Trail.

### 2. Outdoor Classrooms - Students

Sierra Grande High School (Ft. Garland, CO) senior G.J. Peralis assisted in filling goose nesting structures on Alamosa NWR and conducting crane surveys. G.J. was participating in a Job Shadow Program, in which students spend a day with personnel working in the field of their interest.

Seasonal Biological Aide Judy Goulet and CSU Intern Nancy Beckman presented a wildlife program and bird watching hike at Beaver Creek Conservation Camp for 9-12 graders on June 3. This 4 day camp is sponsored by Colorado Extension Service and all local Conservation agencies assist with programs.

A pilot outdoor education classroom program for 6th grade students was sponsored by the SLV Environmental Conservation Education Council. This program ran from September 14-16 and centered at the Beaver Creek Youth Camp at South Fork. One day visits to the Sand Dunes, Rio Grande Forest, and the Monte Vista NWR introduced 85 students to various conservation education subjects. Schools involved this year included Sargent, Creede, and Antonito. This program is expected to expand to all school districts in the SLV in 1993.

### 3. Outdoor Classrooms - Teachers

Nothing to report.

### 4. Interpretive Foot Trails

A new walking/bicycling trail was opened at the Bluff Overlook area in September. The trail starts at the south end of the Auto Tour route and follows the bluff and riparian area for one mile. This trail provides year around access to view the Rio Grande River bottom.



New Walking/Bicycling trail  
9/25/92 SSB

The existing Rio Grande River Walking Trail was closed on November 1 and will re-open on March 1, 1993. The new closure of this trail stirred some controversy in the community by people accustomed to using this trail in the winter. This closure was initiated to encourage winter deer use of the riparian area.

#### 5. Interpretive Tour Routes

The new Auto Tour Route at the Bluff Overlook was completed this year. The route was opened on September 24 and will provide year around access to view the Rio Grande River bottom.





New Auto Tour Route  
9/25/92 SSB



View from Auto Tour Route  
9/25/92 SSB

## 6. Interpretive Exhibits/Demonstrations

The U.S. Fish and Wildlife Service combined efforts with other members of a SLV Wetlands Group, including Bureau of Reclamation, CSU Extension Service, Rio Grande Water Conservation District, Bureau of Land Management, Division of Water Resources, and others to have a joint display at the Monte Vista Crane Festival this year.

An informative exhibit on the Alamosa Refuge, Monte Vista Refuge, and the San Luis Valley Wildlife Extension Program was put together by refuge staff and is on display at the new San Luis Valley Information Center in Monte Vista, Colorado. The U.S. Fish and Wildlife Service, along with many other Federal, State, County, and private organizations have exhibits in place and have contributed funds to help run the center.

Cart Patterson of Bugling Bull Taxidermy in Crestone Colorado completed a mount of a sandhill crane for the refuge. The crane was put on display with an exhibit at the San Luis Valley Information Center in Monte Vista, Colorado.



Cart Patterson and his sandhill crane mount.  
7/20/92

SSB

The refuge again coordinated the U.S. Fish and Wildlife Service's participation at the 1992 Colorado State Fair with the Regional Office, as well as assisted with the booth on August 30 and 31.

## 7. Other Interpretive Programs

The 9th Annual Monte Vista Crane Festival was again very successful with activities on both weekends of March 14-15 and 21-22. Both refuge visitor centers were open during the weekends, a spotting scope was set up for viewing whooping cranes, 15 bus tours with 520 people, 5 wildlife workshops, an art show and craft sale, a banquet of 150 people, and a bluegrass festival all occurred during these days. Berlinger was the Master of Ceremonies at the banquet. A total of 1,093 cars went through the Monte Vista NWR Auto Tour Route between March 13-22. This would equate to about 3,000 people. High concentrations of sandhill cranes and about 5 whooping cranes provided excellent viewing opportunities on the refuge. A booth was set up the second weekend in cooperation with the SLV Wetland Management Group. A FWS display was incorporated into this booth. Refuge staff were interviewed by a writer for Westwind Magazine. This magazine is publishing a special edition for the Monte Vista Crane Festival. A lengthy article on cranes, wildlife, and refuges was printed.

We provided \$100 to assist in paying expenses to Steve Hauffman from Hawk Watch International to come to the SLV to present programs on raptors. The U.S. Forest Service, Colorado DOW, and the SLV Chapter of Audubon Society also help with expenses. Mr. Hauffman gave a workshop at the Crane Festival, 5 school programs to over 600 students, 1 interagency program to about 25 Federal State biologists, and 1 evening program at the Rio Grande County Museum. All of these programs were given between March 22-25.

The following programs were given by the Refuge staff during the year:

1. Sanford High School Careers Class - presentation on careers with the U.S. Fish and Wildlife Service.
2. Cub Scout Pack 280 of Alamosa, CO - program on San Luis Valley birds.
3. Center Schools 5th grade, 20 students - introduction to Alamosa NWR.
4. LaJara Elementary 4th grade, 58 students - introduction to Alamosa NWR and video on the National Wildlife Refuge System.
5. Alamosa 4-H group, 8 kids - worked 4 hours on Alamosa NWR wrapping cottonwood trees to prevent beaver damage.
6. Alamosa Library Summer Reading Program, 30 children and parents - wildlife orientation program.
7. Sierra Grande 5th grade, 30 students - wildlife program of Alamosa NWR.
8. Sargent 1st grade, 35 students - wildlife adaptations.
9. Manassa 4th grade - wildlife adaptations.
10. Sanford Cub Scouts - wildlife program.

On September 24 refuge personnel gave a tour on Alamosa NWR to the Conejos County Weed Board. Also in attendance were county commissioners; ASCS and SCS personnel; and Sparky Turner, Senator Hank Brown's field representative. The tour was aimed at getting the use of DuPont's Telar and Escort herbicides reinstated for use in the SLV to control tall whitetop. The refuge showed the group the effectiveness of using grazing to control tall whitetop since we do not support the use of chemicals.

Refuge Volunteer Donna Kingery presented a crane program to Alamosa Open Schools (8 students), Del Norte Rotary Club, Boyd Elementary 3rd grade (300 students), and Del Norte Dalalto Sorority Ladies Club. Her programs are excellent and very well received!

On October 30, a meeting with the CDOW, BLM, USFS, and SLV Tourism Council was attended to review the new San Luis Valley Watchable Wildlife Guide. The cooperative venture produced an excellent brochure which was made available in early November at a cost of \$1.25 each.

Several news releases were sent to local papers concerning subjects on new public use program at Alamosa NWR, winter duck dispersal program, injured whooping crane, and finding the sandhill/whooping crane cross chick.

#### 8. Hunting

An Intra-Service Consultation Project form was submitted to FWS Enhancement for re-alignment of the public hunting area boundary on Alamosa Refuge. The new hunting area was posted with proper signs. The center of the refuge is now open to hunting with closed areas on each side of the open area. One new parking area was constructed while two old parking areas were eliminated. Two areas are designated for overnight camping where as in the past all five areas were open to camping.

During the first split of duck season an estimated 190 hunters used the Refuge, taking approximately 323 birds for an average of 1.7 ducks per hunter. The bag here consisted of primarily mallard (28%) and gadwall (28%), followed by shoveler (16%) and Green-winged teal (11%) all other species comprised the remaining 17% of the bag. In Alamosa 60% of the hunters used the Refuge on opening weekend.

The second split of the 1992 duck hunting season began on the 7th and ran through the 29th of the month. There was an estimated 40 duck hunters that used the refuge during the season taking an estimated 25 ducks, for an average of 1 duck taken per every 1.6 hunters, or .62 ducks taken per hunter.

The 1992 goose season opened on the last day of October and ran through January 3, 1993. Few goose hunters used the Alamosa Refuge. Approximately 5 geese were taken of the refuge during the month. Along with the 34 duck hunters, who were hunting geese also, there were approximately 10 additional (Goose only) hunters.

#### 9. Fishing

Nothing to report.

#### 10. Trapping

Nothing to report.

#### 11. Wildlife Observation

Nothing to report.

#### 12. Other Wildlife Oriented Recreation

Nothing to report.

13. Camping

Nothing to report.

14. Picnicking

Nothing to report.

15. Off-Road Vehicling

Nothing to report.

16. Other Non-Wildlife Oriented Recreation

Nothing to report.

17. Law Enforcement

On January 22, Refuge Officer Brock assisted Colorado Division of Wildlife DWM Conrad Albert with a raptor parts investigation. During a drug related search of a home in Alamosa, the Sheriff's Department confiscated a marijuana pipe which has an eagle feather and owl talons attached. This pipe and raptor parts were sent to FWS Agent Griest in Grand Junction for positive identification of feather before charges are filed.

On February 1, 14 dead eagles, which had been held at the refuge freezers, were delivered to Law Enforcement in Golden, CO.

On July 29 and 30, Refuge Officers Brock and Berlinger attended Colorado's CDOW/USFWS coordination meeting in Glenwood Springs. Mid-year firearms qualification was completed. One idea generated at the meeting was that we have a National Waterfowl Week where people (hopefully father/son-daughter) could hunt waterfowl without a license or stamp. The goal was to promote waterfowl hunting and could be conducted similar to National Fishing Week. If this happens, Refuges and Wildlife would be a major player. Dan Marshall (LE, Golden) will work on the idea.

On August 15, Refuge Officers Berlinger, Schnaderbeck and Garcia assisted the CDOW with a fish check station on Highway 160 at Del Norte. A total of 253 vehicles were stopped and eight citations were issued for a total of \$804.

Refuge Officers Berlinger, Schnaderbeck and Garcia attended a L.E. shoot with CDOW at South Fork on August 10. Schnaderbeck and Garcia also completed their mid-year qualification under the instruction of CDOW officer Jay Sarason.

Officers Brock and Garcia attended a two day CDOW law enforcement seminar held in Alamosa. Other agencies attending included USFS and several sheriff departments throughout the SLV.

Refuge Officer Garcia traveled to Salt Lake City, Utah on the 2nd of the month to attend the court trial of three individuals he caught poaching while still at Ouray NWR. The individuals were found guilty and scheduled for sentencing by U.S. District Court Judge.



The following violations were issued on Alamosa NWR in 1992:

Unplugged Shotgun	1 violation	\$100 fine
Attempt to take more than daily bag limit	1 violation	\$100 fine

18. Cooperating Associations

Nothing to report.

19. Concessions

Nothing to report.

## I. EQUIPMENT AND FACILITIES

### 1. New Construction

A new portable welding trailer was constructed for the refuge.

One mile of electric fence was installed around the Alamosa moist soil unit.

A unisex handicap accessible vault type prefab toilet was installed near the kiosk at the Alamosa Office at a cost of \$4,630. This will be a great comfort to all visitors to the refuge when the office is closed.



New 504 toilet at the office.  
7/31/92 SSB

A new portable toilet accessible to disabled visitors was erected and placed at parking lot #2 at Alamosa NWR.

A 1,000 gallon unleaded and a 500 gallon diesel above-ground fuel tanks were delivered and set up at Alamosa NWR by Nebraska Welding for \$13,577.

A new eight-foot diameter culvert and riser board structure was installed on the Chicago Ditch at a total cost of \$7,500.

The new auto tour route at the Bluff Overlook was started with cattle guards placed, roads realigned, and fences moved.



Hunter Cross Road closure from our Auto Tour Route  
9/25/92 SSB

2. Rehabilitation



New bathroom and overhead door at the shop  
2/9/92 SSB

The rehabilitation project of the Alamosa shop is nearing completion. This has included running a new water line to the shop, construction of a bathroom, repainting, and new electric overhead door.

Bid was awarded to Van Giesen and Co. of Alamosa to supply 5,000 cubic yards of potato rock to Alamosa Refuge and 10,000 cubic yards to Monte Vista Refuge for a total of \$61,500. This rock will be used for rip-rap on refuge dikes.

Three underground fuel tanks were removed on May 6.

The residence building and garage on Alamosa NWR is in the process of being stuccoed and should greatly improve appearance and lessen future maintenance.

The small flat roof portion of Alamosa NWR office required a total replacement at a cost of \$1,710. The work was done by Meek Roofing of Alamosa and carries a 12 year limited warranty.

The residence at Alamosa NWR has been partially stuccoed in June and should be completed in July.

About 1/2 mile of earthen spoil was smoothed and formed into a road on the Mumm Lateral of the Alamosa Refuge. This work was completed by Cooley Construction.

The entrance gate at Alamosa Refuge was moved 1/2 mile north to the actual boundary of the refuge.



New sign for our walking trail  
10/29/92 SSB

The Alamosa NWR office received a new handicap accessible door knob to the entrance door at a cost of \$220.

The drinking fountain was lowered to meet accessibility standards and a purifier installed at a cost of \$900.

3. Major Maintenance

Nothing to report.

4. Equipment Utilization and Replacement

The Alamosa Refuge Allis Chalmers road grader required a new worm gear costing \$1,237 in repairs.

The old Model 12 Cat road grader was surplused to the city of Center, Colorado.

5. Communication Systems

Nothing to report.

6. Computer Systems

Nothing to report.

7. Energy Conservation

Nothing to report.

8. Other

- Nothing to report.



## J. OTHER ITEMS

### 1. Cooperative Programs

Since no official format exists for including the Partners for Wildlife in the Annual Narrative, the format suggested by the Regional Office for reporting fiscal activities of the Partners for Wildlife will be used.



These goslings were caught "still wet behind the ears"  
on one of the Partners Projects

5/92

RWS

The San Luis Valley (SLV) of southwestern Colorado is well known for its ability to produce waterfowl. Waterfowl biologists from the Colorado Division of Wildlife consider the SLV to be the state's premier waterfowl production area. A recent review of 27 years of nest transect survey data from the Monte Vista National Wildlife Refuge (NWR) indicates that the refuge is one of the most productive waterfowl refuges in the nation. Some management units on the refuge average over 1000 nests/square mile.

Implementation of the Partners for Wildlife Program in the SLV began April 1, 1990. Despite a late start relative to other states in the Region, the Partners for Wildlife Program in the SLV "hit the ground running" and quickly made up for lost time. The Partners for Wildlife Program has

already created numerous projects which rival the size and habitat quality of the Waterfowl Production Areas of the prairie pothole states and will most likely produce waterbirds at the same record setting levels as the Monte Vista NWR.



Chadwell WEA - Extensive dike construction for wetland development.

4/12/92

SSB

The Partners for Wildlife Program is also addressing a serious avian cholera problem on the Monte Vista NWR. The Partners for Wildlife Program is obtaining additional wintering habitat on private land to help disperse waterfowl from overcrowded conditions on the refuge. Refuge staff attribute the significant reduction of cholera losses to the program's work on private land.

The following table summarizes accomplishments of the SLV Partners for Wildlife Program during the past three years.

SLV PARTNERS FOR WILDLIFE PROGRAM  
ACCOMPLISHMENTS APRIL, 1990 - SEPTEMBER, 1992

Nesting Habitat

- 33 agreements
- Average length of agreements = 9.58 years
- 94 wetland basins enhanced/created
- 1,220 wetland acres created
- Average cost to create wetland = \$65.90/wetland acre
- 16.4 miles of dike constructed
- 2,807 wetland acres under management
- 536 upland acres under management
- 116 acres of DNC planted
- Total managed acres = 3,459 (859 grazed + 2,600 rested)

Wintering/Migration Habitat

- 68 agreements
- All agreements = 1 year
- 187.5 acres of open water roost areas (77 ac. for 1992)
- 395 acres of standing grain (166 ac. for 1992)
- 1,416 acres of grain stubble (310 ac. for 1992)
- 2,221 acres of hail damage grain (750 ac. for 1992)

Local popularity of the Partners for Wildlife has grown dramatically in the past year. Lack of funds and personnel seem to be the only factors limiting growth of the program for the short term. Projects are selected on a cost/benefit basis.

I. ADMINISTRATION

A. Organization and Staffing

Refuge Operations Specialist, Rick Schnaderbeck, headed up the private lands effort. Laborer, Bonifacio Romero provided valuable assistance on wetland construction projects. The staff of the Alamosa/Monte Vista NWR Complex also played a key role in the program. The Refuge Complex supplied administrative support (including Schnaderbeck's salary), vehicles, construction equipment, fuel, and much more. Such support from the Refuge Complex has allowed the Partners for Wildlife Program to focus its entire budget on developing habitat on private land.

To date, all but one project have been limited to the SLV. Other activities such as field inspections of potential FMHA conservation easements and Minimal Effect Determinations for SCS have been completed throughout all of southern Colorado.

B. Objectives

Specific objectives of the SLV Partners for Wildlife Program are:

1. Create and/or manage wetland ecosystems to increase populations of waterbirds and other resident wildlife species.
2. Reduce the severity of avian cholera epizootics on Monte Vista NWR by providing additional wintering habitat on private lands throughout the San Luis Valley.



One of the "partners" gives final approval  
of a restored wetland

4/92

RWS

We are especially excited with the production potential of our newly created nesting habitat and with the preliminary results concerning our attempt to reduce avian cholera losses on Monte Vista NWR. It will be necessary to analyze the program for a few years to determine the degree of success but it is obvious that the Partners for Wildlife has proved it can and must play a key role in the management of SLV wetland ecosystems and associated waterbird populations.

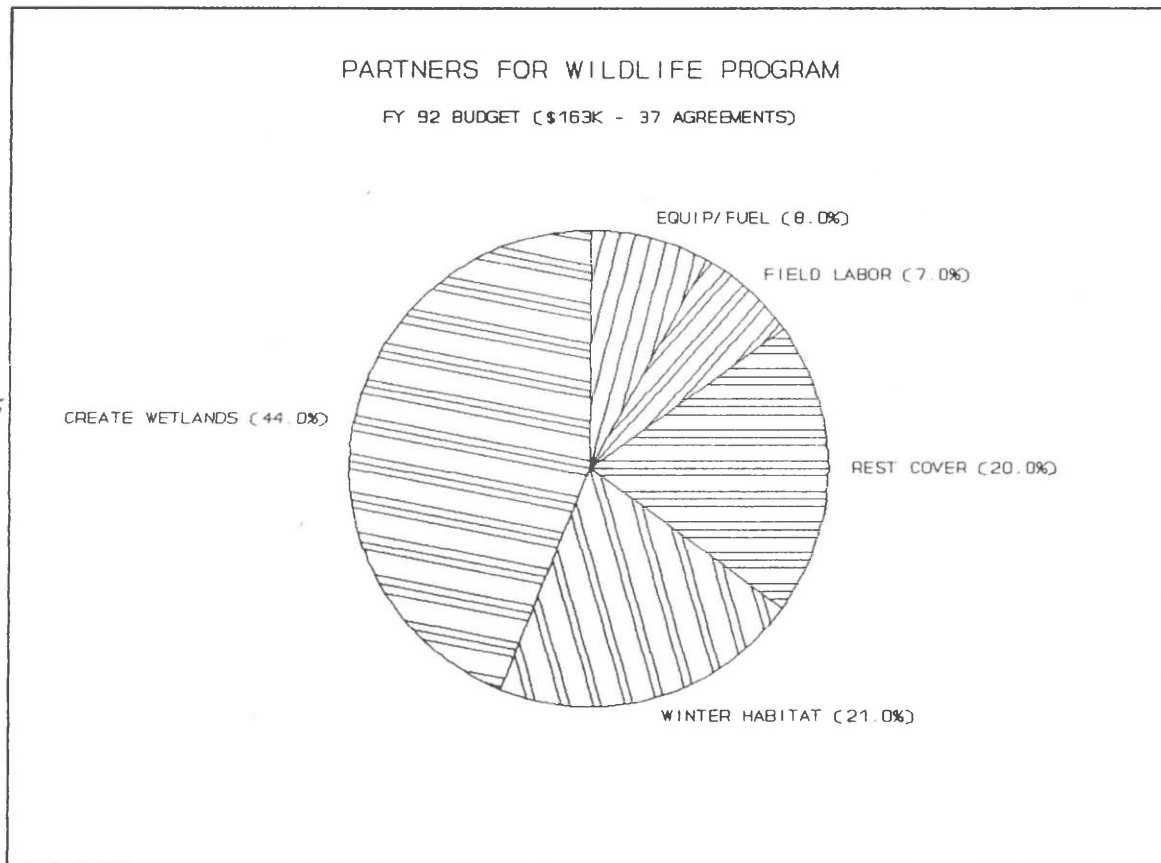
C. Funding

The Partners for Wildlife Program initially received \$57,000 of FWS (1120-6B) funds for FY 92. The program also received an additional \$22,400 of 1120-6B funds during the last few weeks of the fiscal year which we had no problems finding a quick use for. We received \$40,000 from the Colorado Division of Wildlife Duck Stamp/Ducks Unlimited Funds. The Program also received \$40,000 of Challenge Grant funds from the Regional Office. Total budget for FY92 was \$159,400.



We are very concerned about the spending restrictions placed on 1120 funds this past year. The restrictions which prevent 1120 funds from being used for land use payments are a serious threat to our program since it limits our ability to pay landowners to rest nesting cover. If landowners are not paid to rest cover in the SLV the habitat is grazed to the bone and consequently of little value to nesting waterbirds or other wildlife needing winter and spring cover. Luckily Colorado DOW Duck Stamp and Challenge Grant funds were available to pay landowners to rest cover during the past year.

No Alamosa/Monte Vista NWR Complex (1200) funds were used on Extension Projects during FY92. It should be noted that a considerable amount personnel and equipment support from the refuge complex allowed 100% of the Partners for Wildlife budget to be exclusively focused on habitat development on private land. A breakdown of how funds were spent is depicted in the following graph.





D. Technical Assistance

Schnaderbeck advised SCS on two Minimal Effect Determination involving the placement of fill in seasonal wetlands. Both reviews resulted in comments opposing the proposed developments. One FMHA property was evaluated for a possible conservation easement. The five existing FMHA conservation easements managed by the station were also field inspected and found in full compliance during the past year.

We continued our effort promoting the Partners for Wildlife Program to a wide array of public agencies and private groups. Numerous slide presentations were given to local SCS and ASCS boards of directors and other private groups. Numerous field tours were also given to a wide array of agencies and organizations.

The Partners for Wildlife Program received excellent publicity from local newspapers and radio stations. These media and local crop insurance agents proved to be especially helpful in getting the word out about our efforts to provide habitat for wintering waterfowl especially our hail damage program.

II. WETLANDS



A typical "created" shallow water wetland  
on the "8 High Project"

5/92

RWS

High priority was given to wetland restoration projects this year. Wetland restoration and associated nesting cover projects accounted for 64% of the Partners for Wildlife budget. Wetland projects will comprise an even greater proportion of the budget in the coming years.



Contour dikes on the "Walsh Project"  
11/92 RWS

We expect excellent production from our wetland projects since all of our projects involve a dependable, annual source of water. This guaranteed water ensures that our projects will not be devastated by cycles of drought and consequently will be productive for each year of the agreement. When one considers that our wetland projects will not be devastated by drought and combines that with typical SLV waterfowl nest success rates average 40-50%, one can truly appreciate the waterbird production potential of SLV Partners for Wildlife Projects.



Partner John Walsh volunteered to help us check  
dike elevations on a nasty November day  
11/92 RWS

We also used the Partners for Wildlife Program to create more wintering wetland habitat on private lands. Formerly 95% of the mallards wintering in the SLV have crowded onto the Monte Vista NWR where recent epizootics of avian cholera have killed 1,500 to 15,000 mallards/year. Refuge staff believe that previous cholera epizootics on the Monte Vista NWR are related to overcrowding.

Many of the wintering wetlands created by the Partners for Wildlife Program received considerable use by wintering waterfowl. Consequently, the number of waterfowl wintering on the Monte Vista NWR was reduced dramatically. Refuge biologist Morkill conducted carcass searches of both refuge and private wintering habitat during the previous two winters and projected losses to be 260 and 300 birds/year. This is an obvious and significant reduction compared to epizootics of the previous 4 years when projected losses averaged 6,500. The winter condition index of mallards the past two winters was also better than those mallards surveyed during a research project conducted prior to implementation of additional habitat on private land. Although the sample size was relatively small (only 40 birds trapped each year), the wintering mallards met criteria ranking them in "good" physical condition, while birds prior to implementation of the private lands program met criteria ranking them as being in "poor" physical condition.





A typical winter day at the Walters WEA (wintering area).  
RJG



Waterfowl utilizing one of the many wintering  
wetlands created by the Partners Program  
12/92 E. Markley

All wetland projects are closely reviewed to ensure compliance with State Water Law. Each agreement dealing with some aspect of State water law states that the "landowner agrees to comply with all appropriate State water laws" to ensure the continued support of the Partners for Wildlife Program by the State Engineers Office.

#### SUMMARY OF FY 92 WETLAND PROJECTS

Project Type	Avg. Length	Wetland Basins	Wetland Acres	Cost	Cost/Acre
Wetland Restoration \$83.54***	10yr	33	665		\$55,553
Wetland Management \$11.37***	10yr	91	1891		\$21,493
Wintering Wetland	1yr	14	77	\$ 3,500	\$45.45
Nesting Structures	10yr	20	-	\$ 1,300	-
TOTAL	-	158	2,633	\$81,846	-

\*\*\* Costs varied between annual payments, 5 year one-time lump sum payments, and 10 year one-time lump sum payments. Costs were standardized by using cost per acre per year of agreement.



A small portion of a 25 acre wetland created  
on the "Swift Project"

6/92

RWS





One of the eight shallow water wetlands  
created on the "Chadwell Project"  
6/92 RWS

#### A. Wetland Restoration

Due to the topography and local farming practices of the SLV, few wetlands have been drained relative to other parts of the nation. Since the SLV receives only 7 inches of precipitation annually, wetlands are highly valued sources of hay and pasture land that support the SLV's large livestock industry. Many of our wetland restoration projects involve plugging holes in existing dikes or replacing dilapidated water control structures. Farmers and ranchers are usually eager to restore drained wetlands but hesitant to restrict haying and grazing of wetland habitat. All agreements involving wetland restoration specify that at least one half of the restored wetland/wet meadow be managed for nesting cover and not be grazed, hayed, or manipulated in any form. All of the agreements involving restored wetlands protected habitat are for 5 or more years.



Swift WEA - Wetland development  
below an irrigation reservoir  
4/12/92 SSB

#### B. Wetland Management

Waterfowl prefer to nest in wet meadow vegetation in the SLV. Most privately owned wetlands in the SLV are hayed during the nesting season and then heavily grazed during the fall and winter seasons. Typical agreements usually involve dividing nesting habitat into two or more pastures. Most of the pastures are managed for nesting waterfowl by "resting" them for one or more growing seasons while the landowner is allowed to graze/hay one of the pastures. Use of the pastures is then rotated for the duration of the 10 years covered by the agreement.

#### C. Wintering Wetland

Avian cholera has become a serious threat to mallards wintering on the Monte Vista NWR. The Wildlife Partners for Wildlife provided additional wintering wetlands on private land in hopes of reducing overcrowding and the associated cholera losses on Monte Vista NWR. Wintering wetland habitat secured with the program included both drain ditches and wetlands which were kept ice-free by the flow from warm water artesian wells. In addition to maintaining an open water area for roosting waterfowl, landowners were also required to close the area to trespass. This action was taken to prevent hunters from hazing birds off of wintering wetlands. Landowners were provided signs closing the area to trespass.



Canada geese utilizing the Chadwell WEA (wintering area).  
RJG



Canada geese and mallards on the  
Meadow Ranch WEA in December  
RJG



News releases explaining our efforts to increase wintering habitat on private lands and our reasons for closing the areas to trespass resulted in general public support of the program. Since our payments were well below average, we feel the majority of landowners participating in the wintering program did so because they wanted to "help the birds out". A few complaints were received from hunters who wished to hunt the wintering areas but the vast majority of hunters supported the program. Only 3 of the 400+ "Closed to Trespass" signs erected on private land were destroyed by vandals.

#### D. Nesting Structures

Twenty fiberglass nesting tubs for Canada geese were erected on private lands. Since the cost of nesting tubs averaged \$60/structure, we used them mainly to develop a working relationship with a landowner in hopes of developing future wetland restoration or management projects.



One of the many goose nests we found on Partner Projects  
4/92 RWS

### III. UPLAND PROJECTS

Upland projects comprised 36% of the FY 92 Extension budget. All upland projects were directly associated with wetland projects. Most of the upland projects focused on securing some form of feed for wintering waterfowl in close proximity to wintering wetlands. In most cases, landowners were paid not to plow under barley stubble which contained

large amounts of waste grain. This proved very economical since many of the projects involved fields which were damaged by hail and contained 30-50 bushels/acre of unharvested barley which we obtained for an average price of only \$0.28/bushel.



A good stand of dense nesting cover adjacent  
to a shallow water wetland on the "Walters Project"  
8/92 RWS

Little emphasis was placed on creating/enhancing upland nesting cover since most waterfowl prefer to nest in wet meadow vegetation in the SLV. Basically, we used upland nesting cover projects to establish a working relationship with landowners who owned wetland habitat we were interested in.



# SUMMARY OF FY 92 UPLAND PROJECTS

Project Type	Avg. Length	# of Projects	Acres	Cost	Cost/Acre
Prevent Plowing of Hail Damaged Crops	1yr	9	750	\$9,025	\$12.03
Prevent Plowing of Barley Stubble	1yr	3	310	\$1,270	\$4.10
Purchase Standing Grain	1yr	12	166	\$15,434	\$92.98
Establish Nesting Cover	10yr	4	117	\$3,313	\$28.32
Total	-	28	1,343	\$29,042	-



Slender Spider Flower (T&E Candidate Species)  
on the Chadwell WEA

7/10/92

SSB

A. Prevent Plowing of Hail Damaged Crops

Hail frequently damages small grain crops in the SLV. Insurance agents in the SLV estimate that approximately 20% of their clients experience hail damage to their crops annually. Normally farmers plow under hail damaged crops which prevents waterfowl use of this valuable and extensive food source. We paid farmers to postpone until spring the plowing of these fields so that waterfowl could utilize the waste grain throughout the winter. The amount of feed knocked to the ground by hail and available to feeding waterfowl in these field was considerable. Waste grain present on our projects averaged between 30-50 bushels/acre. Hail-damaged fields protected in the program received heavy use by ducks, geese, sandhill cranes, and whooping cranes. Up to 6,000 waterfowl were commonly observed feeding on habitat secured through the Partners for Wildlife Program. To insure use by wintering waterfowl all projects were closed to trespass with signs provided by the Partners for Wildlife Program.



Waterfowl making use of the 80 bu/acre of barley which was knocked to the ground by hail and protected from being plowed under by the Partners Program

12/92

RWS

B. Prevent Plowing of Barley Stubble

We used this project in areas where we had secured wintering wetland habitat but could not secure feed with the hail damage projects.

Landowners were paid to postpone the plowing under of small grain stubble until spring. These areas were also closed to trespass to insure use by wintering waterfowl. These projects were usually combined with the standing grain projects listed below.

C. Purchase Standing Grain

Small acreages of standing grain were purchased in areas where feed could not be secured with hail damage projects. Typical agreements consisted of 3 to 6 acres of standing grain located within 80+ acres of stubble. The grain was left standing to provide feed in the event that heavy snows prevented birds from feeding in the stubble. To keep costs down, standing grain purchases were kept small and only used when we felt it was absolutely necessary.

D. Establish Nesting Cover

Since waterfowl prefer to nest in wet meadow vegetation in the SLV, very little effort was placed on upland nesting cover. Only three agreements involved establishing upland nesting cover.

IV. FY 93 PROJECTIONS

Funding will determine the scope of the FY 93 program. We had more landowners interested in the program than we had funds during FY92. It was certainly difficult to inform landowners owning lands with excellent wetland potential that their projects would have to be put on hold until more funds can be obtained.

We project our FY 93 program to be similar to FY 92 with hopefully greater emphasis placed on wetland restoration. We feel the current level of funding allocated to the wintering program is adequately addressing the cholera problem; therefore any increases in Partners for Wildlife funding would be allocated to wetland restoration and wetland management projects.

2. Other Economic Uses

Nothing to report.

3. Items of Interest

Nothing to report.

4. Credits

Project Leader Berlinger wrote sections A., D., E., and I..  
Supervisory Refuge Operations Specialist Brock wrote section F..  
Refuge Operations Specialist Schnaderbeck wrote sections C. and J..  
Refuge Biologist Garcia wrote section G..  
Refuge Assistant Jones wrote sections B. and H. and also typed and compiled the report.

# Birds of the Alamosa- Monte Vista

NATIONAL  
WILDLIFE  
REFUGE  
COMPLEX







Alamosa and Monte Vista National Wildlife Refuges are located in the San Luis Valley of south-central Colorado. The San Luis Valley is 50 miles wide and 100 miles long and varies in elevation from 7,500' to 7,800'. The high mountain valley is bordered on the west by the San Juan Mountains and on the east by the Sangre de Cristo Mountains, which have several peaks exceeding 14,000 feet. The high elevation and the fact that the valley is in the rain shadow of the San Juan Mountains produces a climate that is dry and cold. Annual precipitation on the valley floor averages 7 inches per year and temperatures range from -50°F in winter to 90°F in summer. Despite the arid climate, the valley receives abundant streamflow from surrounding mountains and has ample groundwater. Water from these sources is used to grow vast acreages of barley, wheat, potatoes, alfalfa, and to irrigate natural meadows for hay and pasture for large numbers of cattle, horses, and sheep. The refuges use this same water to provide excellent wetland habitat for waterfowl, shorebirds, cranes, and numerous other species. The combination of wetland habitat and grain availability make the San Luis Valley Colorado's best waterfowl producing area and the traditional stopover for the Rocky Mountain greater sandhill crane flock. Since 1975 the endangered whooping cranes have accompanied this flock.

The Alamosa National Wildlife Refuge is located 3 miles southeast of Alamosa, Colorado. The 11,168 acre refuge is composed of natural riverbottom wetland and is bordered on the west by the Rio Grande River. The refuge is dissected by numerous sloughs and oxbows of the river. The refuge provides habitat for numerous waterfowl species, primarily mallards, blue-winged and cinnamon teal and for other dabbling ducks as well as Canada geese. Numerous shore bird and wading bird species breed here such as American avocets, killdeer, common snipe, phalaropes, black-crowned night herons and snowy egrets. Raptors such as marsh hawk and Swainson's hawk breed here; and rough-legged hawks, golden and bald eagles winter here. Cottonwood and willow riparian habitat along the river provide one of

the best songbird habitats in the valley.

Monte Vista National Wildlife Refuge is located 6 miles south of Monte Vista, Colorado. The 14,189 acre refuge consists of numerous dikes and ponds which provide excellent waterfowl habitat. The refuge provides the valley's best waterfowl habitat. Populations peak during September and October when more than 35,000 ducks are present. The refuge is also a major crane resting and feeding area during fall and spring migrations. Bald and golden eagles are common during winter months and are usually found near concentrations of waterfowl which they feed on.

Both refuges provide numerous opportunities for viewing birdlife. The Monte Vista Refuge offers a 3-mile auto tour route, and several county roads cross through the refuge. The Alamosa Refuge provides a trail along the river for birders interested in walking and a bluff overlook which provides a spectacular view of the refuge.

During summer months a light jacket is often necessary during mornings and evenings. Mosquito repellent is useful. Best birding opportunities are during March-May in spring and during September-November in the fall. Numerous opportunities exist for the patient photographer and a telephoto lens is recommended.

#### EXPLANATION OF SYMBOLS:

##### Seasons:

- S — March-May
- S — June-August
- F — September-November
- W — December-February

Birds nesting on the refuge are preceded by a •.

Symbols indicating seasonal abundance of each species are as follows:

- a—abundant      certain to be seen, very numerous
- c—common      should see in suitable habitat
- u—uncommon    might see in suitable habitat
- o—occasional    seen only a few times during a season
- r—rare            seen at intervals of 2 to 5 years

##### LOONS

— Common Loon .....	o			o
— Arctic Loon .....	accidental			

##### GREBES

— • Eared Grebe .....	o	o	o	
— • Western Grebe .....	o	o		
— • Pied-billed Grebe .....	c	c	c	

S	S	F	W



	S	S	F	W
<b>PELICANS</b>				
— American White Pelican .....	r			
<b>CORMORANTS</b>				
— Double-crested Cormorant .....	r			
<b>HERONS</b>				
— Great Blue Heron .....	c	c	c	u
— Little Blue Heron .....		o		
— Green Heron .....	o	o		
— • Cattle Egret .....	o	o	o	
— Common Egret .....		r		
— • Snowy Egret .....	c	a	a	
— • Black-crowned Night Heron .....	c	a	c	r
— • American Bittern .....	u	u	u	o
— Least Bittern .....	o	o		
<b>IBISES</b>				
— • White-faced Ibis .....	c	c	c	
<b>SWANS, GEESE, DUCKS</b>				
— Tundra Swan .....	r	r		
— • Canada Goose .....	a	a	a	a
— White-fronted Goose .....	r	r	r	
— Snow/Blue Goose .....	o	o	o	
— Ross' Goose .....	r	r	r	
— • Mallard .....	a	a	a	a
— • Gadwall .....	a	a	a	
— • Pintail .....	a	c	c	c
— • Green-winged Teal .....	a	a	c	u
— • Blue-winged Teal .....	c	c	c	
— • Cinnamon Teal .....	a	a	a	
— • American Wigeon .....	c	u	u	
— • Northern Shoveler .....	c	c	u	o
— Wood Duck .....	r	r	r	r
— • Redhead .....	c	c	c	
— Ring-necked Duck .....	u	r	r	
— Canvasback .....	u	r	r	
— Greater Scaup .....	r	r		
— Lesser Scaup .....	c	r	r	
— Common Goldeneye .....	o	o	r	
— Bufflehead .....	u	o	r	
— • Ruddy Duck .....	c	c	c	r
— Hooded Merganser .....	r			
— Common Merganser .....	c		c	
— Red-breasted Merganser .....	r			
<b>VULTURES</b>				
— Turkey Vulture .....	u	c	u	
<b>HAWKS, EAGLES</b>				
— Goshawk .....		r		
— Sharp-shinned Hawk .....	o	o		
— Cooper's Hawk .....	o	o		
— • Red-tailed Hawk .....	o	c	c	u
— • Swainson's Hawk .....	o	c	c	
— Rough-legged Hawk .....	o		c	c
— Ferruginous Hawk .....	r	r	r	r
— Golden Eagle .....	u	u	u	u
— Bald Eagle .....	u		c	c
— • Northern Harrier .....	c	c	c	a
<b>OSPREY</b>				
— Osprey .....	o	r	r	
<b>FALCONS</b>				
— Prairie Falcon .....	u	u	u	u

	S	S	F	W
— Peregrine Falcon .....	r	r	r	r
— Merlin .....	r	r	r	r
— • American Kestrel .....	c	c	c	r
<b>PHEASANTS</b>				
— • Ring-necked .....	a	a	a	a
<b>CRANES</b>				
— Whooping Crane .....	u		u	
— Sandhill Crane .....	a	u	a	r
<b>RAILS</b>				
— • Virginia Rail .....	c	c	o	r
— • Sora .....	u	c	c	r
— Purple Gallinule .....				accidental
— Common Gallinule .....				accidental
— • American Coot .....	a	a	a	
<b>PLOVERS</b>				
— • Killdeer .....	a	a	u	o
— Black-bellied Plover .....	r	u	r	
— Semi-palmated Plover .....		r		
<b>SANDPIPERS</b>				
— • Common Snipe .....	c	c	c	c
— Long-billed Curlew .....	o	o	o	
— Whimbrel .....				accidental
— • Spotted Sandpiper .....	c	c	u	
— Solitary Sandpiper .....	o	o	o	
— Willet .....	o	o	o	
— Greater Yellowlegs .....	u	u	u	
— Lesser Yellowlegs .....	u	u	u	
— Pectoral Sandpiper .....	o	o	o	
— Baird's Sandpiper .....	o	o	o	
— Least Sandpiper .....	o	o	o	
— Western Sandpiper .....	u	u	u	
— Sanderling .....	o	o	o	
— Long-billed Dowitcher .....	o	u	c	
— Marbled Godwit .....	o	o	o	
<b>AVOCETS, STILTS</b>				
— • American Avocet .....	a	a	u	
— • Black-necked Stilt .....	u	u	o	
<b>PHALAROPE</b>				
— • Wilson's Phalarope .....	a	c	u	
— Northern Phalarope .....				accidental
<b>GULLS, TERNS</b>				
— Ring-billed Gull .....	u			
— Franklin's Gull .....	u	u		
— Bonaparte's Gull .....				accidental
— Forster's Tern .....	r			
— Common Tern .....	r			
— Least Tern .....	r			
— Caspian Tern .....	r			
— • Black Tern .....	u	u	u	
<b>DOVES</b>				
— Band-tailed Pigeon .....	u	u	u	
— Rock Dove .....	o	o	o	o
— • Mourning Dove .....	c	c	a	r
<b>OWLS</b>				
— Barn Owl .....		r		
— • Great Horned Owl .....	c	c	c	c
— • Burrowing Owl .....	r	o	o	
— Long-eared Owl .....		r	r	r
— • Short-eared Owl .....	c	c	c	c



	S	S	F	W
NIGHTJARS				
— Poor-will			r	
— • Common Nighthawk	u	c	c	
SWIFTS				
— White-throated Swift	r			
HUMMINGBIRDS				
— Black-chinned Hummingbird	u	u	u	
— Broad-tailed Hummingbird		o	r	
— Rufous Hummingbird		u	u	
KINGFISHERS				
— • Belted Kingfisher	u	u	u	
WOODPECKERS				
— Red-shafted Flicker	c	c	c	
— Red-headed Woodpecker		o	r	
— Lewis' Woodpecker	r			
— Hairy Woodpecker	u		u	
— Downy Woodpecker	u	u	u	
FLYCATCHERS				
— Eastern Kingbird		o	r	
— Western Kingbird	o	o	o	
— Cassin's Kingbird	o	o		
— • Say's Phoebe	u	u		
— Willow Flycatcher	o	o	r	
— • Western Wood Pewee	u	c		
— Olive-sided Flycatcher			r	
— Vermillion Flycatcher	accidental			
— Gray Flycatcher		r		
LARKS				
— • Horned Lark	c	c	c	c
SWALLOWS				
— Violet-green Swallow	o	c	u	
— • Tree Swallow	c	c	u	
— Bank Swallow	o	u	u	
— Rough-winged Swallow	o	o	o	
— • Barn Swallow	c	a	o	
— • Cliff Swallow	c	c	o	
— Purple Martin	accidental			
MAGPIES, CROWS				
— • Black-billed Magpie	c	a	a	c
— Common Raven	c	o	o	o
— Common Crow	c	o	c	u
CHICKADEES				
— Black-capped Chickadee		u	u	u
— Mountain Chickadee	o	r	o	o
NUTHATCHES				
— White-breasted Nuthatch	o	r	o	
WRENS				
— • House Wren	u	u	u	
— • Long-billed Marsh Wren	c	c	o	r
— Short-billed Marsh Wren	accidental			
— Rock Wren	r			
THRASHERS				
— Mockingbird	o	o	r	
— • Sage Thrasher	c	c	u	
THRUSHES				
— • American Robin	o	c	r	
— Swainson's Thrush	r			
— Mountain Bluebird	c	r	o	
— Western Bluebird	r			

	S	S	F	W
<b>KINGLETS</b>				
— Ruby-crowned Kinglet .....	r	r	r	
— Golden-crowned Kinglet .....	r	r	r	
<b>PIPITS</b>				
— Water Pipit .....	r			
<b>SHRIKES</b>				
— • Loggerhead Shrike .....	o	o	o	r
<b>STARLINGS</b>				
— • Starling .....	c	u	o	c
<b>VIREOS</b>				
— Warbling Vireo .....	r			
<b>WARBLERS</b>				
— Yellow Warbler .....	u	u	o	
— • Yellow-rumped Warbler .....	c	c	o	
— Townsend's Warbler .....			r	
— Northern Waterthrush .....	o			
— MacGillivray's Warbler .....	accidental			
— • Common Yellowthroat .....	c	c	u	
— Wilson's Warbler .....	u		u	
<b>WEAVER FINCHES</b>				
— • House Sparrow .....	c	c	c	c
<b>BLACKBIRDS, ORIOLES</b>				
— Bobolink .....	o		r	
— • Western Meadowlark .....	c	c	c	r
— • Yellow-headed Blackbird .....	c	a	c	r
— • Red-winged Blackbird .....	c	a	c	r
— • Bullock's Oriole .....	o	o	o	
— • Brewer's Blackbird .....	c	c	c	
— Great-tailed Grackle .....	o	o		
— • Brown-headed Cowbird .....	c	c	c	
<b>TANAGERS</b>				
— Western Tanager .....		o	o	
<b>FINCHES</b>				
— Black-headed Grosbeak .....	o	o		
— Blue Grosbeak .....	o	o		
— Pine Siskin .....	o	c	c	
— Cassin's Finch .....	u	u	u	u
— • House Finch .....	c	c	c	o
— • American Goldfinch .....	a	a	c	
— Lesser Goldfinch .....	u	u		
— Green-tailed Towhee .....		o		
— Rufous-sided Towhee .....		r		
— Lark Bunting .....	o			
— Indigo Bunting .....		o		
— • Savannah Sparrow .....	c	c	c	
— • Vesper Sparrow .....	c	c	u	r
— Chipping Sparrow .....	u	u		
— Sage Sparrow .....	r	r		
— Lark Sparrow .....	o	o	o	
— Cassin's Sparrow .....		r		
— • Tree Sparrow .....	r		c	c
— • Brewer's Sparrow .....		o	u	o
— • White-crowned Sparrow .....	c	u	c	o
— Swamp Sparrow .....	accidental			
— • Song Sparrow .....	c	c	c	c
— Lapland Longspur .....	r			
— Dark-eyed Junco .....	o		c	c
— Black-throated Sparrow .....		o		
— Grasshopper Sparrow .....		r		
— Gray-crowned rosy finch .....				r



As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

- ☐ When in doubt as to any refuge regulation, contact a refuge officer.
- ☐ Where to write for current regulations and information:

**Refuge Manager**  
**Alamosa-Monte Vista National**  
**Wildlife Refuge**  
9383 El Rancho Lane  
Alamosa, Colorado 81101  
or call (719) 589-4021

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



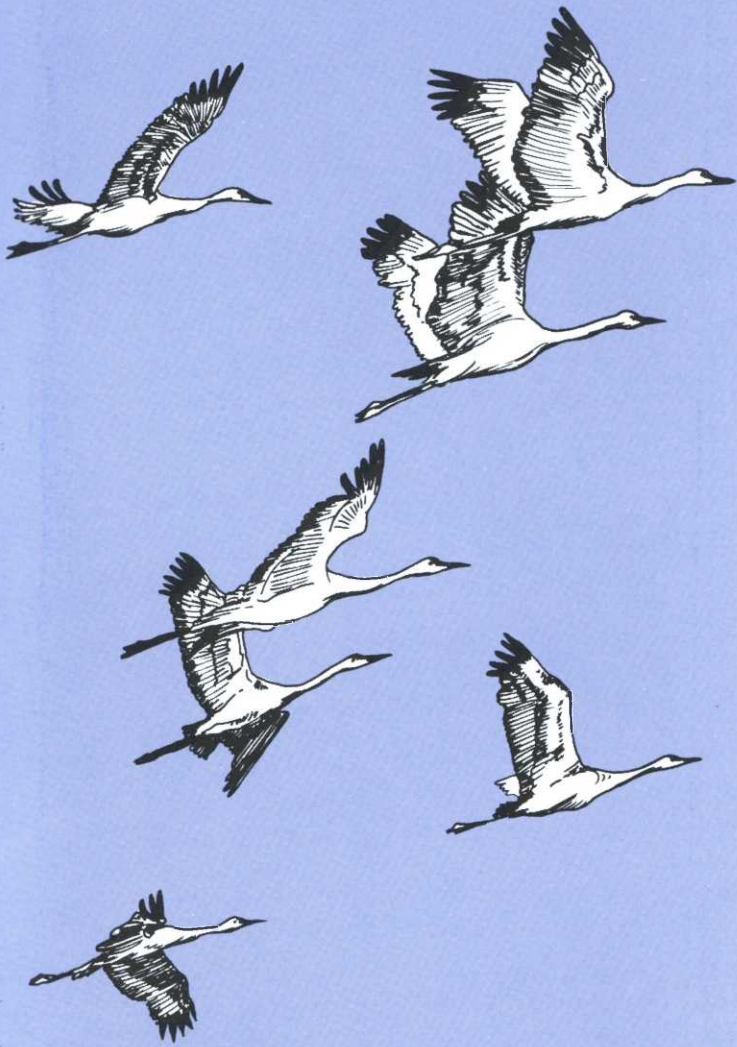
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**ALAMOSA –  
MONTE VISTA**  
NATIONAL WILDLIFE REFUGES





*Melting snow feeds the Rio Grande River and replenishes Valley water resources each year.*

PHOTO BY FRANK BRYCE, FWS.

## VALLEY SANCTUARY

Long a sanctuary for man and wildlife, the San Luis Valley was once Ute territory. These "Blue Sky People", as the Utes were called by other Indian peoples, shared an abundance of elk, deer, antelope, small game, and waterfowl with occasional Comanche raiding parties.

In 1694 an early Spanish explorer, Diego de Vargas, recorded the first Europeans in the San Luis Valley. While the Valley was still Spanish Territory, Lieutenant Zebulon Pike's winter trip traveled through the Valley and probably passed through the present refuges. At the conclusion of the Mexican War in 1848, the Valley became American Territory. The development of mines, ranches, farms, and railroads soon led to the establishment of small communities throughout the Valley and surrounding mountains.

As large numbers of people came into the Valley, wildlife declined. Realizing the urgent need for a place for wildlife in the Valley, particularly waterfowl, the Migratory Bird Conservation Commission created Monte Vista National Wildlife Refuge in 1953. Alamosa National Wildlife Refuge was established in 1962, also for migratory birds and other wildlife.

In 1979, these two Refuges were combined administratively into the Alamosa-Monte Vista National Wildlife Refuge Complex. The Refuges are administered by the U.S. Fish and Wildlife Service as part of the National Wildlife Refuge System.

The major focus of the Refuges is wetland and water management to provide food, cover, and production habitat for migratory birds and other wildlife. Farming, grazing, and other programs are also used to ensure a healthy wildlife and wildland resource.

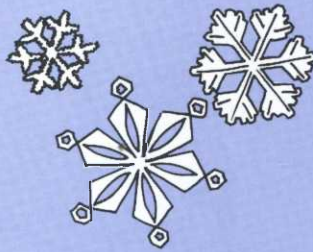
*Mallard brood.*

PHOTO FWS.





## VITAL ELEMENT



Water is the lifeblood of the San Luis Valley and the Wildlife Refuges. On the desert floor of the Valley total precipitation averages only seven inches annually, but snowpack in the Sangre de Cristo Range to the east and the San Juan Mountains to the west rescues the valley. Each spring melting snow feeds the Rio Grande River and Valley streams and replenishes the underground water tapped through artesian and pumped wells. A "ditch boom" in the 1880's sent irrigation canals fanning out through the Valley and making it agriculturally productive. Many of these canals still provide water to the Refuges and other parts of the Valley.

In a unique phenomenon, deserts and wetlands exist in the Valley side by side, each with its own plant and animal community. When water is in short supply, as in a drought, migratory birds must pass by the Refuges in search of wetter areas. Locally nesting birds may fail to nest, and other wildlife may decline.

The Alamosa-Monte Vista Refuges conserve and build upon this environment, managing wetland habitat and providing food and cover for thousands of water birds and a variety of Valley wildlife.

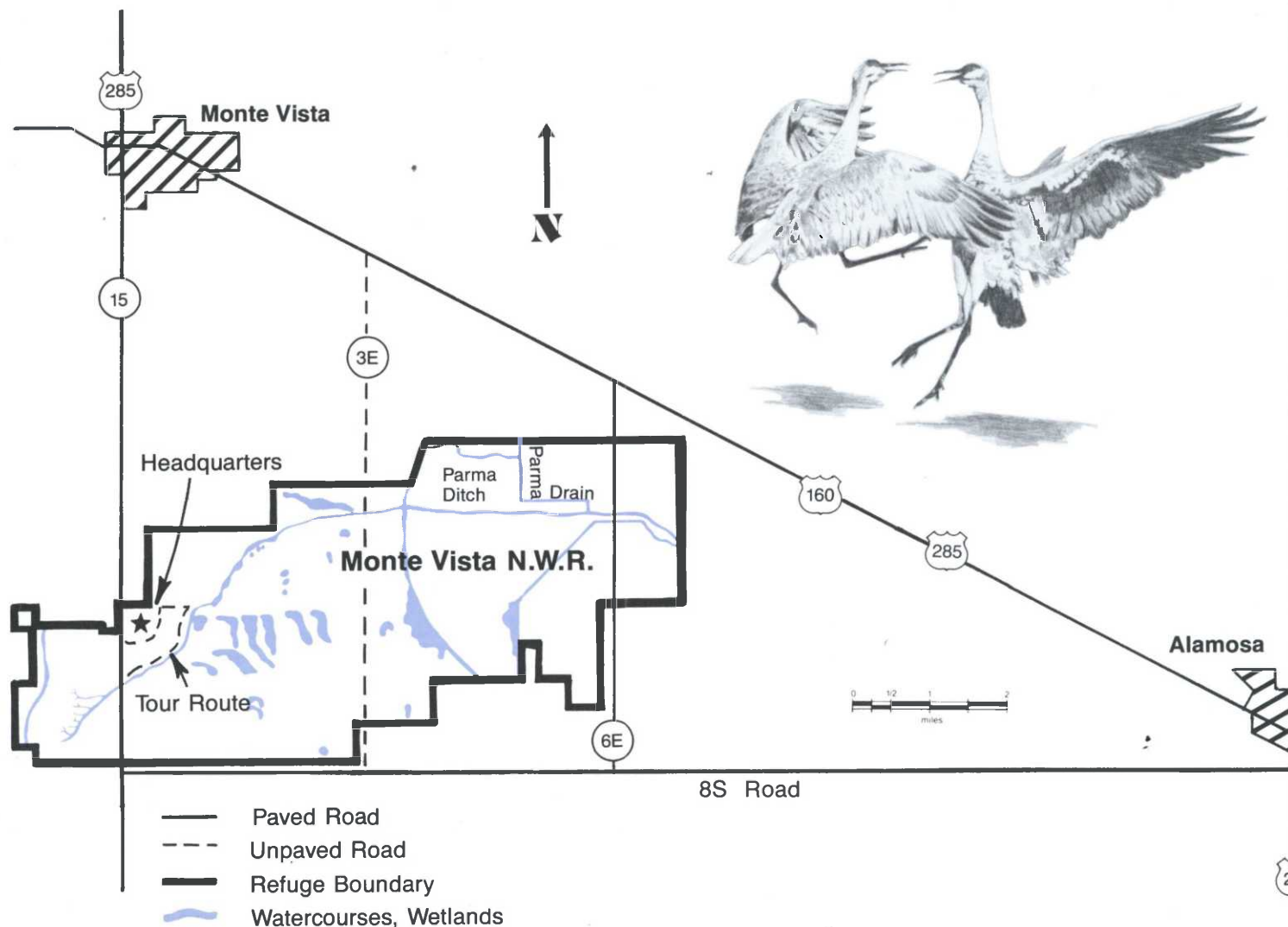
## WETLANDS—NATURAL AND MANMADE

Alamosa National Wildlife Refuge includes 11,169 acres of highly varied wetlands located primarily within the Rio Grande flood plain. The natural wet meadows, river oxbows, and riparian corridors sustain a rich wildlife diversity. While not favoring an abundance of any one species, these wetlands support songbirds, water birds, raptors, deer, beaver, and coyotes. This unspoiled riverine wilderness is Alamosa's legacy for the future.

The artificially created wetlands of Monte Vista National Wildlife Refuge's 14,189 acres are intensively managed to provide additional habitat for a wide variety of waterfowl and other water birds. Mallards, pintail, teal, and Canada geese are common, as are avocets, killdeer, ibis, egrets, and herons. Irrigation canals and wells provide precious water to maintain important wetland habitat.

## SAN LUIS VALLEY WILDLIFE SEASONS

Both spring and fall, thousands of sandhill cranes migrate to the Valley. A few rare whooping cranes accompany their sandhill crane foster parents during these spectacular migrations. During the spring, summer, and fall, ducks, geese, avocets, ibis, and herons abound. Winter, with its "ice-box" conditions, is the time for eagles, hawks, and owls. Deer and elk move during the winter from the high country to the foothills of the Valley for their winter food supply.



## VISITOR OPPORTUNITIES

At Alamosa Refuge, the Bluff Overlook is open to the public and offers excellent wildlife and wildlands viewing. A hiking trail along the Rio Grande River is available for more energetic visitors.

A single headquarters for both Refuges, located at Alamosa Refuge, provides information and exhibits. Alamosa Refuge is located 4 miles east of the town of Alamosa on Highway 160 and 2 miles south on El Rancho Lane.

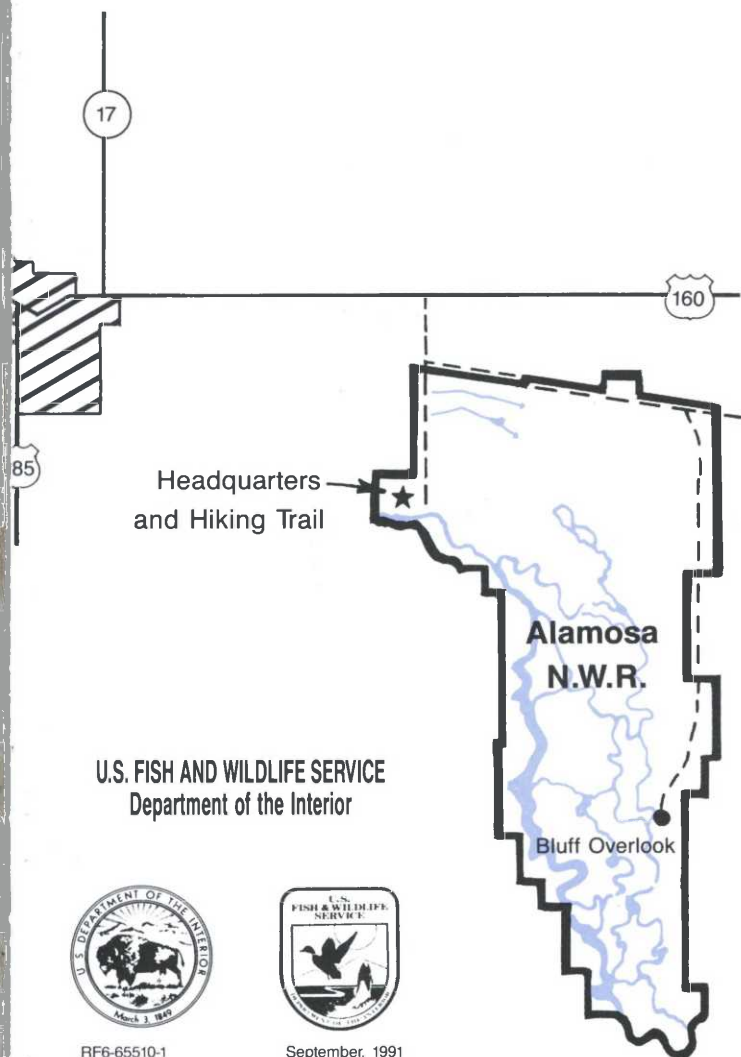
Monte Vista NWR is accessible on all-weather roads year-round. Within the Refuge is a self-guided auto tour route as well as county roads offering fascinating wildlife viewing. A volunteer-staffed visitor contact station is located at Monte Vista Refuge, 6 miles south of the town of Monte Vista on Highway 15.

Hunting waterfowl and small game is permitted on a portion of each Refuge. Special regulations and specific areas open to hunting are applicable.

Motels and restaurants are easily found in both the towns of Alamosa and Monte Vista. Commercial campgrounds are also in the area.

For further information phone  
(719) 589-4021 or write:

Refuge Manager  
Alamosa-Monte Vista National  
Wildlife Refuges  
9383 El Rancho Lane  
Alamosa, CO 81101



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