

1934

PROGRESS OF DEMONSTRATION AREAS

WR 2778

CHILCHINBITO DEMONSTRATION AREA

Location and Size

The Chilchinbito Demonstration Area is located 24 miles southeast of Kayenta, Arizona. It contains 16,586 acres. The area can be classified as to land use as follows:

Waste		Cultivated		Wood Products and Grazing		Grazing		Total Acreage
Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	
1881.4	11.3	0	0	5386.0	32.5	9318.1	56.2	16,586

History

An agreement between the Soil Conservation Service and the Indians concerned, setting the area aside, was signed July 13, 1934. Fencing was completed late that year and stock was excluded. Stock was excluded until July, 1937, when an effort was made to turn the area into a community ram pasture. However, to date only 131 rams have been placed in the area. The net carrying capacity is placed at 569 sheep yearlong.

Engineering structures for the area were completed in April, 1936. These structures were of various types and were planned to keep the water and silt out of the main washes by dealing with the tributaries which were most easily controlled because of their small size. A total of 50 acres was planted - using some 16,700 plants. Rodents were controlled during 1934 and 1935 on 1,500 acres.

Results

Vegetative recovery has been quite noticeable and as a result, erosion has been decreased. Black grama in the northeast portion of the area is now prominent, whereas, it was negligible at the time the range survey was made in 1935.

The difference in the amount of wind erosion within the area and outside the area is noticeable. In the northeast part, the sandhill types have developed an increased vegetative cover and as a

WR 2779

consequence wind action is slight. However, outside of the area, in the same type of soil, wind action is severe due to the absence of vegetation.

Many of the small structures have retained silt and vegetation has been established. Other than during intense storms, no runoff enters the main wash from the treated areas. Diversion of runoff from waterways has augmented the normal wetting from precipitation, helping the ground cover as well as keeping large quantities of runoff and silt out of lower drainages.

The wool clip for the area has averaged 14 pounds for 80 tribal bucks and 9.1 pounds for 45 individually owned bucks.

WR 2780

COVE DEMONSTRATION AREA

Size and Location

This area of 29,376 surface acres is located about 30 miles (airline) from Shiprock, New Mexico.

History

The agreement for setting aside the area was signed August 7, 1934.

An intensive grazing survey was made September 7 to September 15, 1934.

Fencing was completed by September 1934 and all range livestock was removed at that time. For the ensuing 26 months, the area was given total protection from grazing. During the period December 16 to December 18, 1936, the area was restocked with 402 ewes, 16 rams, and 2 horses. Some difficulty has been experienced in keeping the area stocked.

Results

Vegetative recovery has been very satisfactory, considering the poor condition of the area at the time it was placed under control.

Death loss in ewes has amounted to approximately one per cent.

YEAR	MATURE EWES	LAMB CROP			WOOL CLIP
		NO.	%	AV. WT.	AV. INDIVIDUAL WEIGHT
1937	364	328	90	64 lbs.	Ewes - 6.68 lbs. Bucks - 15 lbs.
1938	276	210	76*	64.5 lbs.	Ewes - 8.1 lbs. Bucks - 15 lbs.

*This percent lamb crop is based on the entire herd. From the 106 ewes bred on the area, 113 lambs were raised, with a 106% lamb crop with a 64 lb. average weight per lamb.

WR 2781

FRAZER DEMONSTRATION AREA

Location and Size

This area of 5,627 acres lies twelve miles northwest of Chin Lee, Arizona.

History

The area was completely fenced July 19, 1934. All stock were excluded on July 20, 1934. Because of the serious erosion condition one year's rest was allowed before putting stock back into the area.

Engineering plans were made in 1934. The range survey and management plan was made in July, 1935. The carrying capacity was determined to be 182 sheep units year long.

The engineering plans called for various structures treating 3,673 acres. Plantings were made in stream channels to aid stabilization to the extent of 70 acres and 56,000 plants.

To fit in with the range program for the Navajo Reservation, the range plans called for use of the area as a ram pasture. This was to overcome (1) uncontrolled breeding season - resulting in uneven aged lambs and birth of winter lambs; and (2) poorly conditioned rams for breeding.

The area was stocked between September 1, and October 12, 1935, with 168 rams. The rams were taken out of the area about December 1 each year. This was believed to be the date best adapted to the range. That is, lambs would then be born when green food was available for the production of milk.

At the present time 202 rams are on the area, which is properly stocked if the rams are to be taken out of the area during the months of December and January.

Results

Although successive dry years have not made the area outstanding as to visible improvement, it has actually made improvement, and a marked contrast to the surrounding country was noted last year.

WR 2782

FRAZER DEMONSTRATION AREA

Location and Size

This area of 5,627 acres lies twelve miles northwest of Chin Lee, Arizona.

History

The area was completely fenced July 19, 1934. All stock were excluded on July 20, 1934. Because of the serious erosion condition one year's rest was allowed before putting stock back into the area.

Engineering plans were made in 1934. The range survey and management plan was made in July, 1935. The carrying capacity was determined to be 132 sheep units year long.

The engineering plans called for various structures treating 3,673 acres. Plantings were made in stream channels to aid stabilization to the extent of 70 acres and 56,000 plants.

To fit in with the range program for the Navajo Reservation, the range plans called for use of the area as a ram pasture. This was to overcome (1) uncontrolled breeding season - resulting in uneven aged lambs and birth of winter lambs; and (2) poorly conditioned rams for breeding.

The area was stocked between September 1, and October 12, 1935, with 163 rams. The rams were taken out of the area about December 1 each year. This was believed to be the date best adapted to the range. That is, lambs would then be born when green food was available for the production of milk.

At the present time 202 rams are on the area, which is properly stocked if the rams are to be taken out of the area during the months of December and January.

Results

Although successive dry years have not made the area outstanding as to visible improvement, it has actually made improvement, and a marked contrast to the surrounding country was noted last year.

WR 2782

The area used as a community ram pasture gives administration a chance to control the breeding season on a large number of ewes, and also to be in a position to cull or improve breeding sires.

Land use is entirely for grazing as there is no agricultural land or woodland. There is, however, approximately 1,000 acres waste land.

Wool Clip

	1936		1937		1938	
	No. Head	Avg. Clip	No. Head	Avg. Clip	No. Head	Avg. Clip
Bucks (Tribal)					54	12.7
Bucks (Ind'an)	152	12.7	133	10	146	9.9

WR 2783

GANADO DEMONSTRATION AREA

Size and Location

The Ganado Area lies just north and adjacent to the community of Ganado, Arizona, and the unit comprises a small watershed of 7,800 acres.

Land Use

The land use of the area can be broken down as follows:

Waste		Cultivated		Grazing and Wood Products		Grazing		Total
Acres	Per cent	Acres	Per cent	Acres	Per cent	Acres	Per cent	Acreage
501	6.4	263	3.3	2,814	36.1	4,222	54.2	7,800

History

An agreement was signed April 3, 1934, setting the area aside and giving the Soil Conservation Service complete control. It was fenced by June 18, 1934, and all stock excluded excepting a few kept on cultivated land or fenced pastures.

June 24, 1934, engineering plans were made and work was started on structures of various types for erosion control.

Stock was placed in the area in the fall of 1935 to the extent of 397 ewes, 107 lambs, and 3 horses. The carrying capacity was estimated at 412 sheep yearlong. The lambs were removed October 15. Twelve rams were placed in the Unit November 10 and the breeding period was from December 10 until January 16, 1936. Three hundred and sixty-six lambs were docked, or a lamb crop of 93% was produced. These lambs weighed an average of 68 pounds at shipping time in October, which was considerably more than lambs on the outside. The wool clip likewise was more, averaging 8.17 pounds, as against an average of about 4 pounds on the outside. These sheep belong to twelve Indians who live in the immediate vicinity.

In 1937 the lamb crop was 98% and the wool clip was 6.84 pounds average per ewe. The weight of lambs was 72 pounds average at selling time, which was held October 16.

In 1938 the lamb crop was 87% and the wool clip was 8.9 pounds average per ewe. The weight of lambs was 76.5 pounds average at selling time.

WR 2784

Twelve head of the Montana imported smooth-type Rambouillet rams of excellent quality were used in the area for the past two breeding seasons.

Results

Vegetative recovery has been satisfactory. This is especially true with grass species, browse being slower as was expected. The erosion has decreased proportionately with vegetative increase.

The results with the community breeding herd of 397 ewes has been most gratifying and if present trends continue will help to prove to the Indians the economical advisability of proper range management.

Stocking Records at Ganade

Year	Mature Ewes	No.	Lamb Crop %	Avg. Wt.*	Wool Clip Avg. Individual Weight
1934	Area fenced by June 18, 1934				
1935	397				
1936	397	366	93	67.25	8.17**
1937	397	390	98	73.1	6.84
1935	384	335	87	76.5	8.95

* Weight at date of sale.

** The wool clip from 1936 was over a thirteen months period and was very dirty. The 1937 clip was clean and extended only over a twelve months period.

WR 2785

KAYENTA DEMONSTRATION AREA

Size and Location

This area of 38,223 acres lies against the east rim of Skeleton Mesa about three miles west of Kayenta, Arizona, in Land Management Unit No. 8.

History

An agreement was signed December 4, 1934, between the Indians and The Soil Conservation Service setting this area aside for demonstration purposes. This agreement gave the Soil Conservation Service complete control of the area.

The fencing of the area was completed about February 15, 1935, and stock excluded by March 3, 1935. An engineering plan was made showing contemplated mechanical control in February, 1935.

The intensive range survey was completed in July, 1935. Due to the severe depletion of the vegetation and the condition of the area it was decided not to stock the area at once. The carrying capacity, according to the survey, was 1,048 sheep units yearlong.

When the decision to restock was made in the fall of 1936 some difficulty was encountered in getting stock into the area. About 500 head of stock were placed in the area between October and March. This stock was received too late for breeding and consisted of about 23 yearlings, 466 ewes, and 20 rams. Most of the stock was sheared before entering; however, 76 head, belonging to Lee Bradley, averaged 3.9 pounds of wool per head. The next year the sheep owned by Mr. Bradley, with more added, making a total of 118 head, averaged 5.82 pounds per head, showing an increase of 1.82 pounds per head.

Although some owners withdrew their stock from the area and others brought stock in, the fall of 1936 resulted in 317 head of ewes being bred. These ewes produced a 96 per cent lamb crop in 1937, at time of docking. The total lamb crop for the Reservation, taken from the 1937 dipping records, was 64.3 per cent.

When the old herder was discharged quite a number of head of ewes were withdrawn from the area. A range rider was established on this area on March 5, 1938 to handle such duties as are necessary.

Several head of the Montana Imported, smooth-type Rambouillet rams of excellent quality were bought by the Indian owners within the area.

Rams used in this area are grazed in the Chiloahinbito Area when not in use.

WR 2786

Many erosion control structures were put in, including diversion dams and spreader dykes, check dams, etc. The largest proportion of these structures are working as planned, and have held back silt and spread it over range land where it is more desirable than in the stream channels below. Plantings were also made.

An addition to the area was made and the fence completed in December, 1936. This addition was made to control severe wind erosion resulting from a badly depleted ground cover which was filling an important irrigation canal with sand, rendering it useless. The addition consisted of approximately 1,300 acres.

Results

The area in the three years it has been fenced has shown marked improvement. Over half of the water and silt formerly contributed to the Laguna has been stopped. Some of our most successful plantings are on the denuded areas. Despite drought that killed many plants, vegetation has come back in vigor and numbers so as to be visually apparent.

The present stock trends are most gratifying and, if the continue, will prove proper stocking economical. The 317 ewes bred in the area during the 1936-37 breeding period produced 308 lambs, two of which died. The weights of these lambs in the fall of 1937 averaged 57.5 pounds.

The average wool clip was: Ewes, 5.72 pounds; Rams, 22.75 pounds. This clip, when compared with that of 76 head of sheep admitted one month before the 1936 shearing, shows a gain of 1.82 pounds per ewe under proper management.

Year	Mature Ewes	Lamb Crop			Wool Clip	
		No.	%	Avg. Wt.	Average Individual Weight	
1937	320	308	97	57.5	Ewes, 5.72 lbs; Rams, 22.75 lbs.	
1938	317	292	92	59.2	Ewes, 6.1 lbs; Rams, 14 lbs.	

Land Use

Land use in acres can be classified as follows:

Cultivated		Waste		Wood Products and Grazing		Grazing		Total Acreage
Acres	Per cent	Acres	Per cent	Acres	Per cent	Acres	Per cent	
1	.1	9,127	24.7	16,684	43.7	12,069	31.5	38,223

WR 2787

MARIANO LAKE DEMONSTRATION AREA

Size and Location

This area of 7,005 Surface Acres is located about 25 miles northeast of Gallup. It is not within the present Reservation.

History

The agreement between the Indians and the Soil Conservation Service providing for setting aside the area for demonstration purposes was signed May, 1934.

The fencing was completed July, 1934, and all stock were excluded from the area.

An intensive grazing survey was made during the summer of 1934 and a management plan for sheep was made in 1935. When steps were taken to restock the area it was found that the Indians were unwilling to place their sheep under Soil Conservation Service control. It was then decided to place cattle in the area and on January 14, 1936, 75 cows and 3 bulls were placed on the area.

A re-survey was felt to be necessary, which was made in April and May, 1936 and the carrying capacity was found to be 164 head of cattle yearlong, or 491 rams yearlong.

Due to management problem involved in the handling of cattle on an unfenced range, the policy would be not to encourage cattle on the Reservation. On August 22, 1936 these cattle were then moved to the Ute Indian Reservation. From that time until April 1, 1937 this area was unused, when at that time it was badly needed as a buck pasture. However, efforts to stock it with bucks have so far met with little success. At present there being 257 rams. Also there are 15 head of reimbursable cattle from Mexican Springs to be held in the area until sold.

Results

The area in itself speaks well for itself as to the vegetation recovery.

An interesting point in connection with the revegetation of the area is the account of a heavy rain in July, 1936. In less than two hours a rain amounting to 1.68 inches fell on the east side of the area. The run-off was not excessively heavy, in spite of the heavy rainfall, and no water left the area, due to the amount of vegetation and the erosion control structures which have been the result of the Soil Conservation program.

WR 2788

MOENAVE DEMONSTRATION AREA

Size and Location

The Moenave demonstration area is located just west of Tuba City and consists of some 10,000 acres - 107 acres being agricultural land with the possibility of expansion to include 36 additional acres.

History

An agreement with the Indians was signed on January 4, 1935, which set aside this area. Soil Conservation Service operations were started in February, 1935, within the area.

The farmed land was on excessive sloped in soil that was easily eroded. It was badly cut by gullies that were continually eroding laterally into the farmlands and carrying away the soil. These gullies were caused principally by water from several springs, running uncontrolled down the slopes. The flow from the springs was gathered into a common ditch which was lined to prevent cutting and conveyed the entire flow into constructed reservoirs. The Indians now irrigate by using conveyance ditches laid out on a grade that will not cause further soil losses and damage to their farm lands.

Mechanical structures were also constructed on the mesa above the farm lands. These structures stopped run-off from the badly denuded range from flowing over the escarpment and damaging the farm lands; and they spread the water out, holding it where it was needed to encourage the growth of a protective vegetative cover.

The range land which comprised most of this watershed was so nearly denuded that the range management plan called for total exclusion of stock in an effort to bring back vegetation.

Fifty-three families are interested in this development, and the farm products derived from these farms, supplemented by livestock, in a large measure provide their subsistence.

Results

Excessive soil losses were stopped on farm lands in a vicinity with a limited amount of arable land. Control of the flow, which was previously not only wasted but allowed to do serious damage, was effected by storage which made more water available for use in farming.

The land has been prepared to allow for proper use of the stored water without cutting or loss of soil. An increased and sustained yield from the limited acreage is assured.

The range land on the mesa where run-off has been spread and held on the ground long enough to be absorbed has made a visible recovery as to density and vigor. The range is gradually coming back.

WR 2789

STEAMBOAT DEMONSTRATION AREA

Size and Location

The Steamboat Demonstration Area enclosing almost a complete watershed consists of 24,526 acres. The area lies 20 miles west of Ganado, Arizona, and 25 miles west of Keams Canyon in Land Management Unit No. 17.

History

An agreement was signed April 25, 1935, between the Soil Conservation Service and the Indians concerned. The agreement gives the Soil Conservation Service complete control over the watershed enclosed.

The fencing of the area was completed in November, 1935. Stock was not removed, however, due to lack of water outside until August 15, 1936, and overgrazing was severe up to that date.

Engineering plans for mechanical control of the Unit were completed in October, 1935. Mechanical control work was finished in July, 1937. An intensive range survey was made in July and August of 1935. The carrying capacity as a result of the range survey was estimated at 942 sheep units yearlong plus 38 head additional grazed inside of small pastures within the area.

Due to the over-used condition 445 ewes, 12 rams, and 3 horses were allowed in the area in November, 1936, or about half the carrying capacity. This area now has 935 head of ewes. Several head of the imported Montana smooth-type Rambouillet rams of excellent quality are being purchased by the Indians for use in this Demonstration Area.

Results

The mechanical work in the area is working as planned and so far in 1937 no water or silt has left the area.

The vegetation has shown a remarkable "comeback". The vegetation has shown improvement in vigor, volume, and has increased in density and number of individual plants.

The stock on the area is in fine condition and first year trends show proper stocking to be economical.

Year	Mature Ewes	Lamb Crop			Wool Clip	
		No.	%	Avg. Wt.	Avg. Individual Weight	
1937	435	392	90	66	Ewes, 6.1 lbs. Bucks, 15.9 lbs.	
1938	900	809	111	66	Ewes, 6.6 lbs. Bucks, 15 lbs.	

WR 2790

The acreage can be classified by land use as follows:

Waste		Cultivated		Wood Products and Grazing		Grazing		Total
Acres	Per cent	Acres	Per cent	Acres	Per cent	Acres	Per cent	Acreage
1495.1	6.0	99	0.4	8082.3	33.0	11849.5	60.6	21,526

WR 2791