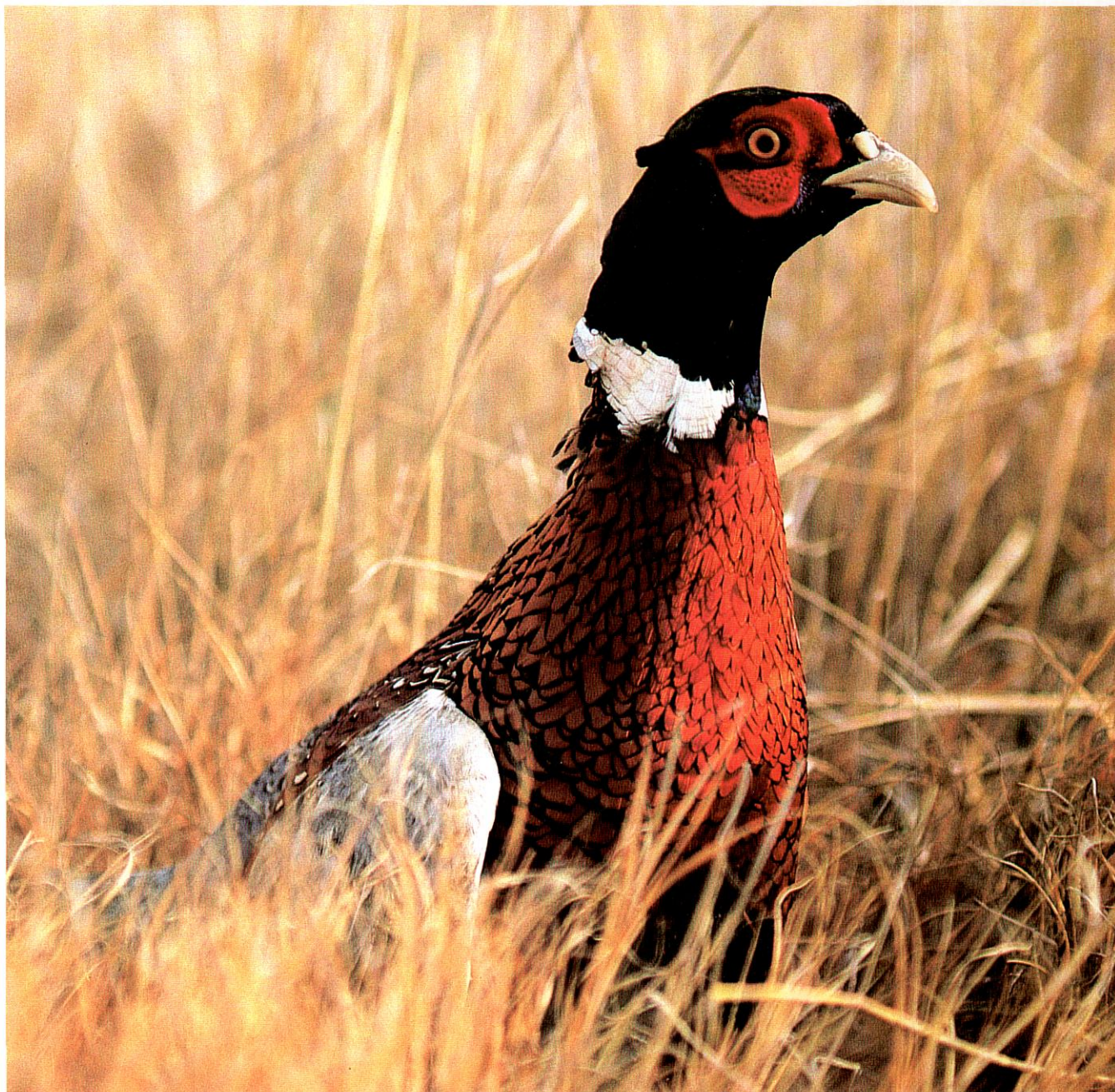


Ring-Necked Pheasant Habitat Development

Habitat Extension Bulletin

No. 2



*An import from the agricultural lands of the Far East,
the pheasant is well equipped to survive on a farm landscape.*

Habitat Extension Services



WYOMING GAME AND FISH DEPARTMENT

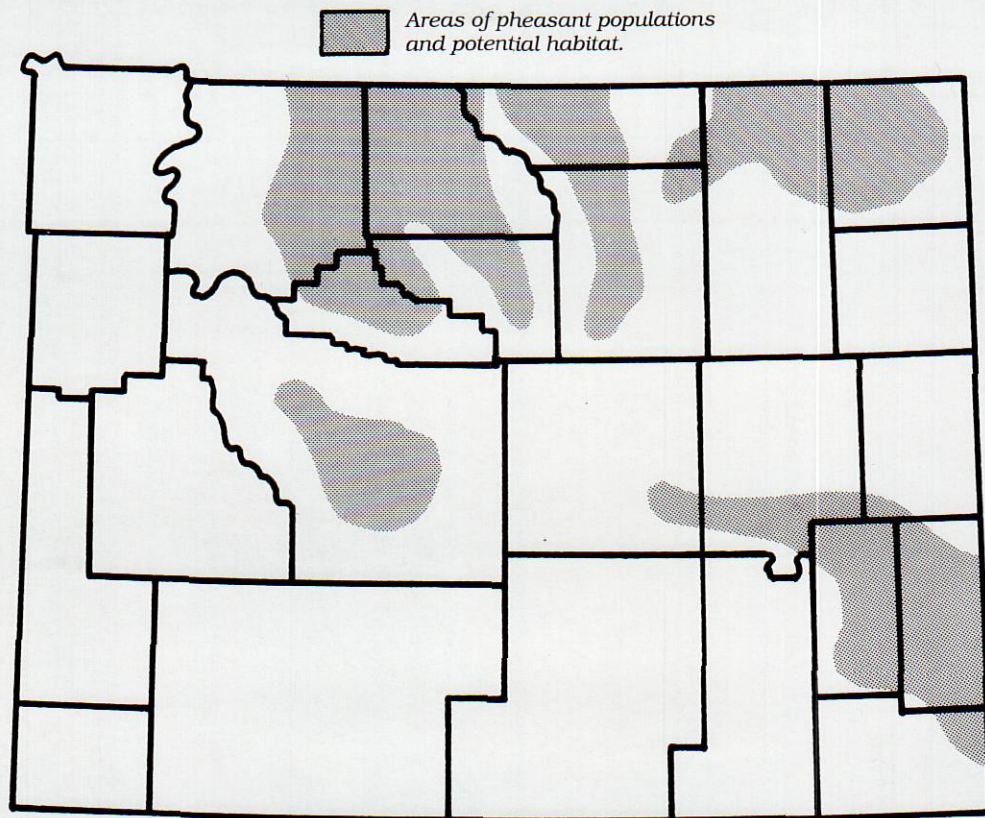


Figure 1. Ring-necked pheasant population distribution in Wyoming.

The ring-necked pheasant first established wild populations in North America in the 1880s. Since the pheasant depends heavily on agricultural areas, it filled a niche created as this country expanded and farming activities increased. As native prairie and woodlands were converted to agricultural lands, endemic species such as the sharp-tailed grouse and prairie chicken declined due to their inability to adapt to the changing habitat. When pheasants were stocked in these habitats, they quickly increased in number and gained a reputation as a superb game bird. The first pheasants released in Wyoming came from Oregon and Montana in 1937. By the 1950s, pheasant populations in Wyoming were established within all suitable habitat areas. Although Wyoming is not known for its pheasants, the state does have areas with self-sustaining pheasant populations.

Before implementing a program to increase pheasant numbers, an individual should have some knowledge of pheasant biology. Pheasants are a polygamous species with one male pheasant or rooster breeding more than one hen. A ratio of one rooster to five to seven hens is sufficient to insure maximum reproduction. After being bred, the hen will lay between seven and 15 eggs. The chicks hatch the first part of June and are able to move and feed themselves as

soon as they hatch. If the first nest is destroyed, a hen will usually establish another and perhaps even a third nest. By mid-August, most of the young pheasants will be on their own unless they came from a second or third nesting attempt. Rarely will a hen raise two successful nests in the same season. In the fall, the sex ratio of a pheasant population averages 50 roosters to 50 hens. Since one rooster per five to seven hens is adequate for maximum reproduction, the surplus roosters can be hunted in the fall with no adverse effects to the population as a whole.

Pheasant numbers have been declining during the past two decades over most of their range. This decline can be attributed to changing agricultural practices that have resulted in a loss of pheasant habitat. Several techniques have been attempted to increase localized pheasant populations with only short-term success realized. These efforts have demonstrated that pheasant populations can only be increased by improving available habitat.

The following is a brief discussion of some of the steps commonly taken to increase pheasant numbers and why they have proven unsuccessful.

Many people feel that reducing or eliminating hunting will increase pheasant populations. As

Shelterbelts are a critical cover type for pheasants throughout the year on the high plains. They offer shelter from the elements and escape cover near grain fields. After a severe winter storm, hundreds of pheasants may pack into strategically located shelterbelts.

noted previously, a surplus of roosters is present in the fall, and this segment of the pheasant population is the one normally hunted. Consequently, hunting has little effect on the hen pheasant population and thus little effect on the population's reproductive potential. If winter cover is in short supply, excess roosters can actually be detrimental to the population, as they will utilize winter cover needed by hens.

Another presumed management tool for increasing pheasant populations is predator control. Studies conducted in states with high pheasant densities show that few pheasants are taken by predators when adequate habitat is available. Nest predation may be a problem when nesting cover is limited to narrow strips such as fence rows, canal banks, road sides, and ditches. Predators use these types of cover as travel lanes and often find pheasant nests accidentally. Linear cover or island cover surrounded by heavily cropped agricultural lands also concentrates pheasants, making them easier prey. An increase in suitable pheasant habitat would help to resolve this problem.

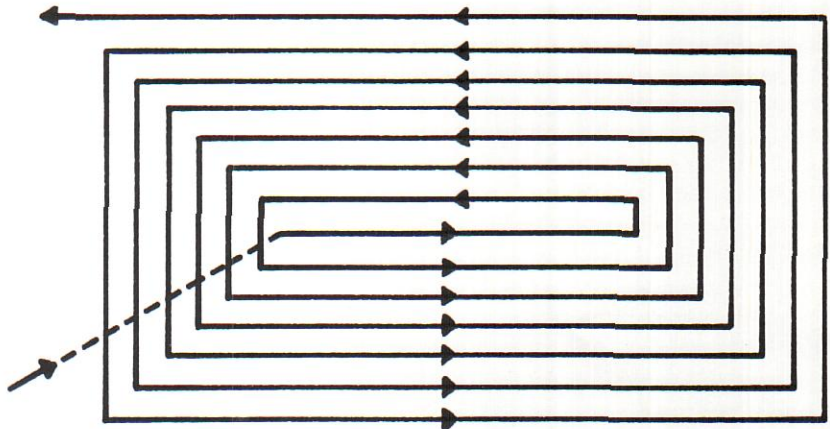


Supplemental feeding of pheasants during winter months has been attempted with little success. The cost of feeding is prohibitive except on a small scale in limited areas. A better option involves the planting of food plots in areas known to have a shortage of winter foods.

Stocking pheasants seems like a reasonable way to augment the natural production of birds in an area. However, stocked birds do little to increase production since most will die within a period of days after being released, and it is unlikely that the survivors participate in breeding.

The final option addressing the problem of

Figure 2. Low mortality, inside-out cutting pattern forces pheasants out of field into habitat at field edges.



declining pheasant populations is that of pheasant habitat improvement. Unlike some other species of wildlife, pheasant populations are almost exclusively associated with agricultural areas, most of which are privately owned lands. Thus the landowner has the unique opportunity and challenge of improving pheasant habitat to increase pheasant populations on these lands.

In Wyoming, pheasant habitat improvement can be more narrowly defined as nesting cover improvement and winter cover improvement. These two cover types are uncommon and are thus the principal factors limiting pheasant populations in Wyoming. The remainder of this bulletin discusses these specific habitat types so critical to the ring-necked pheasant and the techniques landowners can implement for improving these critical habitat types.

Nesting Cover

The lack of suitable nesting cover will result in low numbers and densities of nests and a resultant low pheasant population. Suitable nesting cover for first nest attempts is residual cover left standing after the winter or plants which have grown high enough by late April or early May to hide a hen pheasant and her nest while providing protection from the weather. In Wyoming, most of this cover is in the form of small grain stubble (i.e., barley, wheat), alfalfa fields, or weedy grassy areas containing species stout enough to resist flattening by winter snows. Eliminating fall plowing of small grain stubble will increase the amount of nesting cover for pheasants. Since pheasants use standing stubble for nesting, certain spring farming practices will greatly increase pheasant production in these areas. The stubble should be plowed in late June if the field is going to be left idle that year. If weed control is a problem in stubble fields, the use of an undercutter without treaders will save pheasant nests while eliminat-



Young pheasants are ready to leave the nest within hours of hatching. For the first month of their lives, these youngsters depend on abundant insect prey to supply the protein they need for explosive growth. (Right) Winter for a ringneck is a delicate balance between the energy required to stay alive and the calories available in nearby grain stubble.

ing weeds. Another alternative is to apply a herbicide to the field in early spring as plant growth initiates. If stubble must be plowed, it is best done in early spring before the nesting period or during early incubation so hens can attempt to re-nest.

A second nesting cover type is alfalfa. Alfalfa's early spring growth makes it attractive to pheasants searching for nesting areas. Yet its attraction can be deadly to hen pheasants when alfalfa is mowed during the nesting season. The early mowing of alfalfa may be the single greatest mortality factor impacting hen pheasants. Studies from Nebraska indicate that, in certain areas, the number of hens killed by mowers equals the number of roosters shot in the fall. This problem is further compounded because, as hatching time approaches, hens become more reluctant to leave the nest. Resolving this problem is difficult at best. The simple solution involves delaying mowing until hens have completed nesting and the young birds are old enough to move about and avoid the mower. A delay in mowing until the end of June will accomplish this goal. Yet this time delay may result in poor quality hay and a financial loss to the farmer.

But other alternatives are available. The first involves growing alfalfa for seed, an option which eliminates spring cutting. A simplistic but effective option is changing the mowing pattern when cutting the alfalfa field. Instinctively, pheasants avoid freshly cut areas which provide no escape cover from predators. Mowing alfalfa in a circular pattern starting at the border of the field drives the birds to the center of the field where they become reluctant to move from cover and so are killed by the mower. Mowing from the center of the field out will allow the hens and broods to move toward the outer edges of the field where other cover may be available. Still another option is to use a "flushing bar" on the swather to force birds away from the mower.



Used in combination, the inside-out mowing pattern and the flushing bar can dramatically reduce pheasant mortality.

Yet another alternative is the planting of a nesting "lure crop" (alfalfa and grass) close to the alfalfa field to attract the hen away from a field slated for spring cutting. One practice which should be avoided entirely is green chopping hay at night. Hens are reluctant to leave the nest at night and are more likely to be killed.

Regardless of the practice(s) implemented, saving the hen is critical. If the hen is lost, the reproductive potential of the population is impacted. If a nest is destroyed, a hen may attempt another nesting effort provided it is still early in the nesting season.

There are a number of other areas that serve as important nesting sites for pheasants. These include linear cover types such as fence rows, canal banks, road sides, and ditches. These areas are especially valuable to re-nesting hens that are pushed out of stubble or alfalfa fields. If left fallow, these areas will develop suitable nesting cover over a period of time. Management practices that can speed up or enhance this process include delayed or discontinued mowing, avoidance of herbicide spraying, and establishing wider fence rows and ditches by not farming immediately adjacent to fences and ditches.

Often, the edges and ends of a field do not produce well. The landowner may wish to avoid planting or harvesting these areas which, in turn, will increase the nesting cover along a fence or ditch. Odd field corners which are hard to work are also prime areas to leave out of cultivation and allow to grow into natural nesting cover. If these odd areas become decadent and no longer produce good cover that will withstand the winter snows, burning or grazing once every five to ten years will remove old dead

vegetation and stimulate more vigorous plant growth resulting in increased residual growth. Only burn or graze a small portion of an area in any one year. This will insure that some cover remains available for nesting at all times while producing

desirable uneven-aged vegetative cover stands.

Field edges and other small areas can also be improved for brood-rearing habitat. By plowing such areas, broad-leaved plant growth is stimulated, which attracts insects and provides safe feeding areas for broods. Young pheasants must have an abundant supply of insects during the first few weeks of life, and areas of grass cover are good places to find insects while remaining hidden from predators.

Wyoming is on the western edge of good pheasant range, and most recommended planting mixtures for pheasant habitat do not grow well here. Yet it is possible to establish certain plant species specifically for pheasant nesting cover. The best plant species for pheasant nesting cover are grass-legume mixtures that resist matting under heavy snow cover. Some general rules are that warm season grasses withstand snow better, but cool season grasses are easier to establish. Grasses to consider are tall and intermediate wheatgrass, smooth brome, mammoth wildrye, and basin wildrye. Legumes valuable for nesting cover include alfalfa, vetch, and sweet clover. Because of the variability in different sites, it is difficult to say which species will work best in your area, so it may be beneficial to contact local Game and Fish personnel or a local agricultural extension agent to determine the best species and mixtures to plant.

Remember that nesting cover should be planted in several small blocks rather than one large one. Not only is habitat diversity increased, but if cover improvement becomes necessary, it can be done over a period of years so that some nesting cover is always available.

Winter Cover

A second critical pheasant habitat type is winter cover. This cover type must provide

pheasants with protective shelter from wind, snow, and cold temperatures associated with Wyoming's winter weather. Winter cover must also be dense enough and in large enough tracts so that it will not become completely snow filled. Areas that serve as suitable winter cover include shrub plantings, multiple row shelterbelts, cattail marshes, and dense cover areas that may also be nesting areas. These areas can be made more attractive to pheasants by not grazing them and allowing the natural cover to remain year-round.

Winter cover can be difficult and expensive to establish if no such areas already exist on the area being improved. In establishing winter cover, it is best to plant vegetation that will double as suitable nesting cover. To maintain habitat diversity, establish winter cover in several small fields rather than one large one.

It is critical that winter cover be in close proximity to a reliable food source. Even excellent winter cover more than one-quarter mile from a food source will not be used by pheasants. If winter cover is adjacent to grain fields and minimal snow depths make waste grain available, this food source will help to get the birds through the winter. In areas where extended periods of snow more than five inches deep are common, it may be beneficial to leave a few rows of standing grain next to the winter cover.

Many areas of winter cover can be made more suitable by planting a food plot close to them. These food plots need not be large; one to two acres is sufficient, with corn or sorghum being the most desirable crops to plant. The landowner may want to establish a food plot using a corn/sorghum mixture and no weed control to create both winter cover and a reliable food source.

Conclusion

Wyoming is on the edge of good pheasant range and is not known for its pheasant populations. Despite this, some areas of the state support strong populations of pheasants. These are areas where small grain and corn are common. An individual who desires to increase the number of pheasants on his property can do so by improving the habitat factor(s) limiting the pheasant population. The limiting factor must first be identified, and a management plan created to address this shortcoming. Most areas of Wyoming currently lack nesting and/or winter cover, but some areas may also lack other habitat requirements such as brood habitat or water. But in most cases, nesting and/or winter cover will be this limiting factor. If you are unsure of the factor(s) limiting pheasant numbers on your property, you may wish to contact the local Game and Fish biologist or extension specialist in your area for help.

Managing your property for more pheasants can be done at relatively little cost if a management plan is devised to take advantage of existing cover and marginal areas are improved gradually. Increasing the number of pheasants on your property can be a rewarding experience whether for viewing opportunities or hunting purposes.

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This publication is one in a series of habitat extension bulletins produced by the Wyoming Game and Fish Department. Call 1-800-842-1934 for additional information or assistance.