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Interviewee: Glen A. Smith

Interviewer: N/A

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Glen Smith: —and did my best to guide it in the proper directions, With the present set up of better than 50 percent of the game managers in the state of Montana now technically trained in the regulation of the problems of winter feed, it appears that the early action on the part of the Montana Sportsmen's Association was an important factor in all of this progressive management of the game resource. This in addition to the problems of range for domestic livestock made the problem in Region One a very interesting and thought-provoking problem, I enjoyed it most thoroughly and am proud of the progress that was made and the general attitude of the users of the forest ranges—both sportsmen and livestock men—towards the policy of the Forest Service and the fact that the game department is staffed now with men who appreciate the many problems involved in game management. There was a time in the early 1920s when most of the game wardens thought that their only problem was law enforcement, This has given way to very careful thought of range management and resource management both in the field of game as well as fish culture,

The administration of game on the national forests is a fact that the game belongs to the state and the hunting of the same is regulated by the state whereas the range is pretty largely in government ownership. One of the difficulties that I encountered was the constant changing of game wardens and commissioners. Take, for instance, the Sun River Game Preserve—the sportsmen of Great Falls, Choteau, and Augusta were very much interested in this elk herd. Through "show-me" trips and lectures, we would just about get them properly acquainted with the problems, and an understanding of what ought to be done in the way of hunting to keep the elk herd within the capacity of its food resources, when we would get a change in the leadership of these sportsmen's organizations, and a change in the game department, and then start all over again. It would take about four or five years to get a complete understanding with the Fish and Game Department and the local sportsmen, and then, when you got a change, you'd start out and spend another four or five years in getting them to understand in complete detail the necessity of keeping the game members within the carrying capacity of the winter range. This was exceedingly discouraging and led to some rather sharp conflicts on various occasions. But since the Fish and Game Department has, in late years, gotten more technical men into the organization—men who are fully trained in game management and understand the necessity of maintaining game within the limits of their food supply—these things have gradually worked themselves out. Some of the men who were especially helpful in our early efforts to place game management on a good footing were the late Tom Morrow (?) of Missoula, Kenneth MacDonald, Fred Williams, M.S. Carpenter and Bill Sullivan. All of these men were very helpful in getting an understanding and carrying through on a well-balanced program. As I understand the situation as of 1957, the relationship between the Forest Service

and the Fish and Game Department is very satisfactory to both organizations and a great deal of well-balanced game management is being carried out on both the forest and public ranges.

Another thing that was exceedingly important at the time of my taking over the range management in Region One in 1919 wasn't use of forested ranges in northern Idaho and western Montana by Oregon and Washington sheep which were just beginning to develop. The Washington and Oregon sheep had plenty of spring, fall and winter facilities, but very little summer facilities. Therefore, the shipping of sheep to these northern Idaho and western Montana ranges became quite a practice that at the time was quite profitable. The plan of use was to ship ewes and lambs into the area and about the middle of September the lambs would be separated from the ewes and shipped to market while the ewes were returned to their range in Washington and Oregon. The fires of 1910 and 1919 had opened up a lot of range that had come up to various kinds of vegetation, especially fireweed and other luscious weeds that were especially adapted to the production of lambs. Until these ranges began to close up with reproduction of the conifer type, their use by sheep was considered to be a proper field of resource management. Several thousand head of sheep were taken into the forests in northern Idaho and western Montana for summer grazing. This is still practiced in a small way but at the peak, about 1929 and 1930, there were at least 75,000 head of sheep grazed in northern Idaho and western Montana during the summer months. There was, of course, considerable opposition on the part of certain people who did not understand that the ranges used in the summertime were of little value from a game standpoint and they therefore objected to the use of these ranges. There was, in reality, very little conflict between ranges used by the sheep and those used by game, but it occupied considerable attention on the part of the Forest Service and especially the regional office. It was necessary that I attend all the seasonal meetings of the sheep industry in Washington and Oregon order to keep them posted of the fact that these were temporary ranges and eventually they would be closed out by reproduction.

Another problem, and that was the horse business. Over 4,000 head of horses were removed from the national forest and disposed of to this firm. For about three or four years thereafter, anywhere from 500 to 1,000 head were removed from the forest until they were pretty well cleaned of wild horses.

In the meantime, we were making every effort to determine more accurately our carrying capacities, seasonal uses, and stocking accordingly. The hard winter of 1919 and 1920, with its ensuing losses of both cattle and sheep, gave us an opportunity to make a good many adjustments. Although many of the adjustments we made were not well founded because we had not been able to cover the range sufficiently with range surveys to determine, with some degree of accuracy, the longtime carrying capacity of these ranges. Nevertheless, it did give us an opportunity to make some reductions that were sorely needed and without range surveys was clearly necessary. There were several cases in the region where the vicissitudes of the sheep industry had caused ownership to shift to banking interests and this caused considerable investigation. One case in which a good deal of time was spent for a couple of seasons was the

Biering and Cunningham Sheep Company at Bozeman. Biering and Cunningham had been running cattle for many years in the upper Gallatin watershed on the Gallatin National Forest and on their private holdings in the Madison Valley. They desired to shift from cattle to sheep and since they had considerable railroad land intermixed with the forest land on the Gallatin Forest, it was a matter of determining more accurately what ranges were used and needed there for elk range and that that could be used by sheep. A survey was made of that territory and, in the meantime, the matter of who owned the sheep was looked into pretty carefully and it was found that a Minneapolis banking concern was really the owner of the sheep and that the Biering and Cunningham was merely running them on a percentage basis. In the first place, we were rather reluctant to make the change from cattle to sheep because of the need of the game in the upper Gallatin country, and the difficulty determining the range not needed by elk that could be used by domestic stock. We were rather particular in setting forth the areas that could be used by sheep and those that we wanted to reserve for elk. The sheep men were not satisfied with the division of the range and carried their case up to the Secretary of Agriculture, who ruled that they were entitled to range somewhere on the Gallatin Forest which represented the carrying capacity of the land that they had leased from the Northern Pacific Railroad. This meant that we were permitted to go ahead and set up certain range allotments that conflicted the least with the winter game range. This took considerable time and attention during one or two seasons and then, when it was found that the Biering and Cunningham did not own the sheep and that they belonged to the banking concern in Minneapolis, the cancellation of their preference was in order. We had some difficulty in convincing the Biering and Cunningham that this was a necessary thing and they still maintained that even though they owed more money on the sheep than they were actually worth in the market, that they belonged to them. Many conferences were held and their preference was finally canceled, and they disposed of their ranch property and the way was left quite clear to set up the proper winter range for the elk in the upper Gallatin country.

Along about 1922 the Congress was ready to question as to whether or not we were charging enough for the use of our forest ranges for the grazing of livestock and threatened to reduce our appropriations until we raised the grazing fees four or five times higher than was being charged at that time. We succeeded in getting a delay on any action towards raising the grazing fees by legislation by promising to make a thorough study of the value of our ranges from an economic standpoint. This occupied considerable time during the next two or three years when finally it was agreed to the establishment of a fee on the basis of what stockmen were willing to pay for comparable ranges in private ownership and to relate this to the value of livestock as of 1914 to 1920. A basic fee was established and as the price of livestock went up the price of grazing fees on the national forest went up also. This scheme took a lot of conferences with livestock operators and a very thorough study of the price of leased and owned lands in relation to their grazing values. Also the fact that the grazing regulations kind of grew up as we learned more and more about the use of the national forest in its relation to the livestock industry so that there were many conflicting regulations and instructions concerning management of the forest ranges. In 1923 a service-wide conference was held in Salt Lake City for a week and when this conference was ended the Forest Service decided, in light of the many facts that had been

brought out at this meeting, that a revision of the grazing manual should be made. Therefore, the chiefs of range management in the six western regions together with the chief of range management in Washington, D. C. were called together in Ogden to revise and revamp the grazing manual. This occupied our attention for about six weeks or more and through this process every one of us gained a pretty fair insight into the whole general policy of range use and its economic relations to the livestock industry. (Here should be inserted a picture of the men who participated in that revision, a copy of which is available.)

The game resource management that I adopted in Region One I think has been very effective in getting good management on most of the ranges in the region. We started out immediately after I became chief of the division to make a very careful range survey of the most important ranges and to carry them on down to the lesser important regions until we had the entire region covered with range surveys. Through a very careful analysis of these surveys with reference to capacities, seasonal uses, improvements and so forth that were necessary to get proper use on the range, we built up exceptionally good plans for all the ranges in the region. One part of the program was to thoroughly acquaint the local ranger with these surveys and in order to do that many a ranger has been relieved of his district duties while a survey was made on his district or on the forest on which he was located: and he participated in the surveys themselves and also participated in the building of a management plan for his district, including each and every range allotment. This had a tendency to build up, and did build up, some very good range managers in the field force and after 12 or 15 years of this type of a program the range business was pretty much able to carry through with very little supervision from the regional office. It was about this time that I was pulled off from the general supervision of range management, in a perfunctory way, to give time to the appraisal of lands claimed by the Northern Pacific under their land grant program.

It might be well at this time to indicate just what was involved in this sort of deal. The Northern Pacific was given a grant of every odd numbered section on either side of their right-of-way through Montana, Idaho and Washington in order that they could finance the construction of their railroad. Due to the fact that it was found that a good many odd numbered sections were occupied by settlers, and also due to the fact that mineral lands were excepted from the grant, and due to a classification of practically all the lands that had no surface value—such as high mountain peaks and burned over areas in the west—they were granted an additional grant to select lands in lieu of these lands that they lost due to mineral selections and to settlement within an additional ten miles either side of the Northern Pacific right-of-way. The provision of this grant provided that they should select agricultural lands. The question was whether or not many of these lands that they were selecting were agricultural indeed: for many of them were pretty heavily timbered and in some cases were at such elevations as 8,000 to 10,000 feet and could not by any stretch of the imagination be classified as agricultural because no agriculture crops could be grown on these higher elevations outside of grasses and native grasses predominating at that. So, when the hearing was held in Spokane, under a specially appointed judge, to argue the point of how these lands were classified and what the surface conditions showed, I was one of the main witnesses for the lands which were predominantly covered with

native grasses and considered that at a high elevation to prohibit them from being used for any known method of agriculture except for summer range for livestock. The attorney for the government asked me one morning what I would say if he asked me if there was recognized in the agricultural regions and livestock regions a difference between purely range lands and agricultural lands, and whether or not just ordinary range land should be classified as being of agricultural value. Well, we had considered this to some extent on several other occasions but had not come to any definite conclusions. When placed on the witness stand and he asked me if it was recognized in the range areas and agricultural areas as to whether there was any difference between purely range lands so recognized I made the statement that I thought there was. But in order to explain my justification for my thought I would have to make some reference to the history of my own family. Well, the Northern Pacific attorney objected to the question, but the judge overruled him and told me to go ahead. Well, I recited that my father was raised in Illinois where they raised corn and fed hogs and they raised more corn to feed more hogs and bought more hogs to eat more corn and he was sick and tired of that sort of deal. So right after the Civil War he migrated to western Missouri, which at that time was open range land, and took up a homestead where he could raise cattle and not be bothered of this matter of raising corn and so forth. I said that when I came along, the country had developed to the point where they were, at that time, raising more corn to feed more hogs and that my father's farm was one of those that had gone into the hog-corn business and I got very tired of picking up the down row and gathering the corn in the fall of the year. When I got out on my own, I immediately got out of that country to a range country in Montana where this down row business was out of the picture. The judge, being from Iowa and having been raised on a hog-corn ranch, immediately jumped at the matter of picking up the down row and called a recess of 15 to 20 minutes and discussed with me to some extent this matter of picking up the down row. Now, to those who are not familiar with that sort of language, it might be well to explain that in those days before the corn picker it was common practice for them to gather corn in a wagon drawn by a team of horses. They drove straddle of one row and a man on either side of the wagon took two rows of corn while the man who picked up the down row only had one row. The judge called a recess and talked to me about 20 minutes about picking up the down row and then at the noon time he took me to dinner, and we spent most of the dinner hour talking about the problems of picking up the down row and his experience in that field. Apparently, I made a pretty good hit with the judge because of the various rulings, thereafter, he made in my favor.

One thing that happened at the trial was amusing to me. Apparently, there was no one, either the judge or the attorneys on either side of the case and the witnesses for the Northern Pacific, who had cruised the lands in the Gallatin country and who was familiar with the cover. I had before me a range survey and I was able to read a very detailed description of the land cover. For instance, the government attorney asked me what the cover was on section 28, township so and so, and with this map before me I could read very definitely, "That's the south side of the section or south half sloped to the south and was covered with grass, while on the north slope it was covered with lodgepole and fir of just pole size." I went through section after section that way, just reading a map and I finally got the reputation of knowing every rock and

stone on each section. The reporter for the *Spokane Review* was available and he ran practically a column citing the fact that this tall, slow-spoken cowboy, Glen Smith, was well acquainted with the range and knew every rock and stone on it. This was rather amusing to me when, as a matter of fact, all I was doing was reading the map. I don't think it is really known to this day how well I was acquainted with each and every section, although in a general way I was well acquainted with the area in question. To say that every quarter section or 40 acres here and there was grass land and part of it was timber land and etcetera, that would have been out of the question as far as definite locations was concerned. By the use of the map, I was able to give a complete detail. Even the witnesses for the Northern Pacific who had been in on the survey of these lands were astounded as to my knowledge of local conditions and so expressed themselves on one or two occasions.

The problem of getting proper range management on the national forest involved getting sheep men to bed their sheep wherever night overtook them—commonly called the bedding out system. This was one problem that we worked on pretty thoroughly. After some tests between the weights of lambs before the bedding out system was used and the weights of lambs where the three- or four- or five-night sheep bedding was used, proved that where sheep were bedded out and were allowed to start out immediately on the good fresh feed without traveling over the territory that they had grazed over on the week-long bed grounds, proved to be a paying proposition. Lambs weighed anywhere from five to eight pounds heavier. Those that were five to eight pounds heavier [were] on the herds that were practicing the one-night system over those who bedded three nights or more in a place. In a band of ewes of 1,200 to 1,500 head—which was the rule at that time—it meant a lot of addition. The fact that in a band of 1,500 head of ewes there would be 1,200 to 1,500 lambs thus the increased profits would be \$900 to each herd provided the lambs weighed five pounds or more. Most of the sheep men were in favor of it, but some of them were reluctant to force their herders to practice the system, although some herders took to it very readily. On the Bradley (?) range there is a high butte in the middle of it called Black Butte and one summer the Coast and Geodetic Survey set up a station on this mountain. They had a number of these scattered all over southeastern Montana and they used them largely at night to establish certain controls. At night they had heavy search lights on them, and they showed up very plainly at considerable distance. One of the operators that was at this station at Black Butte had a lot of fun switching the search light around over the range and picking out sheep camps. The herders got the idea that we were watching to see whether they stayed more than one night in a place and that season we had the best compliance with the one-night bedding rule. We were very anxious to keep this system in operation because it saved considerable range by reduced trailing of sheep back to the same bed ground and at the same time increased profits to the stockholder.

Another phase in the handling of cattle was the matter of salting. It was generally a practice of stockmen to salt their cattle near water which results in the cattle coming down to water and drinking and going over and licking salt and going back and drinking and laying around the same place for hours and hours at a time. Therefore, some of the ranges in the out of the way places were very little used while those around water were overused. We found that by salting in

these out of the way places, or anywhere where cattle didn't naturally go for their feed, had a tendency to pull the cattle away from the overused areas and to get more uniform utilization over the entire range, The Forest Service, therefore, posted the ranges showing where salting should be done and worked out a salt plan in accordance with the amount of feed available around each salt ground, the amount of salt to be put there, and when it should be salted. A great many stockmen realized the value of this, but there's always a controversy—those who like to drive out on the range in a car and dump several hundred pounds of salt near a road or stream and go back home again. Those who were interested in keeping the range up and seeing that their cattle did the best that was possible on these ranges, were enthusiastic for the salting out method.

I recall on one occasion, when we were riding the sheep and cattle ranges with a number of stockmen, we found several bed grounds on one sheepman's allotment that were in terrible shape. The overuse of the bed ground and the scattering of all kinds of rubbish—cans and refuse of all sorts—left them in a very unsanitary and overused condition. I held council with the stockmen at one of the bed grounds and asked the question, "If the range belonged to you fellows and a man treated it that way, what would you do about it?"

They said, "I would take the range away from them. I wouldn't let them have it anymore."

I said, "What would happen if the Forest Service did that? Would you fellows back us up?"

They said, "We certainly will." Since this particular sheepman had three bands of sheep, we reduced him by one band. That made a pretty good fellow out of him and a good many of the others who had been a little delinquent in their following the one-night bedding system.

The matter of trespassing was also another matter that we began to clamp down on and this took a lot of special attention to the various ranges. I think I mentioned in a previous statement that trespassing horses of unknown ownership was one of the big problems and to solve that we had removed several thousand head of horses from the forest. All of these various phases of management were emphasized and, outside of a few isolated cases, most of the range in Region One came under very good management, especially after the range surveys were completed and a thorough analysis made of each and every range. I have been told that Region One has the best range conditions throughout the national forests and in the other parts of the United States. This was the opinion of a number of inspectors from the Washington office who had an opportunity to know the conditions throughout the western United States. I was very happy to learn this because I certainly gave the whole field of resource management much thorough thought and did my very best to guide the thinking of the field officers towards the best possible use.

The job of range management was exceedingly interesting to me and while it required a great deal of field work, I thoroughly enjoyed the work. For several summers I put in from 125 to 150 days actually in the saddle inspecting ranges, and thereby became acquainted with practically

every nook and corner in the region. This stood me in hand whenever a stockman came in to complain about some condition on his range. I was able to understand his problem and advise him on corrective measures if necessary and thereby eliminated a great many complaints that might have reached the Washington office. There were very few complaints that ever got as far as the Washington office as long as I was Chief of Range Management in Region One. Along came a time, however, when the Service desired that I try my hand in other regions and in 1938 I was offered the job of Chief of Range Management in Region Four at Ogden, Utah. In January 1939, I transferred to Ogden and spent most of the winter going around to the various supervisor's headquarters and getting acquainted with them and discussing their problems. In May of 1939, a conference of supervisors and assistant supervisors in charge of range management of the six western national forest districts was called in Washington, D. C. and after considerable discussion of various problems from the Forest Service and the fact that some vacancies occurred because of deaths, I was asked to move on down to Denver, Colorado, where they thought I would be able to do some very good work in connection with the range problems in Colorado, Wyoming, and North and South Dakota. So, in June 1939, I moved on down to Denver and took on the job of Range and Wildlife Management in that region. There I found a lot of very unsatisfactory range conditions with reference to livestock and to game. Up to that time, very little attention had been paid to the game problem and, since there had been open season on elk in Colorado up to date and a number of transplants had been made, and the buck law had been in operation for 20 or more years, and the 10-day open seasons, the deer had been building up very rapidly without any official recognition of the same. Therefore, one of the problems was to begin to get information concerning our game problem, do some intensive range surveys to get a more complete picture of our range problem with reference to both sheep and cattle, and all these things seemed to pile up at once. One thing that I ran into immediately was the fact that the field officers were a little reluctant to take any direct action towards reducing livestock when they knew the range was overstocked because in the past, they claimed that they had not been backed up by the regional office. This had gone on for so many years that they had become rather calloused to the idea of attempting to make reductions where ranges were in need of reductions and relief. It took some time to satisfy the field that we would back them up and that we at the regional office would back them up in all cases where they were right with reference to the number of stock that should be run on the given range. However, so many of the ranges were so badly used that very heavy reductions would be necessary to get any worthwhile relief. This, in many cases, precipitated appeals on the part of the stockmen and therefore I was busy answering these appeals and looking into conditions on the ground to see that the proposal was justified. In mentioning proposal, I meant proposed reductions or any other change in administration. It was difficult, however, to get the stockmen to understand that they could not take every blade of grass off the range and keep the range in a productive state. They had been in the habit of doing it so long that they couldn't imagine leaving a few extra spears of grass on the range. To some extent, forest officers were in the same frame of mind. Up to that time, it was generally believed that 25 to 30 percent of the season's forage growth should be left on the range at the end of the grazing season—pretty well distributed over the range in order that the range could be kept in a satisfactory condition. I believe, through studies that has been made, it is now believed that at

least 50 percent of the season's growth should be left on the range in order to maintain a range in a productive state. In view of the very heavy use that have been made in the past of the ranges in Colorado and certain parts of Wyoming, it was difficult to see how these ranges could be built up by even leaving 50 percent, let alone grazing them down to five and ten percent. Practically every effort that was made to bring the stocking within a reasonable annual carrying capacity met with some resistance. One of the forests that was the heaviest used, as far as I can determine, was the Uncompahgre, which had been a very productive range but, due to overstocking on their regular permit and to heavy trespasses, it had become in a very serious condition. I held numerous meetings there and finally a United States House of Representatives member called a meeting at Denver, Colorado, where about 400 stockmen and other citizens gathered for the meeting. I persuaded the Regional Forester Peck and Assistant Regional Forester Stahl, to go with me to this meeting and, starting at about 1:00 in the afternoon and running through to about 6:00 or 6:30, better than 400 stockmen and other citizens were at the meeting. The spokesmen that were most vocal proceeded to take the Forest Service apart and especially me because I was considered a newcomer in the region and therefore shouldn't have the knowledge of the ranges to justify the program that we had mapped out. It was a rather trying afternoon and long before everyone had had their say concerning the matter, I asked the chairman, who was the state representative, for the floor. I told this meeting that they could look at my gray hairs and know that I was not born yesterday and furthermore that I had spent nearly 40 years riding various ranges and making carrying capacity studies and that I took no back seat to anyone with reference to my ability to judge the condition of a range. There was no question in my mind at all regarding the various serious conditions of all the ranges on the Uncompahgre National Forest. I answered some of their statements: "As long as you can bring a 400- to 450-pound calf off the range, that range cannot possibly be overgrazed." I told them that I saw some of their 450-pound calves and that many of them were anywhere from 12 to 14 months of age and should have weighed 600 or 700 pounds if they had been on proper feed conditions. Anyhow, I suggested in the large meeting right away that we couldn't get anywhere throwing stones at each other and that we should have a special committee appointed to consider the whole problem and come to some understanding with reference to what the Forest Service was willing to do and what the stockmen were able to do. A committee of about 12 men were appointed and the next day I spent nearly the entire day discussing ways and means of getting relief on some of the overstocked ranges, after which a number of meetings were held of local stockmen who represented a certain territory and a plan of reduction in the load was reached. Many were willing to put their stock on the forest a month later and take them off a month earlier, so long as they were able to run the same number of stock that they had been running in the past. This in general would give anywhere from 70 to 50 percent reduction on the ranges and these proposals were accepted and a written agreement was made concerning the matter. Within a couple of years of working with these stockmen practically every range on the forest had worked out a deal whereby considerable load were in the offering to reduce the stocking on the range. About this time, however, a new supervisor was assigned to the forest and I retired. From what I could learn later all the plans and efforts that had gone into two or three years of earnest working with the stockmen were scrapped and no reductions were made of any kind. My successor attempted to work out plans of reduction

on the Uncompahgre and the Grand Mesa without too close a consultation with the local stockmen and a great hubbub came about, with appeals and attempts by the National Livestock Association to get through federal legislation prohibiting the reduction of livestock on the ranges—in other words, to make the present permittees have a perpetual right. All of these things distracted from the real problem of getting things done on the ground. The Forest Service attention was given over to blocking legislation of that sort and trying to pacify some of the leaders of the program.

Apparently, the fact that the regional office had not been giving the field men proper support led to the general feeling that the only way was to settle a complaint when the stockmen complained of the action of the local forest officers was to tell them if he was not satisfied he could take the matter up with the regional office. This resulted in some 40-odd complaint cases that were pending on my desk when I arrived in the regional office, and apparently the regional office had encouraged these complaints by acquiescence to any stockman who came into the regional office and made a complaint. They would generally inform him that they would look into the matter and let him know what could be done about it. I had not been used to this kind of a deal, so I immediately started in telling the permittee to go back to the forest and talk the matter over with his ranger and supervisor and try to work out some satisfactory compromise one way or another. I also notified the field officers that they were expected to reduce the number of complaints coming into the regional office and that we were referring most of them back to them for settlement. It was necessary for me, however, to go through with all those cases in which the regional office had promised an investigation and for the first year that took up a great deal of my time and gave little time for original thinking and looking into the general problems on the national forest. At any rate, most of these were cleaned up that year and when I left the region in 1952, there was not a complaint case on the board. Our forest officers began to take more responsibility in dealing with their permittees and working with them and coming to some reasonable conclusion as to proper handling of the ranges. As a matter of fact, while I was there in that region a great many stock associations were organized—

[Break in audio]

—consulted with many general policies with reference to the management of the resources of the ranges, I understand that this advisory group is still in existence and that some very nice programs have been worked out.

When I arrived in the region the general feeling was that there was only one range problem with reference to game in the region. That was known as the Sapanarrow (?) Range. However, before I left there in 1942, it had been determined that there were some 20-odd areas in the state of Colorado that were overstocked with deer and some 18 or 19 areas that were overstocked with elk, I succeeded in getting the state fish and game department to open the season on elk in a number of areas and to allow the killing of does in a number of areas. They were rather reluctant to take any action of this sort, especially opening the season to killing of does, because the state had been opposed to killing does for so many years and the public had

come to feel that it was a terrible sin to kill a doe deer or cow elk, On this Sapanarrow area during the winter of 1939, some 1,500 deer died of starvation, I succeeded in getting the Fish and Game Department to authorize a kill of 500 head of either sex, They were very reluctant to do it and told me that they would try it out there to see what the general results would be. One little town over in that general territory got very excited about killing does and came into Denver and had about 10,000 handbills printed in which they threatened to get an injunction against the Fish and Game Commission or to call for their resignations if they didn't restore the prohibition against the killing of does. One of the general statements that was made on one of these bills was, "we're good sportsmen; we're not mother murderers," referring to the killing of doe deer.

I called up the chairman of the sportsmen's organization in this town and asked if I could appear before their club and explain the reasons for the Forest Service's recommendation regarding the killing of does and the reduction of the herd on the Sapanarrow area. He was rather reluctant to give me an audience but finally agreed. When I arrived there, I thought for a while that they were going to mob me. I went pretty well prepared because the winter before we had taken a large number of photographs showing the range condition and the conditions of the animals themselves dying of starvation and in great agony. I should mention that the Fish and Game Department had that winter attempted to feed several thousand deer and they had bought up a lot of hay and distributed it around the range. Well, the deer didn't come into these particular areas until they were pretty well starved down, and they came upon this hay in great quantities and filled up with hay—especially alfalfa. Due to the emaciated condition and the fact that it was a very unnatural way for the deer to feed because they generally spent several hours taking a little bite here and a little bite there. They were exceedingly hungry and took on too much feed at a time, and they created a serious condition with reference to their digestive ability. A great many deer that had died we performed autopsies on and found out that by taking on too much feed at one time they had contracted a compaction of the bowels and that was the cause of their death. At any rate, we counted some 1,400 deer that died that winter on the feed grounds. A rather novel way of knowing what animals had been on the feed grounds and what had not was worked out by the rangers who were making a study of this area. This method was simply the use of a bow and arrow. On the end of the arrow was fastened a sponge that was dipped in yellow paint. As the animals fed on the ground, although you could not get near them, you could shoot them with this arrow which would leave its mark on the animal. Thus, it was determined that even though an effort was made by the Fish and Game Department to overcome a shortage of feed conditions on the range by feeding artificially that it would increase the loss of animals by over 80 percent at one setting. Well, from these photographs, I had slides made and at this meeting I showed them. After I had gotten through showing them what had happened on this range, I asked if there was anyone in the audience who would like to see this condition go on with the horrible deaths that many of these animals went through or whether it would be better to utilize them by legal hunting. I think it convinced this group of people that it is necessary to do something about this sort of thing and nothing more was heard from this community or any other community in the state with reference to the killing of doe deer. I understand now in Colorado they have a greatly

extended season and the killing of both sexes is permitted, and in some cases more than one deer or elk is authorized. At any rate, the game situation has much improved even though many herds got beyond the carrying capacity of their ranges.

One area in southwestern Colorado that is stock cattle range had been horse stocked and cattle men were being reduced in numbers and the period of use. We made a very thorough airplane count and found some 1,800 to 2,000 head of elk wintering on the range, whereas the stockmen and the local forest officers thought that probably 250 head was actually wintering on this range. The matter of getting this area opened up to hunting and getting a reasonable kill was a problem to be solved with the Fish and Game Department and with consent of the local sportsmen. When these herds get to this size, the annual kill can generally be as much as 20 percent of the total herd without any reduction in the numbers of the animals on the range, and if you want to get reduction in numbers, then you will have to increase the percentage of the kill. Well, this area had never been opened to hunting and it required the use of pack horses and camping places and so forth to bring out the number of elk that was desired. The sportsmen in that territory had not been in the habit of going out with a pack outfit to do their hunting and therefore it took several years to get any reduction in the herd or even a kill of the annual increase. I rode this range with the supervisor and the local ranger and two or three of the stockmen who had used it for some years, and they were astounded when, that winter, we put on an airplane count and found very near 2,000 head of elk on the range which they had very carefully considered only had 250. I then went to the local sportsmen and explained the situation and got them to agree to an open season and a kill of 400 head of elk.

[End of audio]