

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REPORT ON 1930 DRIVEWAY INVESTIGATION
(Umatilla, Whitman, Malheur)



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In the attached tabulations (Table A) is shown the driveway crossing for the spring of 1930 on the Umatilla (South Half), Whitman (Blue Mt. Division), and Malheur. This information has been compiled to show the driveway load in sheep days by forests and individual driveways. A further classification (Table B) shows the use made of the driveways by the three classes of users; i.e., by forest permittees, G-4 permittees, and owners crossing to private outside lands. Inter-forest crossing, as separate from the total crossing load has also been indicated. In connection with these tabulations, it should be borne in mind that, while spring crossing only has been tabulated, the total load for the season would be approximately twice that indicated for spring use when we take into account the outward movement of bands in the fall.

For the past several years the Forest Service has faced a difficult problem on these three forests in the matter of sheep driveway administration. Similar difficulties are encountered on every forest in the Region where handling methods require any appreciable amount of trailing. On the three forests mentioned the problem is more intensive because of the larger numbers of sheep and greater distances trailed, as well as the complications arising out of the inter-forest features involved. Intensive use of areas adjoining the driveways by both classes of stock also probably is greater here than elsewhere throughout the Region.

In the summer of 1930 a special effort was made to investigate the driveway situation on the three forests mentioned, with the object first of finding out the actual difficulties which face both the stockmen and the Forest Service and then working out and recommending for application such corrective measures as might be needed. Some three weeks were spent on this work. In addition to examining a large part of the driveways on the ground an effort also was made to interview as many as possible of the men who own the sheep and the herders and camp tenders who handle the sheep on the trail. The question also was gone into in detail with the Supervisors and with the Rangers and driveway patrolmen who are responsible for the supervision of the sheep on the trail. In addition advantage has been taken of every opportunity to meet with small groups of interested sheepmen for the purpose of securing their views on proposed changes or their advice on the problem as a whole. If anything constructive comes of this investigation a large share of the credit should go to these contacts and particularly to the District Rangers whose districts carry the major part of the crossing load.

In the region studied 49 separate driveways for a total of 587 miles are involved. The total spring crossing load in 1930, as based on the forest records, amounted to 1,120,916 sheep days, 58.8% of which was inter-forest and 41.2% local. Considering both spring and fall crossing and reducing the total sheep days to a 100-day grazing season would require summer range for over 22,000 head of sheep. In the inter-forest crossing 33 owners and 79,218 head of sheep are involved, and because of longer time on the trail the sheep days loom large. For local cross-

ing 111 owners and 202,730 head of sheep are involved even though the total sheep days are less than for the inter-forest crossing.

The average period of crossing is fairly uniform for the three forests running 2 days for the Whitman, 1.7 days for the Umatilla, 1.8 days for the Malheur and 1.8 days for the group as a whole. The variation in days enroute, on National forest driveways, is from ½ to 19 and in several cases the total time enroute from spring to summer range, including the crossing of outside lands, exceeds 3 weeks on the trail. Of the 33 owners involved in inter-forest crossing all but 5 require 5 days or more on the trail. In 9 cases each it requires 5 days or more for the inter-forest users to cross the driveways on the Umatilla and Whitman. On the Malheur no inter-forest crossing requires more than 2½ days.

Local use of driveways appears to be heaviest on the Malheur where 20 out of 56 local users are on the driveways 5 or more days each as contrasted with only one case on the Umatilla and none on the Whitman.

Of the 587 miles of driveways under consideration 126 miles are on the Whitman, 150 on the Umatilla and 311 on the Malheur. On the Whitman all driveways except two – the North Powder and Bridge Creek for 9 miles each – carry inter-forest crossing. On the Umatilla every driveway excepting the Starkey, 3 miles, carries inter-forest crossing. On the Malheur one driveway only, the Long Creek, is concerned with this class of crossing.

These tabulations have been compiled and are given here as a background against which it might be possible to more clearly emphasize the actual problems faced by the Service and the sheepmen in handling the sheep on the trails.

Some features of the driveway situation in the region under consideration appear to have undergone very little change for a good many years. For instance, an examination of the driveway maps in use 15 to 20 years ago shows the trails in very much the same location as they are today and right where they were established by the stockmen, in some cases, prior to the creation of the forests. Very frequently the selected route was then, and is now, the only practicable route through the mountains. The Service, therefore, has had little to do with the location of some of these more heavily used trails and even if it had it does not appear that the general selection could have been materially improved upon. In several cases the ownership of the sheep outfits which use the trails had remained unchanged for over 20 years.

In the earlier days of driveway use there was less conflict with private lands; likewise less intensive use of National forest lands bordering the trails. Under these conditions crossing could be made more leisurely and ample feed was to be had along the line of travel. Now, however, the sheepman must run the gauntlet of fenced lanes (See photo #1) outside the forests and of sheep allotments and cattle ranges inside. His inherent right to use the driveways actually is little more than a restricted privilege that carries with it no provision for feed, water, or rest except that which can be found within the confines of the trail.

The sheepman's problems begin even before he enters the first unit of National forest land on the Umatilla and probably are most intensive during and immediately after the crossing though the long, hot dusty lanes in the vicinity of Ukiah and Long Creek. The first three or four

bands come through in fair shape on such forage as is found within the driveway limits. The succeeding bands, however, are practically without feed except that which is secured in trespass on adjoining private properties or on sheep allotments, and cattle ranges, which border the trails. Purchase of pasture enroute seems to be the exception rather than the rule. By the time the sheep again enter National forest driveways on the Whitman and Malheur they are in a more or less weakened condition because of strenuous days on the trail without adequate food and water. In a state of half-starvation they are ravenous for food and virtually impossible to control. They must have feed; therefore trespass on adjoining ranges is inevitable. In the average case it would not be far from correct to state that by the time the driveway user had reached his summer range he probably has lost some sheep, committed several trespasses and, what is most important of all, shrunk his lambs beyond the possibility of complete recovery prior to the time they are placed on the market. From the sheepman's standpoint the driveway problem centers around these difficulties and he is therefore interested primarily only in such corrective measures as will reduce his driveway losses without an unreasonable expenditure of money. In other words his main interest necessarily lies in the production of a maximum amount of wool and mutton at a minimum of cost. The possibility of damage to natural resources and the several public relations phases of driveway use are secondary in his consideration. This does not mean that the sheepman has no sympathy for, or that he is wholly blind to, the claims of the irrigationist, the conservationist, or the recreationist. It means simply that he feels that, where there is conflict between his use of the driveways and the interests of these agencies, the economic importance of the sheep industry in that region places his right higher in priority.

The Forest Service side of the driveway problem appears to be one of a dual responsibility. We are charged with the responsibility of protecting the forage, timber growth, and watershed resources and at the same time with fairly and efficiently administering the grazing. We admit the existence of an unsatisfactory driveway situation yet when setting about to make adjustments there is an obligation to avoid, insofar as possible, any action that would be detrimental to the welfare of our established permittees. We want to continue to stand on the commitment that all sheep will be allowed ingress and egress, yet we are faced with the certain knowledge that some damage actually is taking place on some of our heavier used driveways. In some cases continued heavy trampling has arrested reproduction of grass, weeds, browse, and tree growth and we know that continuation of such use eventually will deplete the trails. We know that, as a prerequisite to prevention of unnecessary damage, certain numbers of men and certain amounts of money are needed to properly handle driveway supervision, yet both have been, and are now, inadequate to the needs. We know that the development of water and construction of holding corrals and other improvements along the driveways would eliminate much of the trouble now encountered, but funds for such work are not available.

There are in existence in the country certain agencies, represented by what might be termed the "ultra-conservationist," who classify the sheepman as a natural born devastator that must be curbed by iron handed control if not completely excluded. When the "ultra-conservationist" sees a bit of overgrazed range, damaged reproduction or incipient erosion he rarely stops to consider the necessity for the damage. On the other hand he can usually be depended upon immediately to voice a doubt as to whether the Forest officials who are handling grazing can be trusted with the protection and perpetuation of National forest resources.

In dealing with this whole driveway situation it would appear that, as Forest officers, it is our responsibility to take the initiative in developing and applying whatever improvements are needed in driveway policy and practice; to say definitely how much of this damage is avoidable and how much is unavoidable; to decide the extent to which we can justify driveways as an economic necessity in the transportation of sheep; and finally to what extent, if at all, can we justify a sacrifice in forage, tree growth, and watershed protection, in order to continue indefinitely to accommodate sheep on the driveways.

For several years it has been generally assumed that some damage to forage and tree growth was taking place on the driveways under consideration, and from this assumption the conclusion has been drawn that erosion is developing to an alarming extent. The actual extent of such damage has never been determined, and could not be determined without a detailed and costly survey supplemented by experimental investigations on a project basis. Nevertheless, throughout the field examinations last season, a special effort was made to secure as much information as possible regarding resource damage and the relation of such damage to past or present driveway practices. Such observations as were made indicate that:

The damage to tree growth caused by driveway sheep is confined to a comparatively narrow strip along the center of the occupied area and consists only of preventing new seedlings from becoming established. (See photo #2). Reproduction established prior to the use of the land for driveway purposes and of sufficient height to escape grazing has not been damaged. In support of this observation should be mentioned a small portion of the Pierson Driveway outside the forest just south of Ukiah. Seven years ago the driveway here was changed from the old route to the present location and passes through some rather dense stands of Yellow Pine reproduction about 30 years old and 10 to 20 feet high. (See photo #3). For the past seven years over 50,000 head of sheep have been trailed through this lane twice annually. Along the route the original stand of *Agropyron spicatum* (Western Wheat grass) has disappeared, sheet erosion has removed a portion of the top soil, and the hoof action of the sheep has worn the soil down to such an extent that the base of the tree roots is, in many cases exposed. The effect of examinations was not to retard but to accelerate growth. The period of accelerated growth coincides with the period of driveway use. Trees inside the fence and protected from trampling show no accelerated growth during this period.

Damaged tree reproduction on the driveways is rare. On the Camas Creek Driveway, which has been used many years by over 50,000 sheep, some half dozen specimens of dwarfed Yellow Pine trees were found which had withstood annual cropping apparently since the driveway has been in use. Cross-sections of these trees indicated them to be 25 to 30 years old although only from 1 to 2 feet high and diffusely branched. (See photo #4). Only one case was noted – outside the Forest near Tupper Ranger Station (See photo #5) – where there was a marked absence of tree reproduction in the driveway as contrasted with the stand on protected areas adjacent. The Yellow Pine reproduction in this instance is 20 to 30 years old, and the driveway has been in use at least 20 years, indicating that tree growth on the trail was not sufficient in height to escape destruction during the earlier years of sheep crossing.

On the driveways under consideration it appears that tree growth is affected in three ways:

1. Yellow Pine reproduction near the center of the driveway and which was not of sufficient height to escape cropping in the early days of driveway use had been killed out.
2. Yellow Pine reproduction of sufficient height to escape cropping is not damaged and may be benefited by heavy trampling.
3. Establishment of new tree reproduction seems out of the question, so that continued use of a driveway eventually would remove all tree growth from the occupied area.

Damage to the original stand of forage is more marked, but here again, as in the case of tree reproduction, the damage is confined mostly to a narrow strip along the center line of the driveways, and as a general rule is not found to extend more than two or three hundred feet on either side of the main trail. Complete absence of perennial vegetation is rare and can be noted only where the driveway is confined to lanes (mostly outside the Forest), where the driveway width is greatly restricted on account of topography or dense timber, or near holding corrals and camp grounds where the sheep are held and handled in mass formation. (See photo #6). On the other hand it is not at all unusual to find areas directly in the line of travel which show no injury to perennial vegetation. In such cases the topography of course is such that the sheep do not ordinarily travel in close formation, and in addition the men in charge of the sheep probably have taken advantage of the absence of forest officers to spread the sheep, travel slowly and graze en-route. An outstanding example is on the Morphine Ranch Driveway, used each year by over 30,000 sheep. Just north of the Forest boundary on the ridge between Wall Creek and Bacon Creek the driveway can be traced only by the location of posted notices. There are no ill effects of driveway use; in fact the forage here – both grass and shrubs – meets all the requirements of proper utilization. (See photo #7). This is given not with the idea of minimizing the overgrazing on the driveways but to indicate the influence of different conditions on such overgrazing. The driveways themselves and adjacent areas across generally are overgrazed; it would be unreasonable to expect any other conditions if we take into consideration the tremendous use made of them.

Damage from erosion is not widespread and in the few places noted does not appear to be extending beyond the occupied area. In several instances where the driveways parallel or traverse small meadows the damage from trampling and overgrazing is quite pronounced. In some of these meadows channel erosion has set in, resulting in the lowering of the water table (See photo #8), to the extent that the original wet meadow type which supported a dense stand of grass and sedge, has been replaced by a dry meadow type on which it is difficult to maintain even a sparse stand of vegetation. Usually these dry meadows are infested with gophers or ground squirrels and where such is the case the damage by these rodents may be equal to if not greater than that caused by driveway sheep.

Opinion differs as to the direct cause of channel erosion found in meadows on or adjacent to the driveways. Particularly is this true of those areas where there is evidence to indicate the one time presence of beaver. In such cases weight of opinion favors the theory that channel erosion is present because beaver are absent; that disintegration of the beaver dams and consequent

lowering of the water table are direct contributing causes for a dry type instead of the wet meadow or swamp. It is not inconceivable that in ages past these areas alternated between wet and dry types depending on the presence or absence of beaver, and the rather definite channels now found might well be a return to conditions which have reappeared from time to time in ages past. At any rate, it is believed that the present condition on many of these meadows is due more to the absence of beaver than to the presence of sheep. Also that the return of the beaver would reproduce the wet meadow and eliminate the rodents, even with continued use by sheep. (See photo #9)

In the past a good deal has been said regarding damage to forest resources and the difficulties surrounding the whole driveway problem. Thus far, however, little attempt has been made to draw up a driveway plan, complete in all details and adequate to meet the needs of the three forests concerned, particularly with reference to the inter-forest phases of the problem. Such a plan could not of course be developed within the time available last season, but the observations to date suggest a number of corrective measures the application of which undoubtedly would improve conditions on the driveways. Among the more important measures appear the following: Rerouting from home ranch or spring range to the Forest; Water developments; Holding corrals, horse pastures and shelters; Clearing and widening driveways; Shipping instead of trailing; Reduction in number of sheep allowed to cross under a system of driveway priorities; Providing hay or pasture for sheep enroute before entering the Forest; Providing feed areas for the sheep enroute after entering the Forest; Organizing a driveway association; Uniformity of driveway policy where inter-forest crossing is involved; and finally, Providing adequate supervision of the crossing business.

Change in Driveway Location

The proposal to change the location of the driveways periodically in order to avoid the damage resulting from continued use does not appear practicable. As already indicated, the general location at the present time is approximately the same as 25 years ago, and, from the standpoint of topography and other conditions, could not be materially improved upon. Wherever possible ridge tops were chosen originally because the sheep were easier to handle and because of less interference from deep canyons and dense timber. Conditions on the ground indicate that the cost in dollars and cents to move the driveways periodically and the confusion and inconvenience it would cause the stockmen, would be out of all proportion to the benefits derived. There is, however, a need for several minor changes in permanent location. Most important of these probably is the proposal to change the Groschen Cabin and Arbuckle Driveways from their present round-about location to an easier and more direct route along the main divide extending northeast from Tupper Corral to Arbuckle Mt. The Groschen Cabin Driveway is undoubtedly in the most unsatisfactory location of any trail in the entire system. For approximately 20 miles it bisects several sheep allotments and throughout the entire distance extends at right angles to the drainage. In many ways its present location and the difficulties of handling sheep thereon are comparable to the conditions which existed on the old Dixie Driveway before it was moved to its present location over Dixie Mt. The proposed change in location for the Groschen Cabin Driveway would require some expenditure of funds to make the new location passable. A rough motor way already has been swamped from the Martin Prairie Road to Madison Butte and sheep could travel this portion of the route in its present condition. For use as a driveway, however, it

should be cleared from its present width of 10 feet to not less than 20 feet. Some clearing probably would also be necessary between Madison Butte and Tupper Ranger Station and between Copple Butte and Linger Longer. Exclusive of water development, probably \$600 or \$700 should be spent in improving this route if the change is made. Some difficulty may be experienced with permittees whose allotments are affected by the change but it is believed that local adjustments will take care of this. The present location requires five days travel time; the proposed change would reduce the travel time to 3 days and materially lessen the amount of supervision required to keep the sheep on the trail. If the change is not made there should be some arrangement for more definitely defining the present location on the ground, particularly in the vicinity of Potamus Creek where, according to the driveway patrolmen, there are now several lines of center notices ranging from $\frac{1}{4}$ to $\frac{1}{2}$ mile apart.

The Lonerock Driveway is not as direct as indicated on the map. In its eastern portion for instance the trail passes Willow Spring, curves abruptly southeast to the forks of the Creek, thence abruptly northeast to Juniper Spring and again abruptly southeast along the road to the Forest boundary. If possible the route here should be straightened although the lay of the land may be such as to prevent any improvement in location.

The Oriental Driveway probably could be greatly improved if changed to follow the road and cross the North Fork just below the Allison Place. This of course would require the construction of a new bridge across the river but would eliminate the danger of "pileups" in Oriental Creek and make it possible to drive from Pearson to Kelsey in one day whereas most bands now require one day from Pearson to the river.

Certain changes proposed for the location of parts of the Long Creek and Dixie Driveways would provide an easier and more direct route, reduce travel time by at least one day, and furnish one additional watering place. The area to be traversed also would be less susceptible to damage from overgrazing and erosion than the route now occupied. The proposed route leaves the present location at the mouth of Homestead Creek (known locally as Cottonwood Creek) and extends thence southeasterly across the inter-forest boundary to the mouth of Lick Creek; thence up the ridge between the forks of Lick Creek to connect again with the present location. On the Whitman a slight amount of clearing would be necessary near the Lick Creek crossing and on the ridge near the head of Lick Creek, but on the Malheur, the proposed route is entirely through open timber. On the Malheur side there would be no conflict with adjacent allotments since the proposed route follows the boundary between two units. On the Whitman, however, some adjustments would have to be made in allotment boundary lines.

Another change proposed for locating the Dixie Driveway around the north side of Dixie Mt. would eliminate the dangerous descent on the east side of that mountain and the necessity for trailing over snow banks in the spring.

On the Malheur there is need for posting a new driveway along the divide between Deer Creek and Murderers Creek from the west boundary of the forest to 30-30 Spring, where it will connect with the Bear Valley Driveway. The proposed driveway is needed to take care of the trailing of lambs from the Ochoco and the South Fork region of the Malheur to Seneca for shipment in August and September.

These are some of the more outstanding changes which appear desirable. Undoubtedly a further study on the part of the local officers would disclose other needed changes.

Regulation of Entry

In the past no particular system had been employed to regulate the number of bands allowed to enter the Forest on a given driveway in one day. At present there are no restrictions other than the very liberal time limits set up in the crossing permits, and the result is a situation where several bands may crowd for entry on the same day while the following day no sheep may enter. If it were possible to work out and apply some system whereby equal spacing of the bands on the driveway could be secured the trouble originating from undue congestion and mixing of bands would be eliminated. Most of the difficulty in this respect originates on the Umatilla and involves both local and inter-forest sheep. Further study of the possibility of working out some scheme for regulated entry seems justified.

Re-routing of Bands

An analysis of the inter-forest driveway system indicated that in some cases a more logical routing of bands from the spring range or home ranch to the summer range would substantially reduce the time enroute. As an example, it is understood that the Kilkenny sheep enter the Umatilla at Arbuckle, where they divide, part going to the Bull Run Allotment on the Whitman via Freezeout, Bear Wallow, Camas Creek, Chicken Hill, Crane Flats, and Desolation (part of) driveways. The others go to the Whiskey Flat Allotment on the Malheur via Arbuckle, Groschen Cabin, Morphine Ranch and Long Creek driveways. Three of the six days involved in crossing the Umatilla by Malheur sheep are thus spent in going directly away from their objective. If, in this instance, the Malheur portion of the Kilkenny sheep could be routed through the Umatilla, via Tupper Ranger Station and over the Morphine Ranch trail only, a reduction of 5 days in travel time or approximately 30,000 sheep days on National forest land would be secured. That portion of Kilkenny's sheep which trail to the Whitman go by a more direct route but even there a reduction of 3 days travel time, or 5,400 sheep days, seems possible by re-routing over Pierson and Desolation driveways. The M.S. Corrigan sheep which enter the Umatilla at the same point as the Kilkenny sheep, reach their destination on the Whitman (approximately at the same place as the Kilkenny sheep) in 8 days travel on National forest driveways. The Kilkenny sheep require 11 days.

Another possibility of reducing driveway loads would be the establishment of a new driveway from the Long Creek road and extending northeasterly, crossing the Middle Fork John Day near Galena and connecting with the Squaw Rock Driveway in the vicinity of Squaw Rock. If this were feasible such sheep as the John L. Monahan and James Murtha bands, which now require 16 days on National forest driveways, could be routed through by Long Creek and over the new trail in approximately 6 days on National forest driveways. Re-routing of these two bands alone would secure a reduction in driveway load of approximately 35,000 sheep days.

These cases have been mentioned to emphasize the need for a complete analysis, with adjustments where necessary, of the entire routing system. The possibilities in the way of reducing driveway loads most certainly justify early action.

Water Developments

Several driveways do not have adequate watering facilities. Undoubtedly some of the shrinkage on the trail is due to lack of water. A peculiar feature of the situation is that, while potential water supplies are available, little has been done to develop and make them usable. Experience in the Fort Rock District of the Deschutes has shown the practicability of hauling water by truck, (See photo #10), so that, considering the possibility of both hauling and developing water, (See photo #11), there is no real reason why it cannot be provided on these driveways. The following projects were noted during the examination last summer as in need of development; a more detailed investigation by local officers probably would include many more.

<u>Driveway</u>	<u>Spring or Development Proposed</u>
Lonerock	Crawford (Long Prairie) Spring
Lonerock	Rock Spring
Morphine Ranch	Morphine Spring
Groschen Cabin	Tupper Spring
Pierson	Drift fence
Pierson	Hello Boys Spring (now completed)

Watering facilities on the Whitman and Malheur were not investigated. Some development work will be needed on these forests but generally the driveways there are fairly well watered.

Holding Corrals, Pastures and Shelters

The mixing of bands on the trail has given both the sheepman and the Forest Service a great deal of trouble in the past. There are many contributing causes but perhaps the lack of adequate holding facilities is of greatest influence. On the more heavily used trails past use has more or less definitely established certain well known camp grounds and, unless something intervenes to prevent, it is the custom always to attempt to reach one of those for the night. Forest officers and sheepman alike are united in the belief that holding corrals should be constructed and maintained at each of these over-night camp sites. (See photo #12, 13 and 14). The capacity of the corrals would depend, of course, on the number of bands to be accommodated – usually for not less than two bands and in some places probably four bands. The advantage of the proposed improvements is at once apparent. It will make possible the accommodation of as many bands as may desire to use one location for the night. Instead of devoting most of the night to holding the sheep on the bedground, the herder, camp tender and dogs would be assured of a night's rest. In addition to the holding corrals small horse pastures could, in many cases, be constructed, so that when camp is broken in the early morning the sheep and the entire outfit can move on instead of laying over, holding up other bands, and spending a large portion of the day looking for lost horses. Rough shelters for use during storms (and storms are frequent in the fall of the year) would help materially to lighten the burdens of the men in charge of the sheep. If some of these improvements can be secured it is certain they will make for more speed; a more satisfactory all round handling of the sheep on the trail.

The following list indicates many of the camp sites which should be considered for construction of holding corrals, horse pastures and shelters. Camps indicated thus (*) already have counting corrals.

UMATILLA

<u>Driveway</u>	<u>Camp Sites</u>
Notch	Notch
"	Summit Station
Lonerock	Lonerock
"	*Long Prairie
"	Rock Springs
"	Grassy Butte
"	Willow Spring
"	Wilson Creek
"	Lovelett
Morphine Ranch	Morphine Camp
"	*Tupper Corral
Groschen Cabin	Skookum Creek
"	Alder Creek
"	Swale Creek
"	Ditch Creek
"	Groschen Cabin
Arbuckle	Ellis Creek
"	Louse Camp
"	*Arbuckle Corral
Freezeout	Swail Camp
"	Log Spring
"	Gulliford Spring
Bear Wallow	Cold Spring
"	*Bear Wallow
"	Klondike Camp
"	McClellan Meadows
Camas Creek	Rancheria
"	Camas Crossing
"	Worman Camp
Pearson	Drift Fence
"	Hello Boys
"	*Pearson Station

UMATILLA (CONT'D.)

"	Winom Creek
"	Big Creek
Oriental	Allison Ranch

WHITMAN

Chicken Hill	Sheep Ranch
"	*Hoodoo
"	North Trail Camp
"	Horse Camp
Meadow Creek	Meadow Creek
"	Bear Creek
"	Sheep Creek
Crane Flats	North Fork Bridge
"	West Cabin
"	Granite Creek
Desolation	Kelsay Meadows
"	Bull Prairie
"	Horse Meadows
"	Rabbit Creek
"	Ruby Creek
"	Corrigal Camp
Tipton	Burnt River

(Data not complete for other Whitman driveways)

MALHEUR

Long Creek	*Keeney Corrals
"	Camp Creek

(Data incomplete for other Malheur Driveways)

Clearing and Widening

On some of the driveways there are sections passing through dense timber where the cleared width is not sufficient to allow free travel of the sheep. (See photo #15, 16 and 17). On some of these, as for example the Chicken Hill, Meadow Creek and Desolation driveways on the Whitman, the original and only clearing work was done 20 years ago and in places does not exceed 10 feet in width. The average cost to widen these sections to 30 feet is estimated at \$100 per mile. There are also certain sections where, due to the absence of any clearing work, it is necessary for the sheep to make detours to avoid pole thickets and down logs. A good example of this is found on the Pearson Driveway between Pearson Station and Winom Creek, (See photo

#18), where it is necessary to swing the bands down on the breaks of the John Day River on account of pole thickets encountered on a direct line of travel. It is estimated that 2 men for 10 days could clear this sufficient to allow direct travel which would enable the bands to trail easily from Pearson Corral to Big Creek in one day. It is understood that now they usually go only as far as Winom Meadows (2 miles less) in that time.

In the allocation of range improvement funds for improving the driveways, consideration should be given to the needs for clearing and widening on all driveways where conditions are such as to seriously interfere with free movement of the bands.

Traversing and Posting Driveways

The present minimum requirement for driveway posting for the Region provides for center notices on both sides of the trees or posts at intervisible distances. (See photo #19). On the driveways under consideration a comparatively large amount of posting remains to be done before even the minimum requirement has been attained. In some places successive posting jobs have established several center lines for the same driveway, such as those already mentioned on the Lonerock and Groschen Cabin driveways. Conditions like these are of course confusing to the men in charge of the sheep and probably help to inspire a lack of respect for driveway restrictions in general. Comparatively few driveway boundary signs have been posted and it is not believed that a more general use of such notices would be of any particular help in keeping sheep on the trail.

The traversing of driveways should be encouraged as a means of taking full advantage of the possibility of using them for reference points in fire chasing. The Whitman and Malheur have recently concentrated on traversing work but it seems that for many years the possibility of using the driveways in this way was overlooked.

Shipping vs. Trailing

For several years the possibility of shipping by truck or rail as a means of reducing driveway use has been considered. So far it cannot be said to have reached even the experimental stage although in a few instances mid-summer movement of lambs has been handled by truck from the range to shipping point. Completion of the highway systems in the vicinity of Ukiah, Long Creek, Austin, John Day and Seneca opens up a whole new field of opportunities for shipping by truck and if that kind of transportation, from a dollars and cents standpoint, should prove preferable to trailing, the sheep owners ultimately will adopt it regardless of whether or not the Forest Service places further restrictions on the use of the driveways. A good example of the extent to which truck shipping could be made to reduce driveway use would be the Western division of the Umatilla. The total number of sheep days involved in the driveway use on this division is 314,450. Of this number 226,991 sheep days represent the inter-forest crossing of sheep which trail through either Ukiah or Long Creek enroute to the Whitman and Malheur. It is at once apparent, therefore, that if the driveways on the Western division of the Umatilla were closed to inter-forest sheep the driveway load on those trails would be reduced by 72%. Such a restriction would impose an added cost and considerable inconvenience on the owners of inter-forest sheep all of which, in the final analysis, should be weighed against the advantages of less

time on the trail, less loss from shrinkage, and the additional protection afforded National forest resources. In anticipation of the need for eventually reducing driveway use it seems that the Forest Service should take the initiative in encouraging some trucking experiments probably on each of the three forests concerned. The results of such work might even hasten the time when the sheep owners would adopt truck shipping voluntarily as good business management.

Reduction Through Establishment of Driveway Priorities

As already indicated, the sheep using the driveways have been classified into three divisions – “Forest Permittee,” “G-4 Permittee” and “Unpermitted,” (See tables A and B), representing 61%, 15% and 24%, respectively, of the total driveway load. In the event it should become necessary to limit the numbers of stock using the driveways priorities would be established of course in accordance with this classification. In resorting to this method of limiting driveway use a good many difficulties are at once apparent. From the standpoint of the general welfare of the sheep industry in the Blue Mountains it is just about as necessary to provide for the crossing of unpermitted and G-4 sheep as it is to handle only stock under permit. As a matter of fact some of the unpermitted and G-4 owners have used these trails for a longer period of years than the forest permittees. From a strict priority standpoint, therefore, and leaving National forest phases out of the question, the unpermitted and G-4 owners would rate higher in use priority than a large number of the owners who are guaranteed full crossing privileges under the Regulations. Application of a priority system based strictly on grazing permits also would be complicated by the fact that frequently one owner may have sheep in two or even all three classifications.

The whole question of establishment and application of driveway priorities should not fail to take into serious consideration the intent of the crossing permit regulations, the purpose of which, as indicated in the manual, is to allow “a reasonable movement of stock across National Forest lands for any legitimate purpose.” Instructions under the Regulations contemplate that crossing privileges will be so controlled as to prevent damage to National forest land or related interests. Presumably there is no obligation to allow sheep to cross long distances where other means of transportation are available even though additional costs are involved. On the other hand the Forest Service is more or less obligated by past commitment – though not by law – to allow ingress and egress. Should there be united protest against wholesale action to deny ingress or egress to certain classes the Secretary most likely could be expected to stand on this commitment. It would appear reasonable to assume, however, that the Secretary would sustain action by the Forest Service to impose certain restrictions on all classes of driveway users, where it can be shown that such restrictions are necessary to prevent damage to forest resources. Applicable in this connection would be restrictions on routing, handling on the trail, furnishing of feed and water enroute, etc; and before any action is taken to establish and apply driveway priorities it is believed advisable to first exhaust all these possibilities for reducing or eliminating damage on the trails.

Providing Feed Enroute

The lack of adequate feed on the driveways, both inside and outside the Forests, undoubtedly is at the bottom of this whole driveway problem. It has more direct effect on the welfare of the sheep and the protection of forest resources than any other single item under consideration.

Discussion of ways and means for approaching this problem naturally divides itself into, first, the problem of furnishing feed while enroute on the driveways outside the Forests, and, second, the same problem as applying inside the Forests.

Feed Enroute Outside the Forests:

The Hamilton-Long Creek lane, as one example, is 30 miles long and approximately 40,000 head of sheep pass through for an average trailing time of 5 days to the band. Pasture is not available and the purchase of hay is the exception rather than the rule. The sheep, therefore, are practically without feed, but if they were grazing on an adjacent forest allotment instead of trailing through these lanes they would consume the forage on 14,000 acres of range in the same period of time. If private land were available in that vicinity this amount of range would cost .7 cents per head per day or \$8.40 per day for a band of 1200 ewes with lambs. Pasture for this number of sheep is not available enroute but a good quality of hay can be procured at Long Creek, fed out, for \$15.00 to \$18.00 per ton. The County Agent at Heppner figures 2 lbs. of hay for a fill for a ewe and lamb. This would require 1.2 tons per band of 1200 ewes with lambs and would cost \$17.00 per band or 1½ cents per lamb if nothing is charged to that portion of the fill consumed by the ewe. Entirely aside from the sheepman's responsibility for having his sheep in good condition on entering the forest the question is raised: "Would this fill prevent ¼ lb. of shrink on the lambs when marketed?" If it would the saving thus made would finance the fill for both the ewe and the lamb with lambs selling for only 6 cents. Four fills (and this is none too many) would be self-financing if a one lb. shrink were prevented.

The possibility of establishing hay feeding stations at both Long Creek and Ukiah has been investigated and it is known definitely that hay can be furnished in any quantity desired, fed out, at from \$15.00 to \$18.00 per ton. Individuals in these communities are prepared to go into the business of feeding driveway sheep on a project basis, but will need to know a year in advance of the number to be cared for and the number of feeds required.

Adequate feed just before entering the Forest would not, of course, eliminate the need for some feed enroute after entering. It would, however, greatly reduce the amount required and thereby simplify the problem of furnishing feed while enroute inside the Forest. The driveway users probably can be easily persuaded to provide adequate feed outside the forests, but in any event, it is believed that the importance of having this done justifies the Forest Service refusing crossing privileges to sheep not properly fed prior to entry.

Feed Enroute Inside the Forests:

The problem inside the Forests is more difficult than out, since feed enroute must be secured largely from adjacent sheep allotments and cattle ranges. No systematic provision for setting aside feed areas for driveway sheep has been made, and under present policies any feed secured enroute off the driveway actually would be trespass. At the present time the Forest Service is charging 1/9 cents per head per day for forage consumed by driveway sheep. The owners of the sheep using the driveways object to the charge on the grounds that the Forest Service is not furnishing the forage. The Long Creek Driveway is a good example. It is 15 miles in length and is used by approximately 40,000 head of sheep for an average period of 2½ days to the band. To

carry this number of sheep on adjacent National forest land for 2 days would require the forage on 5600 acres of range. The sheep do not of course secure anyways near that amount of forage while enroute on this trail but the comparison serves to indicate the need for providing feed areas along National forest driveways.

For several years the Forest Service has considered establishing rest areas as a means of providing feed for driveway sheep. It seems that rest areas have been thought of more in terms of units of range, about the size of a sheep allotment, set off for use of driveway sheep, but since adjoining units of range already are occupied by old established users it has not been possible to utilize them for rest area purposes. Feed areas for rest area purposes should be located immediately bordering the driveways in order to avoid any trailing to secure the feed. They should also be distributed at various locations along the trails and in sufficient numbers to take care of each band of crossing sheep. An entire sheep allotment would not, therefore, be entirely suited to the needs even if it were available.

Under the present unsatisfactory system, or lack of system, sheep actually do get some feed enroute and since there is no other place from which to secure this feed it actually does come from adjoining sheep allotments or cattle ranges. As a matter of fact some of the driveway patrolmen – especially those who have been on the job more than one season – have allowed the herders (unofficially) to pull the sheep off the driveways for short periods to feed and rest on adjoining allotments. As a substitute for the old rest area idea, therefore, it is now proposed to expand, systematize, and authorize a practice which is already in use to a certain extent on the driveways. Under the proposed scheme these areas would be referred to as “filling stations;” they would be located and designated by name or number and assigned the various bands at time of entry. Sheepmen and forest officers alike seem to favor the development of the “Filling station” idea as a practical method for taking care of the problem of feed enroute. Under the plan the herder would know definitely that he was entitled to a hold-over on reaching a certain designated “filling station” and it is only logical to assume that a reasonable effort would be made to reach that station without trespass and in the shortest time practicable. The District Ranger of the Ukiah District on the Whitman already has applied the “filling station” idea at Kelsay Meadows where plots are staked and numbered and where fills are provided for 7 or 8 bands of driveway sheep each spring. Application of the “filling station” plan is recommended for all driveways where the welfare of the sheep requires feed enroute and where areas suitable for the purpose can be made available. Continuation of the charge for forage will be difficult to justify unless provision is made for more feed enroute.

Driveway Association

Some of the measures needed for improving conditions on the driveways can scarcely be applied or followed up adequately unless some form of organization is provided to handle the work. This would be true particularly of any arrangements made for providing feed along the driveways outside the Forests. The suggestion has been made, therefore, that some sort of a driveway association be formed to include in its membership all users of the driveways who are in any way identified with the inter-forest crossing business. Probably the Forest Service should take the initiative in getting this organization under way.

Need for Uniformity of Driveway Policy

On those forests where inter-forest crossing is involved, uniformity in driveway administration seems justified. In the past the Umatilla and Whitman have charged for all crossing of unpermitted sheep, regardless of the time involved, while the Malheur has made no charge for any crossing of 5 days or under. The Umatilla provides for the crossing of permitted sheep through a special clause in the grazing permit; the Malheur uses the formal crossing permit for all crossing; the Whitman covers crossing of permitted sheep on the Blue Mt. Division only with a formal permit. The Whitman and Umatilla pay little or no attention to trailing for lamb shipping; the Malheur requires a crossing permit for trailing lambs. Doubtless these variations in driveway practice are well within the regulations and, from a local viewpoint, probably meet the administrative needs of each Forest concerned. No recommendation is being made, therefore, for the adoption of any particular practice, but it is recommended that the three Forests concerned work out and adopt a cooperative arrangement for uniform driveway practices on at least those driveways where inter-forest crossing is involved.

Driveway Supervision

The question of providing adequate supervision to handle the crossing business has been under consideration in the Region for at least 16 years. The files contain a large amount of correspondence between the Forests and the Regional Office and the Washington Office, all bearing on the subject of forage and supervision charges and ways and means for financing driveway supervision. These matters are already too well known to require any lengthy discussion here. So far as the purpose of this report is concerned it is sufficient to state that funds have not been, and are not now, available to finance the estimated needs for driveway supervision. The charge for forage is to be continued but since the income from that source is destined for the general Treasury it is of no assistance in financing supervision costs. The Cooperative Deposits, which heretofore have been applied on these costs, are no longer available since charges for driveway supervision are discontinued beginning with the 1931 season. Even when these funds were available the supervision which they afforded was both haphazard and inadequate. It does not appear that the priority which has been given driveway work on these three Forests is at all in keeping with the importance of the job. Until it is recognized that proper handling of the driveways is a major problem in grazing administration on this group of forests, and provision is made for actually doing the work, little improvement in conditions need be expected.

A preliminary estimate developed in consultation with the Supervisors and Rangers last summer, shows a minimum supervision need (counting and patrol) of 700 man-days for the Umatilla; 350 for the Whitman and 420 for the Malheur. In the fiscal year 1931 the Umatilla relied entirely on the Cooperative Deposits (crossing fees) to finance driveway supervision, but the Whitman was allotted administrative funds for 70 man-days supervision and the Malheur for 50 man-days.

The following tabulations represent, as near as can be determined at this time, the minimum needs for driveway supervision:

UMATILLA (South Half)

LOCATION	SPRING			FALL		Total Amount
	Count Period	Patrol Period	Amount	Patrol Period	Amount	
Long Prairie	6/1-6/30		120			
Summit R.S.		6/1-6/30	120	9/26-10/15	80	
Bull Prairie		6/1-6/30	120	" "	80	
Tupper Cor.	6/1-6/30		120			
Tupper R.S.		6/1-6/30	120	9/26-10/15	80	
Arbuckle R.S.		6/1-6/30	120	" "	80	
Arbuckle Cor.	6/1-6/30		120			
Ellis R.S.		6/1-6/30	120	" "	80	
Bear Wallow Cor.	6/1-6/30		120			
Bear Wallow R.S.		6/1-6/30	120	" "	80	
Frazier R.S.		6/1-6/30	120	" "	80	
Johnson Cr.		6/1-6/30	120	" "	80	
Pierson R.S.		6/1-6/30	120	" "	80	
Pierson Cor.	6/1-6/30		120			
Hello Boys Sp.		6/1-6/30	120	" "	80	
Ditch Cr.		6/1-6/30	120	" "	80	
			1920		880	2800

MALHEUR

LOCATION	SPRING		FALL		Total Amount
	Period	Amount	Period	Amount	
Keeney Cor.	6/11-7/10	\$120	9/11-10/10	\$120	
Dipping Vat	6/11-7/10	120	9/11-9/30	80	
Aldrich Mt.	*6/11-6/30	80	9/11-10/10	120	
Murderers Cr.	6/11-6/30	80	9/11-10/10	120	
30 – 30 Sp.	—		8/11-9/10	120	
Malheur Station	*6/21-7/10	80	9/1-9/20	80	
Crane Prairie	*6/11-7/10	120	9/1-9/30	120	
Calamity Station	6/11-6/30	80	9/11-9/30	80	
Starr Camp	6/11-6/30	80	9/11-9/30	80	
TOTALS –		\$760		\$920	\$1680

(* Both count and patrol.)

WHITMAN (Blue Mtn. Division)

LOCATION	*SPRING		FALL		Total Amount
	Period	Amount	Period	Amount	
Meadow Creek	6/16-7/5	\$80	9/16-9/30	\$60	
Hoodoo R.S.	6/16-7/5	80	" "	60	
Crane Flat	" "	80	" "	60	
Beaver Meadows	" "	80	" "	60	
Dixie Creek	6/1-7/10	160	9/16-10/10	100	
" "	" "	160	" "	100	
Kelsay Meadows	6/16-7/10	100	9/16-9/30	60	
Desolation R.S.	" "	100	" "	60	
TOTALS –		\$840		\$560	\$1400

(* All patrol and supervision – no counting.)

SUMMARY OF SUPERVISION ESTIMATES

FOREST	Estimated Amount			Miles Driveway	Sheep Days
	Spring	Fall	Total		
Umatilla	\$1920	\$880	\$2800	150	491,846
Malheur	760	920	1680	311	382,003
Whitman	840	560	1400	126	247,067
TOTALS –	3520	2360	5880	587	1,120,916

SUMMARY

1. On the Umatilla (South half), Whitman (Blue Mt. Division), and Malheur Forests there are 587 miles of sheep driveways, involving 1,120,916 sheep days use, which are not being handled in accordance with the best interests of either the sheep industry or the forest resources.

2. The proper handling of these driveways is a major problem of forest administration, but, through failure to provide funds for adequate supervision and needed improvements, has not been recognized as such.

3. Continued use of the driveways has resulted in some damage to forage and tree growth and some erosion has taken place. The actual extent of this damage can be determined only through experimental investigation, but it is confined largely to the occupied area and not believed to be alarming.

4. In the region under consideration continued use of the driveways (under a modified system of management) is vital to the sheep industry.

5. The driveways appear to be justified as an economic necessity in the transportation of sheep and as a means of affording additional fire protection measures.

RECOMMENDATIONS

On the basis of such information as is available at this time it is recommended:

1. That certain driveways on these Forests be set aside for the use of crossing sheep very much in the same way as a strip of land would be dedicated to road or highway purposes.
2. That the Forest Service recognize that a certain amount of damage to forage and tree growth on the driveways is unavoidable.
3. That the Regional Office and each Forest concerned take the necessary steps for eliminating the avoidable damage and that in no case should erosion damage be allowed where it is extending beyond the occupied area.
4. That the Regional Office arrange for a driveway conference to be attended by those Forest officers most closely identified with the management and administration of the driveways, and that this conference work out and agree upon the final methods for disposing of the recommendations made in this report – particularly those which affect inter-forest crossing.
5. That the proper handling of the driveways be elevated to the importance of a major job in forest administration on these three Forests and that the Regional Office go as far as possible in securing the funds (both supervision and improvement) to handle the job.
6. That the practice of abandoning the driveways, so that men doing driveway patrol may attend fire schools, be discontinued.
7. That the establishment of application of driveway priorities be resorted to only after all other possibilities for reducing damage have been exhausted.

The following specific items which have been covered in the report are recommended for early action or at least for consideration.

- a. Change the location of the Groschen Cabin, Arbuckle, Lonerock, Oriental, Long Creek and Dixie Driveways to shorten travel time and reduce driveway loads.
- b. Establish a new driveway from the Long Creek road northeasterly across the Middle Fork of the John Day River near Galena to connect with the Squaw Rock Driveway near Squaw Rock.
- c. Regulate entry to secure a more even spacing of bands on the trail and to prevent mixing.
- d. Reroute several bands as described and further analyze to secure logical routing in all cases.
- e. Develop six springs as listed and others which have not been reported.
- f. Construct holding corrals, horse pastures, and shelters, at 53 camp sites as listed and as many others as may be needed but which have not been recommended.
- g. Clear and widen all sections of driveway where the present width unduly restricts the movement of bands. Needed work noted on Chicken Hill, Meadow Creek, Desolation, and Pearson driveways.

h. Post all driveways with center line notices at intervisible distances and removal of old notices where the routes have been changed. Traversing the driveways for use as reference in fire location.

i. Initiate experiments to determine the merits of trucking as contrasted with trailing.

j. Require that sheep be in good condition at time of entry; otherwise refuse crossing permit. Encourage project arrangement for feeding enroute outside the forests.

k. Establish rest areas to be known as "filling stations" along the driveways inside the forests.

l. Encourage and assist in the organization of a driveway association made up at least of all users who are identified with inter-forest crossing.

m. Adopt a uniform policy for driveway management and administration.

n. Arrange for systematic supervision and a patrol which can be depended upon constantly during the spring and fall periods of crossing.

WALT L. DUTTON,
Regional Forest Inspector.

Approved May 8 1931.

E. Kavanagh

Assistant Regional Forester.

(**TABLE B**)

FOREST	CLASSIFICATION OF DRIVEWAY USE							
	Forest Permittee		G-4 Permittee		Not Permitted		TOTALS	
	Sheep Days	%	Sheep Days	%	Sheep Days	%	Sheep Days	%
Whitman – Blue Mtn. Division	152,806	61.8	35,915	14.5	58,346	23.7	247,067	22.0
Umatilla – South Half	326,883	66.4	41,113	8.4	123,850	25.2	491,846	43.8
Malheur	207,178	54.3	95,114	24.9	79,711	20.8	382,003	34.2
Totals –	686,867	61.2	172,142	15.3	261,907	23.5	1,120,916	100.0



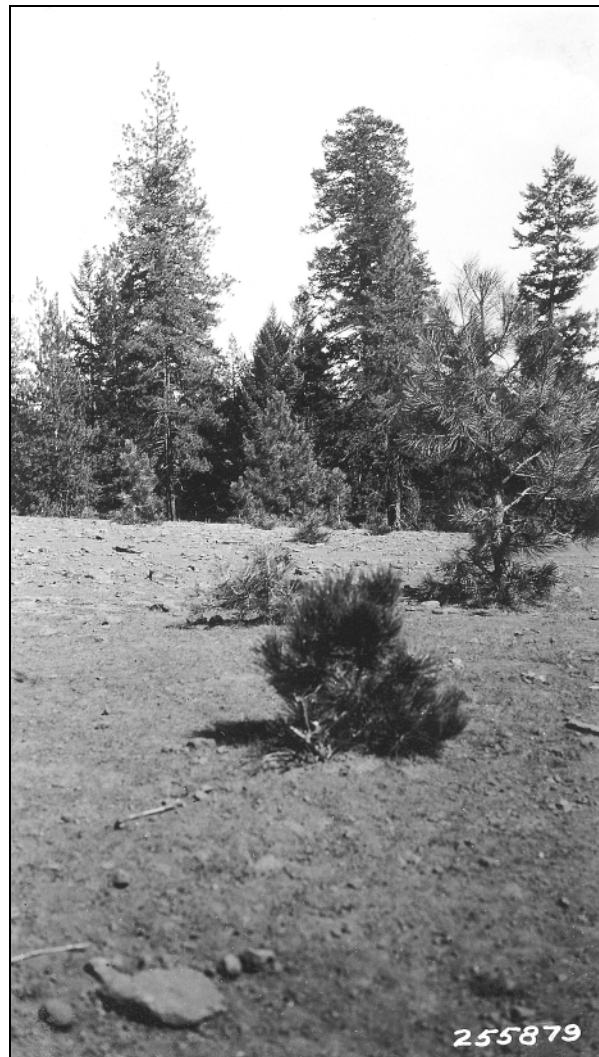
1 Fenced lane near Long Creek – 30 miles long through which 30,000 sheep pass twice each year.



2 Scene on Long Creek Driveway. Damage to tree growth (lack of reproduction) usually confined to narrow strip along center of occupied area.



3 Pierson Driveway (outside Forest) – used 7 years by 50,000 sheep. Wheat grass denuded by no damage to Yellow Pine reproduction.



4 Camas Driveway – Yellow Pine reproduction 30 years old – stunted by repeated cropping.

[No Photograph Included in This Copy of the Report]

5 Outside Forest near Tupper R.S. Marked absence of tree reproduction as contrasted with stand on protected area adjacent.



6 Outside Forest near Long Creek. Complete absence of perennial vegetation found only in narrow lanes or other places where sheep are handled in mass formations.



7 Morphine Ranch Driveway – No damage to wheat grass and Bitter Brush 200 ft. off trail.



8 Meadow Creek Driveway – Erosion and change from wet to dry meadow following removal of beaver.



9 Lowering of the water table changes type from wet meadow to dry meadow.



10 On Fort Rock District of Deschutes experience has shown practicability of watering sheep by truck.



11 Hawk Spring on Malheur – developed by
permittee – cost \$45 – burning method used.



12 Long Prairie Counting Corral – Lonerock Driveway – Constructed 1925 – Cost \$250.00.



13 Keeney Corrals – Long Creek Driveway.



14 Chicken Hill Corral – Junction of 4 driveways – Constructed 1923 – Contributed time labor – Cost \$50.



15 Meadow Creek Driveway – Cleared to 16 ft. in 1912 – Lodgepole reproduction 35-40 years old.



16 Chicken Hill Driveway – cleared to 10 ft. –
Cost \$100 per mile to widen to 30 ft.



17 Desolation Driveway – cleared through dense lodgepole.



18 Pearson Driveway – Sometimes the sheep must be detoured to avoid pole thickets and down logs.



19 Minimum requirements for posting driveways provide for center notices on both sides of the tree or post at intervisible distances.