SUCCESSFUL APPROACHES TO COOPERATIVE RANGE AND WILDLIFE MANAGEMENT OBJECTIVES

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I am happy to address this joint meeting of wildlife and range managers and scientists on this topic of cooperation. This has been a theme of mine for the past 40 years, a condition important to the successful implementation of any resource management project. In fact, my principal contribution to this meeting is the restatement of an essential starting point in all worthwhile efforts to improve the management of our natural resources which is simply -- resource managers must start any project with a positive attitude or philosophy to be successful. I would further suggest that negative attitudes are a more serious stumbling block than all of the physical, biological, social and economic problems facing land managers. I would like to illustrate my contention of the importance of attitudes or philosophy by recounting an example of what happened on a cooperative project in Clatsop County, Oregon. I had been assigned the task of evaluating an effort of agriculturists and foresters to use livestock grazing on cutover Douglas-fir lands which in the 1930's were reverting to the County in lieu of taxes. When I joined the Oregon State College faculty in 1951, a graduate student and I found that improvements to aid livestock grazing benefited wildlife more in the long run. This study was undertaken with an objective, among others, to establish a possible use of cutover Douglas-fir lands between logging and reforestation and create taxable wealth to take the place of timber being marketed. Although the original objective of this project was negated by changing economic conditions, our study revealed that the improvements designed to help livestock, benefited big game long after the livestock were removed. What happened was that efforts to convert cutover Douglas-fir land in Clatsop County in the 1930's resulted in excellent wildlife habitat for black-tailed deer and Roosevelt elk. The original objective to use livestock grazing as an interim use on cutover Douglas-fir lands was sustained for 15 years but the livestock grazing benefits for big game lasted for several decades afterward in seasonally wet areas where legumes were introduced but which were difficult to restock with coniferous tree species. The improvements on these wet areas helped to keep elk off farmer haylands and pastures and vastly improved the habitat for both black-tailed deer and Roosevelt elk.

Although the data from this study were never published because of an argument between the Agricultural Experiment Station Editor at that time and the OSU Agronomist who headed the project, both wildlife managers and foresters made use of this information in developing their respective programs by stressing positive results. Wildlife managers started a rehabilitation of wet areas on the edge of timber stands to reduce damage by elk on farmlands, particularly high value hay fields, and the foresters began using the Northrup Creek Experimental Area for Douglas-fir seed production since the open grown trees were readily accessible for picking cones.

My discussion of successful cooperative approaches will center first on rangelands and then follow on forestlands before concluding with some ingredients of successful efforts by wildlife, range and forest managers to improve resource management policies and procedures.

SOME EXAMPLES ON RANGELANDS

A symposium on wildlife-livestock relationships sponsored by the Department of Wildlife Resources in the College of Forestry, Wildlife and Range Resources at the University of Idaho in 1981 contains a number of examples of successful management approaches to cooperative range and wildlife management objectives. For example, Greenly (1982) pointed out that wildlife and livestock interests have more in common than they have differences and that those differences could be resolved to a large degree. Mumma (1982) suggested that the key in resolving conflicts is to be an advocate rather than an adversary. Likewise, Sharp (1982) pointed out that a greater cooperative relationship between rangeland owner, professional wildlife managers, sportsmen and others would be the best strategy for developing satisfactory solutions to the problem of range-wildlife management.

Urness (1982) stated that most research and management literature dealing with interactions between wild and domestic ungulates has focused upon the competitive (negative) aspects. Comparatively little has been written regarding complementary (positive) relations. He pointed out that grazing studies undertaken at Utah State

University beginning with Arthur D. Smith in the 1940's have provided guidelines for integrated management in the sagebrush-grass zone. In fact, Urness stressed the manipulation of livestock grazing in ways to directly improve habitat values for big game. He added that often this is the most potent, effective and environmentally acceptable tool we have and that much more research is needed to support it (emphasis is mine). Results such as what Urness suggested were obtained by Fulgham et al. (1982) in Utah using sheep to manipulate mule deer winter range. They concluded that domestic sheep and mule deer are compatible grazers on northern Utah foothill rangeland under the dual use prescription followed.

Neal (1982) concluded that heavy spring grazing with cattle showed promise as a method to improve Great Basin deer winter ranges. In his study near Silver Lake, Oregon and Devil's Garden in northern California he found that cattle grazing reduced competing bunchgrasses and allowed establishment of bitterbrush and other palatable shrubs. He concluded that this treatment did little damage to existing stands of bitterbrush and could be applied at 15 to 20 year intervals to maintain a stand of young, vigorous browse plants.

Bicak et al. (1982) studied the effects of livestock grazing on a nongame wildlife species, the long-billed curlew in southwestern Idaho. They concluded that on the Black Canyon Planning Unit in Idaho, all grazing was beneficial to curlews but sheep grazing appeared to have been more beneficial than cattle grazing.

Bryant et al. (1982) reviewed responses of vegetation to wildlife and livestock grazing systems in Texas and found that continuous grazing seemed to be rarely valuable for winter livestock or game production. They concluded that additional research on the ecological effects of grazing systems in Texas is a definite need if wildlife production is to be optimally integrated into ranching operations. They listed seven specific deficiencies in knowledge which included the impact of different grazing systems on: (1) nest site selection and nesting success of ground-nesting birds, (2) vertical and horizontal vegetative structure, (3) fawn survival and behavior, (4) wildlife behavior as affected by high concentrations of livestock, (5) interactions between the above four topics, brush coverage, and stocking rates, (6) nongame wildlife, and (7) long-term successional trends in plant and animal communities.

Klebenow (1982) found that dense grassy meadows that were grazed lightly or moderately were attractive to sage grouse. On the other hand, heavily grazed meadows in poor condition, with few grasses or forbs and dense, shrubby vegetation, were avoided by sage grouse or used only as a water source when they contained free water for drinking. He reported that in 1979 one fenced meadow in the Sheldon Wildlife Refuge in northwestern Nevada was stocked with 41 yearling heifers for 60 days between June and August. This meadow continued to be used by sage grouse and contained more grouse than any meadow on the entire refuge. Approximately 100 grouse used this meadow regularly throughout the summer. Effective cover height was never reduced below 0.5 dm during the growing season with this livestock stocking rate.

A number of other investigators have studied the effects of grazing on sharp-tailed grouse habitat: Mattise et al. (1982), Kessler and Bosch (1982), Nielsen and Yde (1982), and Kohn et al. (1982). Results from these studies differ, but these investigators generally agree that low average visual obstruction readings are needed for adequate nesting of this species.

Perhaps the greatest conflict between livestock grazing and wildlife on both rangelands and forestlands occurs in riparian habitats. Platts (1982) found that grazing by herded sheep may have little effect on streams and the riparian environment. Since sheep cannot be used to graze all allotments, continued research is needed to identify existing cattle grazing strategies that are compatible with riparian environments and to develop new grazing strategies. Platts (1981) indicated that research to date showed that with proper livestock intensity and distribution, the forage in high elevation meadows can be utilized without placing undue stress on the stream and its riparian environment. It will, in his opinion, take time to develop proper grazing strategies that will be compatible with all riparian stream habitat types.

Indeed I have found that improved distribution of cattle is essential to solve the current problems of overuse of riparian habitats. For example, when livestock were turned out on ponderosa pine plantations owned by Weyerhaeuser Company and grazed there during spring and early summer, then utilization of adjacent stream bottoms and wet meadows in the Silver Lake Ranger District of the Fremont National Forest was held to an acceptable level.

SOME EXAMPLES ON FORESTLANDS

In introducing this topic of successful management approaches to cooperative range and wildlife management on forestlands, I'm reminded of a meeting on the Hall Ranch with the noted range ecologist, Dr. E. J. Dyksterhuis, and E. W. Anderson, at that time the State Range Conservationist of the SCS for Oregon. It was while sitting on a log in the mixed conifer forest type that I was told in no uncertain terms that since this was forestland, I had no business working there even though I was accompanied by my forestry colleague, Dr. R. F. Keniston. Dyke's opinion was understandable since this occurred in the early 1960's when the big push was on to identify rangeland as a special kind of land and not to be confused with forestland or timberland which should be under the jurisdiction of professional foresters. However, it would be difficult to have a successful grazing effort without the cooperative efforts of foresters, and range and wildlife professionals. I have always avoided jurisdictional conflicts with foresters by saying that my role was to simply use grazing as a tool in forestland management, or otherwise stated, that the principal objective of grazing on forestland was to improve the production of wood fiber and other associated multiple uses such as watershed, recreation, and wildlife. With this philosophy in mind, let's examine some studies and cooperative approaches of wildlife and range managers on forestland.

Orme and Ragain (1982) working in northern Idaho reported on a study involving livestock and big game summer range following logging. They found good forage production from the transitory range after logging. When addressing the question of allocating forage to big game animals and domestic livestock, they found that domestic livestock grazing was a possibility during the months of July, August and September. Based on 40 percent utilization they concluded that each acre of this transitory range would support about 0.4 AUM of domestic livestock grazing. The disclaimer at the end of their paper is interesting: "The data presented should not be interpreted as a U.S. Forest Service decision to approve domestic livestock grazing" (Orme and Ragain 1981:614).

This attitude on the part of foresters is not surprising. Richmond (1983) indicated that there was good news and not so good news regarding grazing on National Forests in Washington and Oregon. He was enthusiastic and supportive of using herded sheep in cutover Douglas-fir lands in western oregon based on cooperative studies with Oregon State University, but skeptical of grazing on forestlands in eastern Washington and Oregon because of conflicts between cattle grazing and the successful regeneration of conifers, increased competition between elk and cattle on additional habitat created through timber harvest, and improvement of riparian habitat long overused by cattle east of the Cascades. Each of these points needs to be addressed separately. Since I have discussed the last two earlier, I will now focus on the first point of conflict.

Krueger (1983) reported on the work originally started by Young, Keniston and myself in the 1960's. He stated that throughout this study while the forest was regenerating, cattle and wildlife production were accomplished concurrently. Monfore (1983) reporting on livestock as a useful tool for vegetation control in ponderosa pine and lodgepole pine plantations found that by studying the nature and cause of pine seedling damage by cattle, he was able to change grazing management to enhance conifer establishment. He noted seven important points to reach compatible management of livestock grazing with ponderosa pine and lodgepole pine plantations. These are: (1) early location of livestock on the range, (2) turning out on plantations and holding them on plantations in a well distributed manner (this point is crucial in avoiding early and heavy use of riparian areas), (3) herd control through use of riding (especially to keep them on plantations and off riparian areas), (4) number of animals which generally need to be increased after 2 to 3 years of plantation establishment (maximum production was obtained on 4-year-old plantations), (5) individual herd problems where animals addicted to pine through historic feeding practices had to be replaced, (6) compatible objectives of landowners in allotment management in which all plantations need to be grazed early every year, and (7) water development. Monfore (1983) concluded that without adequately distributed water, uniform grazing cannot be achieved.

McMinn (1984) used clipping to simulate the effect of herbicide which could also be construed to simulate grazing. Competing vegetation was removed by clipping three times during each of the first two growing seasons. Survival, total height and stem volume of 2-0 bare-root white spruce seedlings were measured ten years after planting in untreated and clipped plots on a site with moist, fine-textured soil.

Measurements showed that clipping produced greatly improved growth during the first ten growing seasons. The effect of clipping, through the reduction in height and cover of competing vegetation, was still apparent in the 10th year even though clipping had been discontinued eight years previously. This height differential was similar to that found by Hedrick and Keniston (1966) when grazing Douglas-fir plantations on oak woodlands in western Oregon. Grazing in our study was discontinued after several years but the differential in growth of trees on grazed plots was still evident at the end of ten years.

Sharrow and Leininger (1983) reported the successful use of sheep as a silvicultural tool in coastal Douglas-fir forests of Oregon and concluded that a grazing system employing light to moderate utilization of clearcuts in the spring (using dry ewes or ewes with lambs 12 or more weeks old) followed by heavy utilization in the summer through fall period of units targeted for brush reduction should provide both brush suppression and acceptable levels of animal production. Although these authors did not mention wildlife effects, it is assumed based on the Clatsop County studies that this reduction in browse vegetation would benefit big game species for at least ten to fifteen years.

Cleary (1983) reported on programs in Oregon to improve winter forage quantity and quality for Roosevelt elk. These efforts included rehabilitation of decadent grasslands by seeding a mixture of grasses and legumes including big trefoil, a plant that was so successful in improving elk range in the 1940's at Northrup Creek Experimental Area of Clatsop County. Similarly favorable results were obtained by seeding Douglas-fir plantations where winter elk use amounted to 467 kg/1009 kg (46% use) with no measurable utilization on the unseeded unit.

In summarizing the effects of grazing livestock on wildlife in forested areas it is important to keep in mind the type of forest practices that favor wildlife. The wide variety of habitat requirements for our wildlife species clearly points to the value of maintaining diversity within our forests (Maine Forest Review 1977:3). This statement was echoed by Urness et al. (1975) reporting on the nutritive value of mule deer forages on ponderosa pine summer range in Arizona. They concluded that maintenance of maximum diversity was desirable. Few forage species alone supply a food balance of nutrients and phenological changes often mean that a particular species is a high-value forage for a relatively short time.

INGREDIENTS OF SUCCESSFUL MANAGEMENT

After a discussion of examples from rangelands and forestlands it is evident that all successful management approaches to cooperative range and wildlife objectives agree on several points. These include: (1) wildlife and livestock interests have more in common than they have differences, (2) being an advocate rather than an adversary, (3) cooperative attitude of participants, (4) focusing on positive rather than negative aspects, (5) include effects of grazing regimes on nongame wildlife, (6) changing traditional or long time patterns of livestock grazing on ranges or forests which include riparian areas of limited acreage but of tremendous resource management value, (7) don't be afraid to use livestock grazing as a tool to improve wildlife habitat recognizing that it may be the most economical and environmentally safe means at our disposal, and (8) remember that ecological diversity is essential to avoid the disadvantages of extensive monocultures.

No one has found it easy to solve difficult resource management problems. However, since these are only problems they must have solutions which will be found by positive and progressive thinking of dedicated professionals in both the wildlife and range societies. The challenge to improve resource management has never been greater and the reward for successful management approaches has never been sweeter -- a more abundant life for all.

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