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An Economic Evaluation of the Investments Made as Part of the Pleasant View Allotment Management Plan

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AN ECONOMIC EVALUATION OF THE INVESTMENTS MADE
AS PART OF THE PLEASANT VIEW
ALLOTMENT MANAGEMENT PLAN
by
E. Bruce Godfrey
The Pleasant View Allotment is briefly described in the allotment management plan for the area. (For greater details, contact the Burley District Office, BLM.)

I. Allotment Information

A. Location: The Pleasant View Allotment is located approximately 10 miles west of Malad City, Idaho. It is roughly bounded by the Little Malad River on the east, Pocatello Valley on the south, State Highway 38 on the west, and the Oneida County line on the north.

B. Land form and description: The allotment encompasses one mountain range, known locally as the West Hills or Pleasant View Mountain. The main ridgeline runs north and south, with ten large canyons and a number of smaller ones lying mostly east and west. Elevation ranges from 4800 to 5000 feet at the lowest peak to 7410 feet at the highest peak.

Precipitation averages 17" yearly, mostly falling in winter and early spring.

C. Acreage:

<table>
<thead>
<tr>
<th>Status</th>
<th>Acreage</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Domain</td>
<td>59,946</td>
<td>84.8%</td>
</tr>
<tr>
<td>State</td>
<td>3,200</td>
<td>4.5%</td>
</tr>
<tr>
<td>Private</td>
<td>7,534</td>
<td>10.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>70,680</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

D. Adjudication and Qualifications: Adjudication was completed in 1966; licensing is based on 90% Federal Range. Maximum base property qualifications were recognized, conditional on the acceptance of the Rest-Rotation Grazing System.

- Class I qualifications are 4844 AU's and 18,154 AUM's.
- Exchange of Use agreements total an additional 369 AU's and 1475 AUM's. Average use is 4280 AU's and 15,400 AUM's.

E. Number of Users and Size of Privilege: There are 82 users within the Allotment, all belonging to the Pleasant View Livestock Association. For a detailed breakdown of the privileges, see Unit Adjudication Summary. A breakdown of herd size follows:

<table>
<thead>
<tr>
<th>Herd size</th>
<th>Number of Users</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>304</td>
<td>1</td>
<td>1.2%</td>
</tr>
<tr>
<td>201-300</td>
<td>4</td>
<td>4.9%</td>
</tr>
<tr>
<td>101-200</td>
<td>10</td>
<td>12.2%</td>
</tr>
<tr>
<td>51-100</td>
<td>19</td>
<td>23.2%</td>
</tr>
</tbody>
</table>
The average herd size is 58 head.

F. User Cooperation: Cooperation with the Pleasant View Livestock Association has been good. Continued cooperation is essential if this system is to function properly.

II. Resource Data

A. Vegetative Type and Conditions: The bulk of the native vegetation is big sagebrush (Artr), with an understory of cheatgrass (Brte), bluebunch wheatgrass (Agsp), Nevada bluegrass (Pone) and other associated species, along with forbs such as mule's ear dock (Wyam), Mullen (Veth), and arrowleaf balsam root (Basa). Also scattered through the unit are serviceberry (Amfl), chokeberry (Prvi), bitterbrush (putr) and snowberry (Sym). On the higher elevations and wetter sites, Douglas fir (Psme) and quaking aspen (Potr) stands are found. The present condition of all types is fair.

The major range types and their percentage of the total compositions are as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sagebrush-grass-forbs</td>
<td>66%</td>
</tr>
<tr>
<td>Serviceberry, Rocky Mountain maple</td>
<td></td>
</tr>
<tr>
<td>snowberry-grass-forbs</td>
<td>16%</td>
</tr>
<tr>
<td>Quaking aspen-grass-forbs</td>
<td>8%</td>
</tr>
<tr>
<td>Douglas fir-grass-forbs</td>
<td>4%</td>
</tr>
<tr>
<td>Juniper-grass-forbs</td>
<td>2%</td>
</tr>
<tr>
<td>Bluebunch wheatgrass-cheatgrass-forbs</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

B. Trend: Past District trend studies indicate that for many years there has been a downward trend in the vegetation. Since the initiation of the Rest-Rotation Grazing System. However, some of the overgrazed areas appear to be recovering. Further research with the trend plots established in 1965 will be needed to confirm this.

C. Soil Types: The soils within the allotment are of a granitic and limestone origin and are moderately erosive, resulting in a shallow soil mantle on the hillsides and ridges and fairly deep soils in the canyon bottoms and basins.

D. Watershed Conditions: The condition of the watershed encompassed by this allotment is linked closely with the vegetative conditions. In this case the watershed is in fair condition.

The major management problem that has historically existed in the area was briefly explained by Nick Cazakos, district manager
for the Bureau of Land Management (BLM), in a memorandum to the state director dated 2 February 1973.

History

"Historically, the Pleasant View Allotment has had a critical water shortage due to a geological formation of fracture limestone which tilts to the West. As a result over 90% of the usable water is on the west side of the main ridge. However, only about 30% of the land area is on that side, leaving some 49,000 acres of high mountain range virtually without water.

As early as 1949, the Bureau was preparing development plans to alleviate the water shortage and rehabilitate the Pleasant View Range. This is evidenced by the Pleasant View Soil and Moisture Project Area, G-10-2-5, dated 8-9-1949. This plan called for some $100,000.00 of water development and rehabilitation work in the Pleasant View Allotment. Little, if any, of this work was done.

In 1958, the first attempt was made to lift water from the west side of the mountain range to the east side. This water system lifted about 17 gal/min some 700 feet and supplied some water to three canyons on the east side. This project was a cooperative effort with the Pleasant View Association and the BLM. This system was used until replaced by Sheep Creek Water System in 1971. Prior to 1958, the primary water source on the east side was the Little Malad River which runs parallel to the Allotment approximately two to three miles away. Access to the River was provided by a series of water lanes, and the cattle trailed down these lanes to water.

In 1962, a range survey was made in the Pleasant View Allotment. This survey again pointed out the problems in the Pleasant View Allotment caused by topography and a shortage of water resulting in poor distribution of livestock. The survey called for 58% downward adjustment.

The Burley District was faced with an almost impossible task of adjudication of the Malad area with downward adjustments ranging from 80% to 57% and involving 148 individual cases in a county that was already below the national poverty level. In 1965, Jack Wilson, district manager, prepared a staff report providing alternatives to resolve the Malad adjudication which was forwarded to the director for his advice. Director Stoddard made his recommendation on which proposal to follow and indicated that funds would be made available from the Washington office for this work.

Later that same year, Mr. A.L. Hormay was asked to study the Pleasant View Allotment. After his visit to the Allotment, he recommended a six-pasture Rest-Rotation Grazing System. He also pointed out that this type of management system would require considerable investment. He also said that no reduction would be needed if adequate water was provided. It was felt that a Rest-Rotation Grazing System on the Pleasant View Unit had considerable merit. Mr. Wilson prepared an initial cost estimate which was in excess of $200,000 to implement
the grazing system. He also invited other range experts to study the Pleasant View range. In September of 1965, Glen Fulcher, Chief, Division of Range, Washington Office, Bill Luscher, Washington Range Staff, and Kay Wilkes, Chief, Range Staff, Portland Service Center, inspected the Pleasant View Allotment.

On October 7, 1965, the Pleasant View Livestock Association and the Bureau entered into an agreement whereby no downward adjustment would be imposed and the Association would follow the management plan as outlined by Mr. Hormay.

Funds were made available from the Washington office to start the fencing program and the Burley office faced its first crash program in late fall and winter in the Pleasant View hills. Enough of the fence was completed that fall to allow the grazing system to start in the spring of 1966. The fence, approximately 48 miles, was completed that summer. In addition to the fencing completed in 1966, 403 acres were seeded in Wood Canyon.

The Pleasant View Grazing Association agreed to haul water until the water system for the Allotment could be developed."

Costs Incurred

As a result of the above agreement, the BLM spent approximately 412 thousand dollars on various range improvements (e.g. pipelines, wells, fences, seedings, spring developments) between fiscal year 1967 and 1976. In addition, the grazing association spent over $2,000 in 1973 for a fence and pipeline and more than $3,000 in 1971 on various spray projects. Thus, it is estimated that more than 415 thousand dollars were spent on range improvements in the Allotment from 1967 through fiscal year 1976 (June 1977). The 415 thousand dollars spent does not represent all of the investment costs that were spent in the area, however. Minutes of the grazing association list numerous entries where individual ranchers invested time and/or materials working on various projects.

\[1\text{Data was not available which listed the cost of every BLM investment. In cases where these data were not available, the costs were estimated.}\]
In addition, both the BLM and the permittees spent time and money repairing and maintaining the improvements that were installed. Maintenance costs alone were estimated by Nick Cozakos in a memorandum to the state director to be more than $4,400 in 1967, $6,800 in 1968, $5,400 in 1969, $4,100 in 1970, $4,600 in 1971, and $5,000 in 1972. These estimates, however, were probably conservative and have probably increased significantly since 1972. All of these costs, represent a significant expenditure of funds that must be balanced against the benefits received in an economic evaluation of the project.

Benefits Obtained

While these investments have probably benefited other uses and users, such as wildlife and watershed, the primary beneficiaries of the improvements are the rancher/permittees whose livestock graze in the Allotment.

Most range improvements are of benefit to ranchers from one of two perspectives. First, some improvements primarily reduce the costs of grazing on area (e.g. fencing versus herding) while other improvements (e.g. seedings) primarily increase the returns (gains) that can be obtained from grazing a particular piece of land. These possible benefits were evaluated for the Pleasant View Allotment.

Reduced Costs

Historically, the grazing association has spent more than $6,000 a year hauling water from the Malad River to troughs on the eastern

\[\text{No data were available concerning these possible benefits. Furthermore, some question can be raised concerning the magnitude of these effects.}\]

\[\text{Data on the costs borne by the association were obtained from the records kept by Milton T. Jones, Secretary-Treasurer of the association.}\]
slopes of the Allotment. With the installation of several wells, pipelines, springs and reservoirs, these costs declined after 1973 to approximately half the former amount. However, these declines have generally been more than offset by an increasing power bill needed to pump water from the wells to troughs in the Allotment. As a result, the nonfee costs incurred by the association have generally increased over time. In summary, the operation costs incurred probably increased\(^4\) rather than decreased the costs borne by permitees whose livestock used the Allotment. Thus, the primary benefits from these investments would be attributable to increased returns.

Increased returns

The improvements undertaken in the Allotment may have increased the gains obtained by livestock as a result of reducing the amount of time and distance spent trading to water. However, no data were available which could be used to estimate how much gains may have changed (if any). The primary benefit that must be weighed against the costs incurred was the arrestment of the proposed reduction in use--i.e., the investments maintained the amount of grazing while the no-investments alternative would have resulted in a reduction of 8873 AUM's of forage.

Evaluation

The investments made in the Pleasant View Allotment, like most government sponsored projects, can be viewed from several points of

\(^4\) There were no records available concerning the impact of implementing the rest-rotation grazing systems on animals. While little work has been reported on these systems, what data is available indicates that gains probably decreased in the short run but probably increase, to at least presystem levels, in the long run.
view. The major reason why the evaluation from these perspectives varies relates to the incidence of benefits and costs. The Pleasant View investments can, for example, be viewed from the perspective of at least three levels—i.e. the ranchers, the local community or region and the nation.

Rancher Perspective

Approximately 99% of the funds spent for pipelines, well, fences, spring developments and other similar range improvements in the Pleasant View Allotment came from funds appropriated to the BLM. The ranchers involved have paid an increasing portion of the variable costs of grazing the Allotment (e.g. power, repairs and maintenance) but as indicated above, these costs are probably about the same as they would have been had the investments not been incurred. Thus, the ranchers involved paid a very small portion of the costs incurred. They were, however, the primary beneficiaries of the project. The project cannot, therefore, be viewed as being anything but beneficial from their perspective.

While no data were available that could be used to estimate the value of the benefits received by permittees, some indication of their benefits can be inferred from the following. Given the pattern of grazing used by most permittees—e.g. graze brood cows on BLM lands from May 1 through August 31—approximately one third of the total forage requirements of the breeding herd is obtained from BLM lands in the Allotment. If the proposed cuts had been implemented, 8878 AUM's of forage would have been lost (15303 AUM's actual use times the 58% proposed reduction.) This would represent approximately two months of forage that would have to have been made up from other sources if the size of each permittees herd was not reduced. If hay were purchased for these two months,
2959 tons (8878 AUM's ÷ 3 AUM's per ton) of hay would have to be purchased at a cost of perhaps 119 thousand (2959 tons times $40 per ton) dollars per year. Alternatively, this forage might have been available from private sources at a rate of about $3 to $8 per AUM. This would represent an additional total cost of perhaps as much as $71,000 (8000 AUM X $8) per year. These yearly expenditures would have been more than the total amount spent by the permittees for range improvements in the Allotment from 1967 through 1976. It is not likely that the ranchers involved would have maintained the size of their herds and borne the costs indicated above. Most ranchers would have found it less costly to reduce the size of their herds. Each of these alternatives, however, would have probably forced some ranchers out of business and would have reduced the income received by ranchers who hold permits in the area. Each of these alternatives would have not only decreased the net returns obtained by operators involved but these decreases would also have had secondary impacts within the local area or region.

Regional Perspective

While some people in the local area may have benefitted from the proposed cuts by selling additional hay and/or pasture to ranchers whose permits were reduced, it is unlikely that all of the reduction (8878 AUM's) could have been purchased locally. As a result, neighboring areas or regions may have gained from purchases made by ranchers in the area affected while income generated in the local area declined had the cuts proposed been implemented. If the size of permittee herds were decreased, in response to the reductions proposed, it is likely that local merchants would have also felt the impact of lower purchases by permittees in the local area. In this event, net revenues in the
local area may have declined from 1 to 1.5 times as much as the
decline in operator returns. For example, if a permittee returns had
decreased $100,000, returns in the local area may have declined by as
much as $150,000. However, these losses were prevented. As a result, the
project must be viewed as positive from the local point of view because
the local area gained (losses averted) while local groups bore a small
portion of the total costs of the project.

National Benefits

While the investments incurred in the Pleasant View Allotment must
be viewed as beneficial from the rancher and local point of view, it
is not obvious that this would be true from the national point of
view, unless one viewed redistribution of income to the local area as
being good per se.

While it is not possible, given the data available, to estimate
the benefits obtained, some inferences can be gained as to the potential
benefits of the project. If the costs that were incurred over time
are discounted$ at 8 percent, they would have a value of $276,600 in
1966. These discounted costs must then be compared to the discounted
benefits that may have been obtained.

If, for example, hay had been fed ($40 per ton is assumed), the
discounted benefits of this project would have been more than one million
dollars, which would have resulted in a benefit cost ratio of more

$See the bulletin by Darwin Nielsen (Utah Ag. Experiment Station Bulletin
#466) for a layman's discussion of discounting and the economic evaluation
of range improvements. The costs incurred in any one year were discounted
using the following formula:

\[ PV = \text{present value} = \frac{\text{Costs in Year } t}{(1.08)^t} \]

where \( t \) = year the costs were incurred (1966).
than 2.8 to one—i.e. there would have been 2.8 dollars worth of benefits for each dollar invested. If however, private pasture could have been purchased for $3 per AUM the value of the benefits would have been only $261,496 which would have yielded a benefit cost ratio of .94 to one.

While no estimates are available of the actual benefits that were obtained from the project, one can determine how much the 8878 AUM's would need to be worth apiece to make the project beneficial. If a discount rate of 8 percent was used, the forage would have to be worth at least $3.17 per AUM to make the investments financially acceptable (benefits greater than the costs). Thus, as long as the value of the forage that would have been given up in the Pleasant View Allotment was worth $3.17 or if a lower discount rate was used (less than 8%), the investments in the Pleasant View Allotment would have yielded benefits that were greater than the costs incurred.

Conclusions

In conclusion, the investments made in the Pleasant View Allotment must be viewed as beneficial from a private or regional point of view. When viewed from the national perspective, however, the net benefits may or may not have been positive. One must also remember that sometimes other than economic considerations, weigh heavily in the minds of

\[ 6\times 276660 = (8878) \times (\text{value per AUM}) \times \frac{(1 - (1.08)^{-20})}{.08} \]

or

\[ \text{value per AUM} = \frac{27660}{(8878)(1 - (1.08)^{-20})} \]

See footnote #5.
decision makers. The worth of the project from the view of one BLM employee must be viewed as positive however, as the following quote implies:

"In spite of the problems we have had in developing water in the Pleasant View Allotment, the remarkable thing is that the Rest-Rotation Grazing system is working. The area is responding even under the heavy grazing demands placed upon it. BLM personnel returning to the Pleasant View Allotment are surprised to see the amount of vegetation that can be produced in the canyon bottoms." (Memo from Nick Cozakos Burley district manager to Idaho state director, BLM)

In general, the benefits obtained from this project, from a national perspective, were greater than those obtained from other public projects but were probably not as great as other alternatives that may have been undertaken. In summary, the range improvements in the Pleasant View Allotment probably yielded benefits sufficient to pay for the costs obtained--i.e. the project was financially acceptable, but the monies expended would probably have yielded greater returns in some other alternative(s).

7 For example, see the forthcoming report by Godfrey and Sellassie and Sharp on the Point Springs project which is about 50 miles west of the Pleasant View Allotment. These high returns (Point Springs) however, must be compared to the relatively inefficient investments made in the Vale project in the Eastern Oregon (Oregon Experiment Station Circular of Information #653).